

No 4012-383

Vol. 6-2

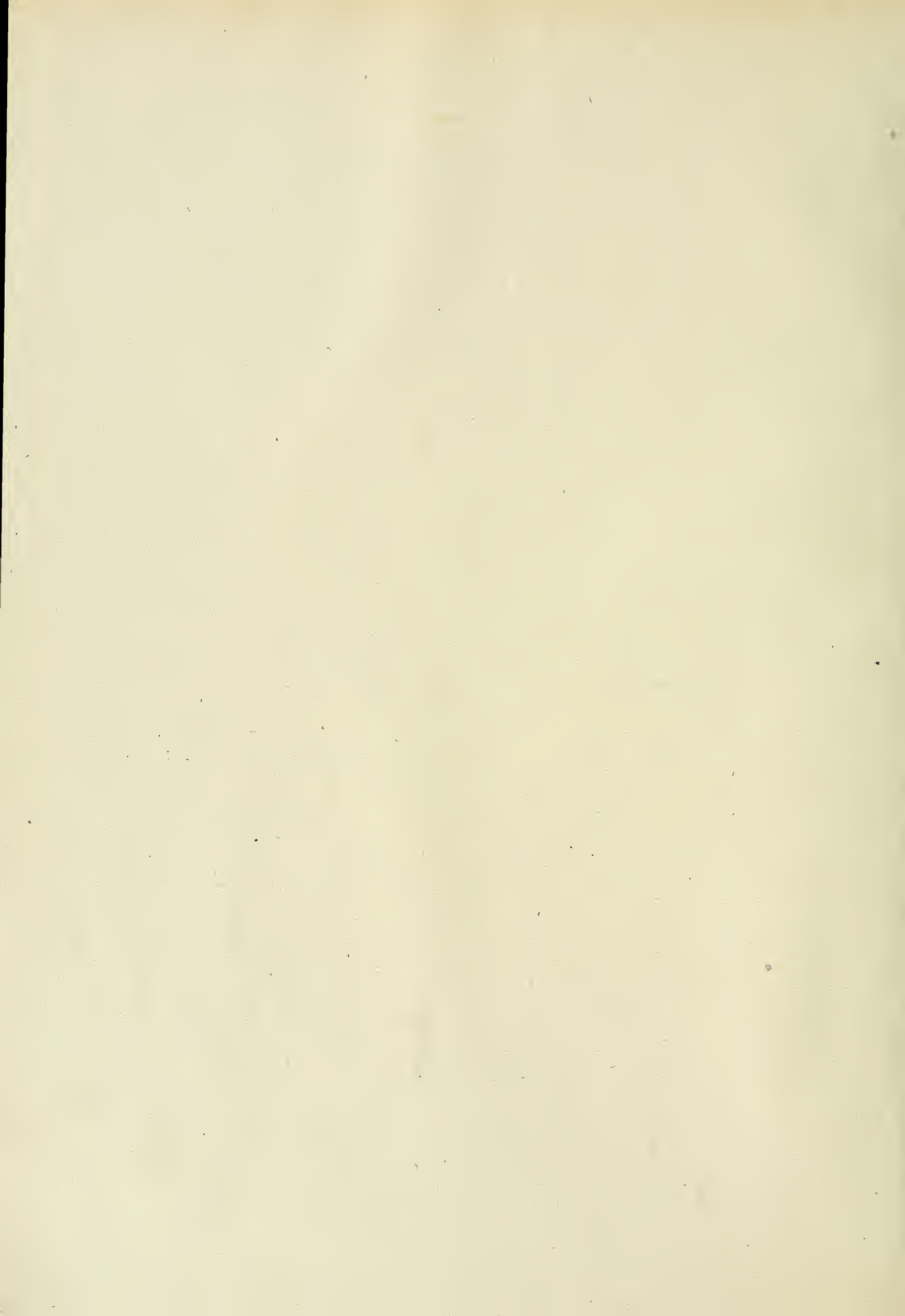
1908



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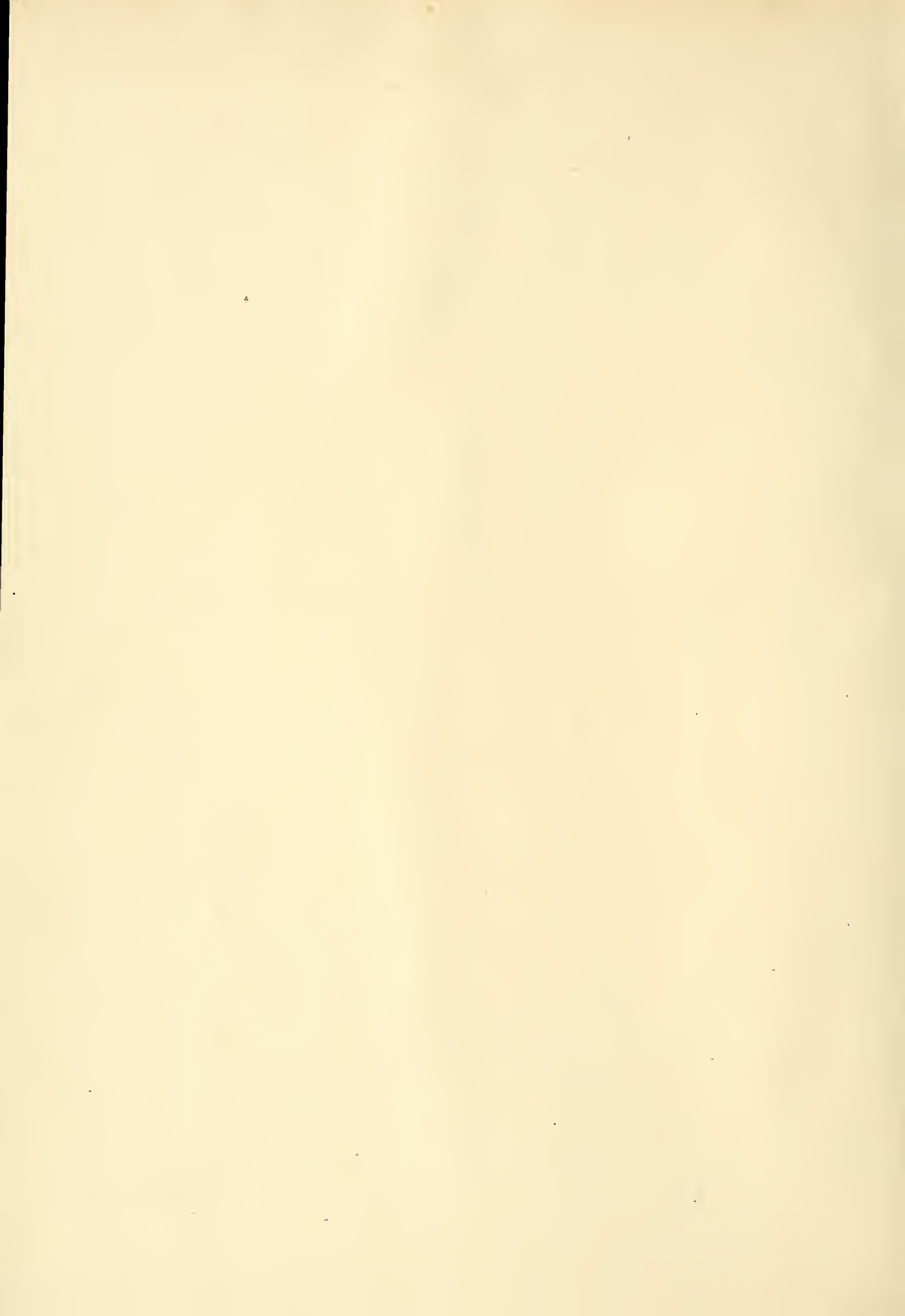
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Through Many Lands by Motor Cycle.

THE MOTOR CYCLE

No. 275. Vol. 6.

WEDNESDAY, JULY 1st, 1908.

REGISTERED AS A NEWSPAPER FOR TRANSMISSION IN THE UNITED KINGDOM.

If you want

to purchase a new or second-hand motor cycle, or to arrange an exchange, write or call at

Wauchope's

the largest dealers, where you can be certain to get proper treatment. Ready for immediate delivery--1907 Triumphs, 1908 Quadrants, Light Ariels, Minervas, F.N.s, etc.

Only address:

Wauchope's

9, SHOE LANE, FLEET STREET.

LONDON, E.C.

Telephone No. 577 Holborn
Telegrams: "OPIFICER," London

Riley

THE RILEY CYCLE CO Ltd. COVENTRY
London Agents: The Service Co. 292, High Holborn, W.C. where trials can be arranged.

Each "MILLFORD" Sidecar

Is a Running Advertisement.

NEED WE SAY MORE?

Have you read the pamphlet "Other People's Opinions upon Sidecars?" If not, why not get it? It's free.

MILLS-FULFORD, Crown Works, COVENTRY

London Agents: SERVICE CO., 292-3, High Holborn, W.C.
EAGLES & CO., 275, High Street, Acton, W.
WAUCHOPES, 9, Shoe Lane, Fleet Street, E.C.

Settle the Question?

OF THE BEST SIDECAR AT OUR RISK!

THE "MONTGOMERY" PATENT SIDECAR

is better than any other.

We make definite claims of superiority; if all these claims do not prove to be correct in practice we will refund your money in full at any time within three months of date of purchase.

Can we do anything more for you? Lists free on application.

W. MONTGOMERY & CO., Manufacturers and Patentees, BURY ST. EDMUND'S.
Of all Cycle Agents, or direct where unrepresented.



PATENT

Price's Stands

THE
I
I.
7/6
(Per pair.

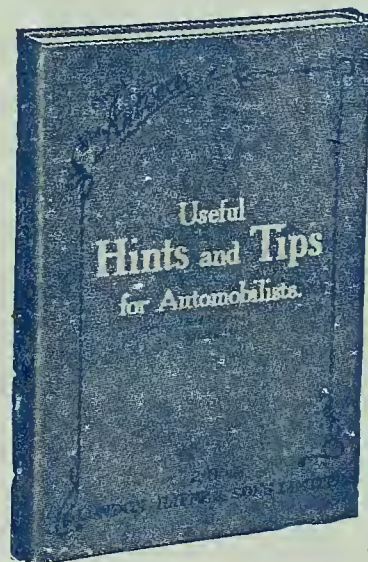
CK WHEEL OUT AND
BOTH SIDES STAND.
26,000 in use.
and shape of chain stays, and
height of wheels.
Patentees and Manufacturers:
PRICE & CO., 11, MOUNT PLEASANT, E.C.
LONDON, ENGLAND.
Telephone 5867 Central



7/6
Per pair.

Every Motor Cycle

should read useful book



It contains nearly 600 pages and "wrinkles" relating to driving, care, and management of Motor Vehicles, and also ten for the Car Driver. It is useful to the user of Bicycle or Tricar.

Copiously indexed. Strongly bound in cloth.

Price 2/10. Post 1740

From
The Offices of "The Motor Cycle," 20, Tudor St., E.C.

M.C.C. TEAM TRIALS. Illustrated

LINCOLN ELK Lightweight, 3 h.p.

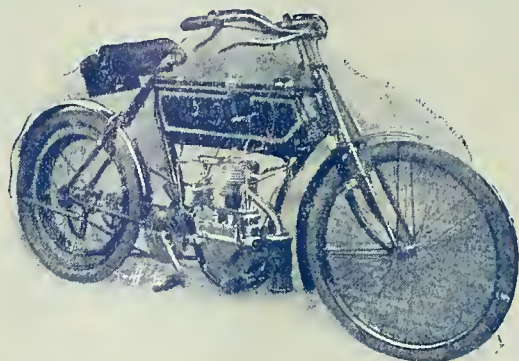
£19-10!

GLORIOUS HILL CLIMBER.

Will go at 40 miles an hour.

THE MOST MARVELLOUS VALUE EVER OFFERED IN MOTORS.

Made throughout on the premises.



LINCOLNSHIRE M.C.C. RELIABILITY TRIAL.

Four Lincoln Elks were entered. All got through without engine troubles. Two (one driven by Mr. A. Harrison, a novice) were in the best five.

KIRBY & EDWARDS, BROADGATE, LINCOLN.

17 Years' Reputation.

Send for catalogue. Telephone 2x5.

LONDON AGENTS: Messrs. PRICE & CO., 11, Mount Pleasant, E.C.

The Hall Mark of an up-to-date machine is a

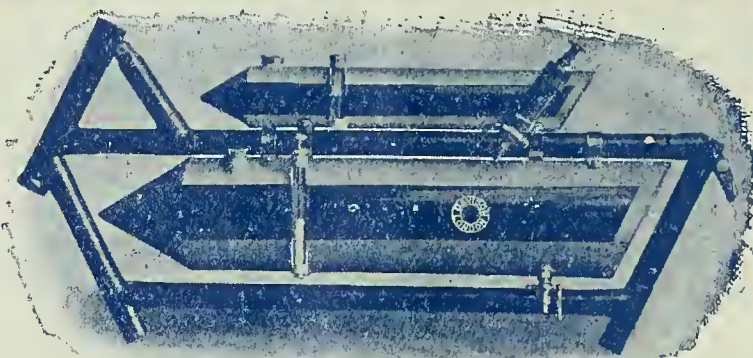
Davison Petrol

AND

Oil Gauge.

THEY CAN, HOWEVER, BE EASILY FITTED TO EXISTING TANKS.

A. C. DAVISON, 12a, Pleasant Row, High Street, Camden Town LONDON, N.



SEND FOR LIST OF

DAVISON Specialities.

ALL 'A LITTLE BETTER.'

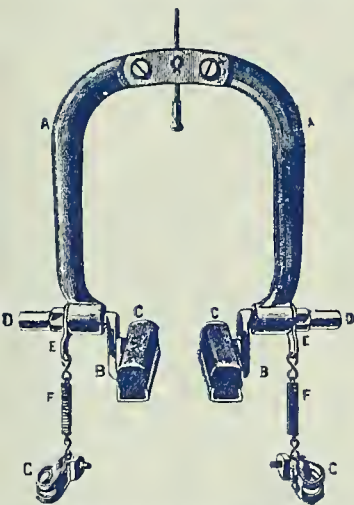
SPECIAL AND HIGH-CLASS

Tanks

MADE PROMPTLY.

No Hill is Dangerous

to the motor cyclist who is equipped with the



BOWDEN RIM BRAKE.

Back Rim Pattern.

Shoe Only	-	-	-	6/3
With Pads	-	-	-	6/9
Complete Brake (With length of Bowden Wire)	15/2	to	18/6	
Front Rim Pattern complete	12/6			

Easily detached from wire, if wheel requires removing.

Why not **MIRACULUM?** It seals punctures

J. M. Bowden's Patents Syndicate, Ltd.
29, BALDWIN'S GARDENS,
GRAY'S INN ROAD, LONDON E.C.

"Hermetic" Tyres

FOR MOTOR CYCLES, WITH SPECIAL NON-SKIDDING RUBBER TREADS, are noted for HIGHEST GRADE QUALITY, GREAT DURABILITY, MODERATE PRICES.

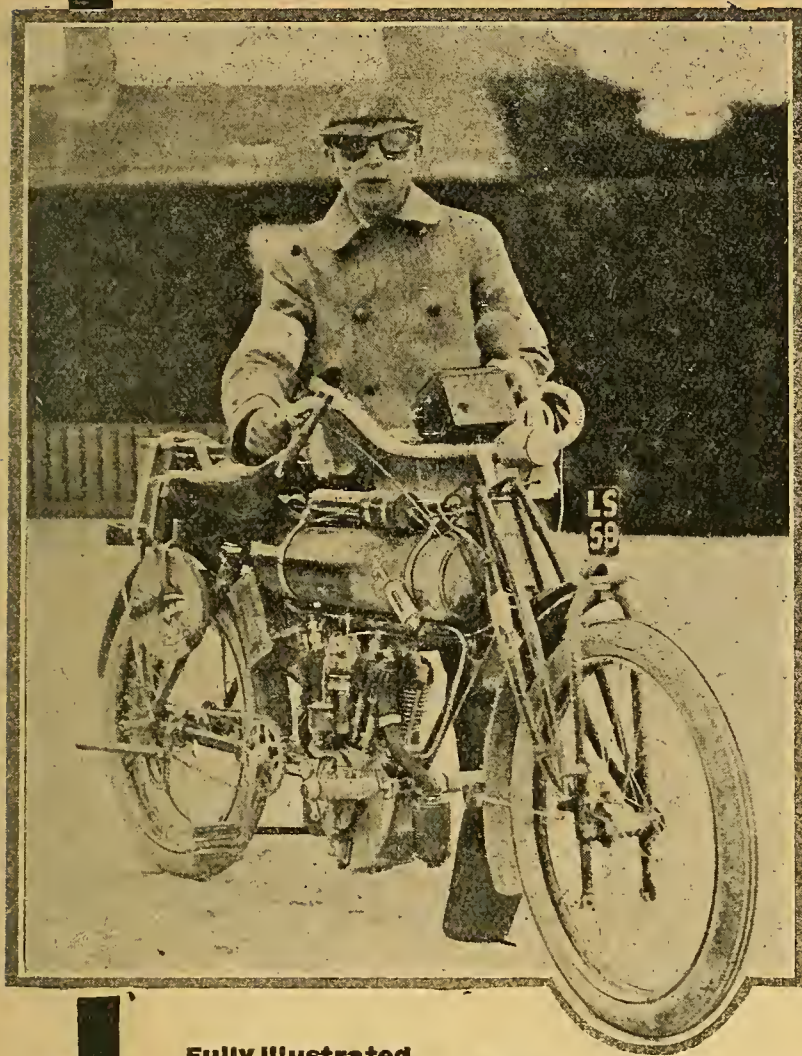
The "Hermetic" open end patent detachable joint air tubes—guaranteed efficient and reliable.

New non-skid rubber treads vulcanised on worn tyres.

Supplied by all Agents.

The Self-Sealing Rubber Co., Ltd.,
Ryland Street, Birmingham.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."



Fully Illustrated
Catalogue on application.

MINERVA

LONDON — EDINBURGH — LONDON.

M.C.C. CUP

Won by Mr. S. G. Frost on 4½ h.p. Two Cylinder Minerva. Mr. Frost writes: "NOT A SINGLE ADJUSTMENT WAS MADE THROUGHOUT. THE WAY THE ENGINE PURRS OFF THE MILES WITH ABSOLUTE RELIABILITY IS A MARVEL TO ME."

MINERVA MOTORS, Ltd.,
40, Holborn Viaduct, London, E.C.

MINERVA GOODS and REPAIRS, Ltd.,
15-17, CHARLOTTE STREET, W.

THE DOUGLAS.

Price—

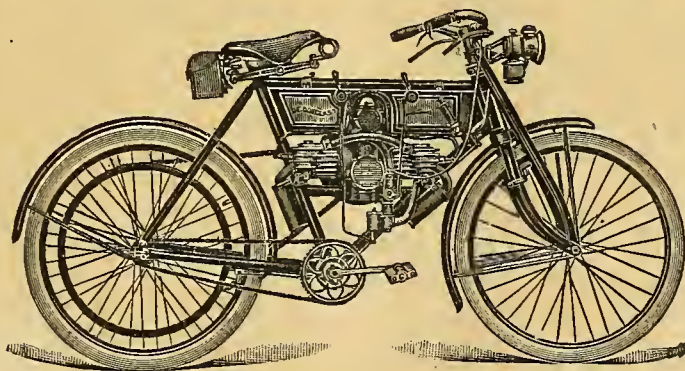
30 Guineas.

2¾ h.p. Twin-cylinder.

Bosch H.T. Magneto.

High-grade fittings.

Send to the makers for booklet—



The best lightweight on the market, and British made. Noted for its smooth running, extreme silence, and exceptional reliability.

Douglas Bros.,
Kingswood, Bristol.

PHANOMEN Motor Cycles.

The Hall Mark of mechanical efficiency.

Bosch Magnets to
all models.

Nala Gear
£12 extra.

Reliability.

The 6 h.p. two-speed Phänomen made
NON-STOPS in both this year's A.C.U.
Quarterly Trials.

Send at once for catalogue.

Prices.

£37. 3 h.p. 82 × 84.
£39. 3½ h.p. 86 × 84.
£46. 4 h.p. Twin 67 × 72.
£50. 6 h.p. Twin 74 × 84.

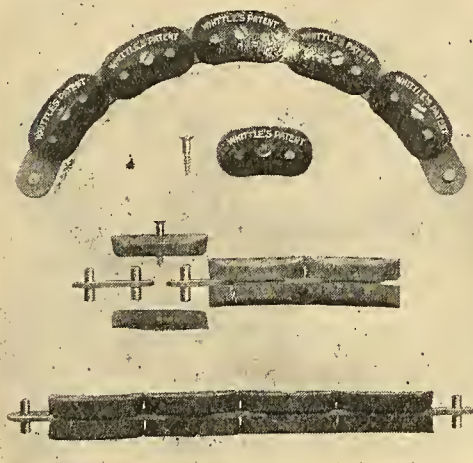
Showroom: 49, King Square, President Street, Goswell Road, E.C.; also at the Service Co., Ltd., 292, High Holborn, W.C.
Agent for Cardiff and District—ROBERT BEVAN, 31, Castle Street, Cardiff.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

WHITTLES' (PATENT) LINK-GRIP

Non-slip Endless Leather Belts for MOTOR CYCLES, FANS, Etc.

No fastening link required. Shortening simple and easy. Great strength.



Less power required. Not affected by wet. Will drive when slack.

Trebles the life of the Pulleys.

WHAT MANY OF OUR CUSTOMERS SAY:

- "Have had belt in use for over three years."
- "Done upwards of 20,000 miles."
- "The only belt for heavy passenger work."
- "Five times cheaper than any other."
- "The poor man's belt."
- "No sign of slip."
- "The 'no trouble' belt."
- "Have not taken belt off pulleys for two years"
- "The best belt on the market."

Send for new Booklet with full directions and copies of recent testimonials.

Thos. Whittle & Sons, Ltd.,

Rose and Crown St., WARRINGTON.

Telephone 365Y. Telegrams—"Belt," Warrington.

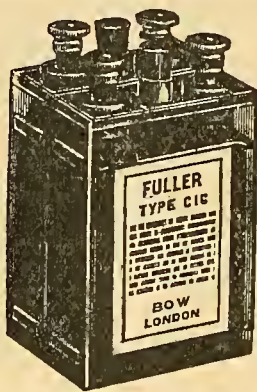
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The Fuller 'Half-gulnea' Plain Coil.

3in. x 3in. x 4in.
Price ... 10/6
Twin do. ... 21/-

Stocked by
GAMAGE, BENEFINK, & Co.



4 volts Minerva, 18 amps., 17/-
2in. x 4in. x 6in. high.
Rex, 16 amps. ... 16/-
2 1/2 in. x 3 1/2 in. x 5 1/2 in. high.
Midget, 16 amps. ... 16/-
3in. x 3in. x 4 1/2 in. high.

In buying Coil or Accumulator, go FIRST for QUALITY.

A small saving in first cost is no compensation for roadside worries.

FULLER Accumulators and Coils

are everywhere recognised as PRE-EMINENT FOR QUALITY.

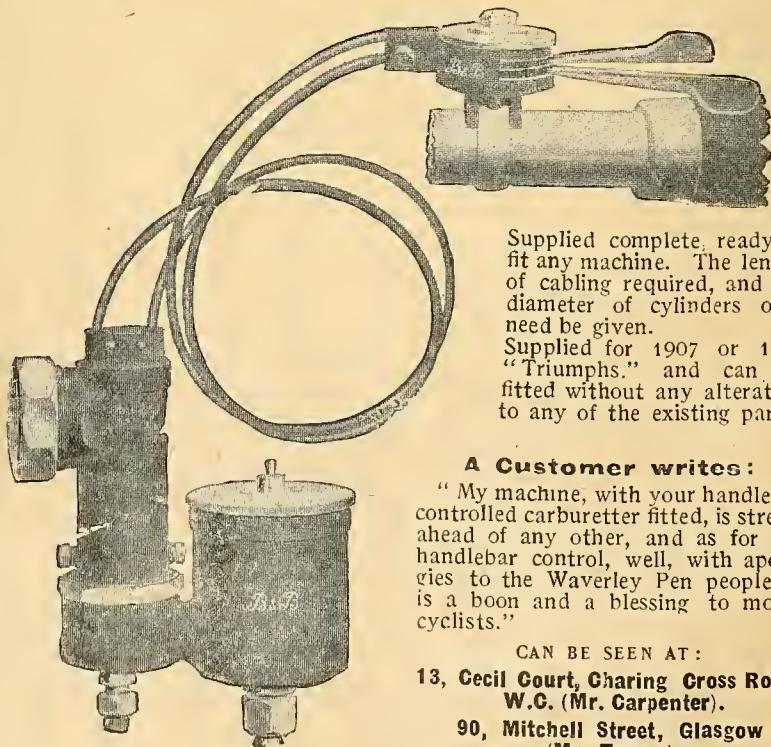
John C. Fuller & Son,
Woodland Works,
Bow, London, E.

Manufacturers of the Highest Grade Ignition Apparatus.

1908 HANDLE-BAR CONTROLLED CARBURETTER.

SOME OF ITS FEATURES:

EFFICIENCY, LIGHTNESS, STRENGTH, DURABILITY, AND ADAPTABILITY.



Supplied complete, ready to fit any machine. The length of cabling required, and the diameter of cylinders only need be given.
Supplied for 1907 or 1908 "Triumphs" and can be fitted without any alteration to any of the existing parts.

A Customer writes:

"My machine, with your handlebar controlled carburetter fitted, is streets ahead of any other, and as for the handlebar control, well, with apologies to the Waverley Pen people, it is a boon and a blessing to motor cyclists."

CAN BE SEEN AT:

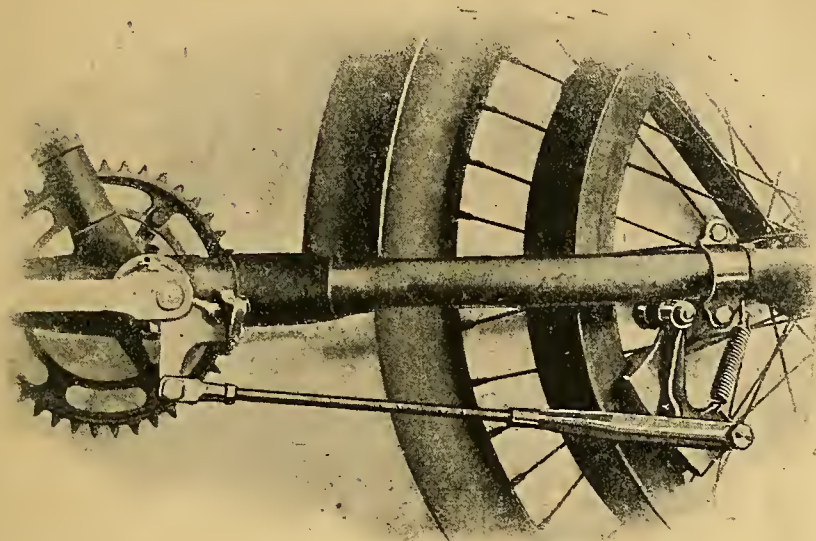
13, Cecil Court, Charing Cross Road, W.C. (Mr. Carpenter).
90, Mitchell Street, Glasgow (Mr. Trevor).

Write for Booklet to

BROWN & BARLOW, LIMITED, LOVEDAY STREET, BIRMINGHAM.

See next week's issue for lever controlled carburetter.

CHATER LEA FITTINGS.



Regd. 524248.

Chater Lea Back-peddalling PULLEY RIM BRAKE.

Fits Chater Lea machines and many others.
Powerful. Smooth. Reliable.

PRICE 15/- Of all Agents.

Machine can be wheeled backwards; cannot jam; instant release.

LONDON—EDINBURGH.

The lightest, lowest priced, and smallest powered car in this run was the

CHATER LEA CARETTE

(latest pattern, chain drive), which secured the

GOLD MEDAL.

A simple and efficient two-seated light car; air-cooled engine, no differential, two-speed gear.

Price 95 Guineas.

Works: Golden Lane, London, E.C.

1908 LIST,
TRADE ONLY,
Post Free.



THE
"GROSE"
Detachable
Non-skidding
PROTECTOR
for
Motor Cycles.

Sole Manufacturers—

**GROSE LIMITED,
NORTHAMPTON.**

Telegram—Case.

Telephone—111.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

2 MILES A MINUTE

ON **PRATT'S!!**



F. Nazzarro,

ON THE

90 H.P. F.I.A.T.

in the match between
Mr. S. F. EDGE and
Mr. D'ARCY BAKER
at Brooklands on
June 8th, attained
the record speed of

121.64 miles an hour,

setting up a new

World's Record

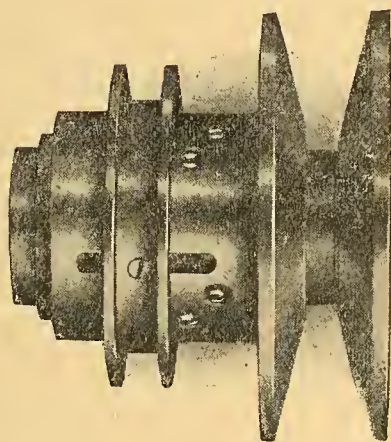
ON

**PRATT'S
SPIRIT**

HOW I MADE MOTOR CYCLING A REAL PLEASURE?

(By J. M. Randell.)

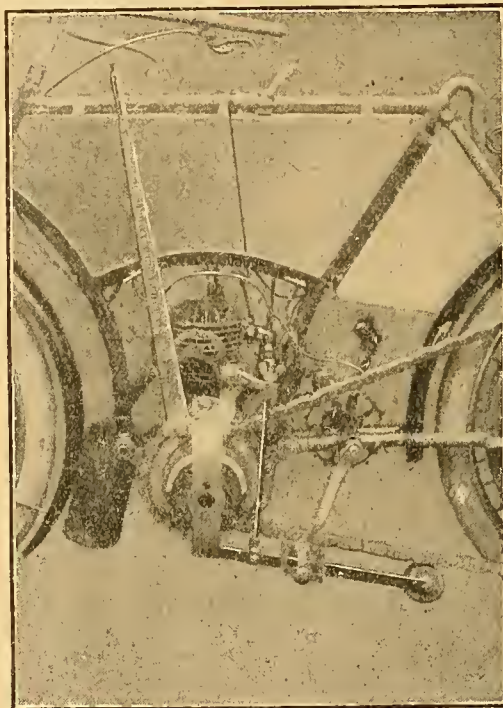
Seeing the recent article, "Do you find Motor Cycling a Real Pleasure?" I feel that I must write and say how I made motoring a pleasure. I might say that I started motoring late in 1906 with a 3½ h.p. Minerva. I soon learnt the manipulation of the machine, and also learnt that excessively hard work it was to get started. Not being an athlete I did not care to risk jumping on after the machine was moving. I had almost decided to abandon motoring when the thought struck me that it might be possible to get a device fitted to enable the engine to be started previous to mounting like a car is. I began to make enquiries and found that there were several devices on the market. I therefore sent for lists, and finally chose an Osborne patent free engine pulley. Before three days were up I had ordered and received the pulley. It took my mechanic about half an hour to fit this. I can tell you I was anxious to get the engine started with the handle. I adjusted the throttle and spark, switched on, and gave one turn of the handle supplied with the pulley, and the engine fired merrily. I am sure that the engine starts much quicker when there is no load on, as the first explosion sends it round.



I rode this machine for about twelve months without the pulley giving one moment's bother. I always started with the handle and got across the saddle, then pulled the lever inwards, and the machine sailed away. It was a perfect pleasure to feel the machine glide along even on a hill. My wife began to get jealous at me going out so much leaving her alone, so got me to invest in a sidecar. Well, we rode with the car for some time, but there were several hills that we could not get up. Now, having ridden a bicycle with a three-speed gear, I thought that such an arrangement would be useful to me on hills.

I made enquiries, and found that there were several devices on the market, but these were for both chain and belt drives, but I much preferred the belt drive, as I did not wish to alter the engine-shaft, etc. Moreover, all the devices only gave two-speeds. Now I knew the disadvantage of two-speed gears from my experience with a pedal cycle. I was wondering what to do when I heard that Messrs. Osborne Bros., Princess Works, Lincoln, could supply me with a four-speed pulley. I wrote to them for list, and received a handsome booklet describing the pulley. This I at once saw incorporated a free engine like my own. I at once placed an order with them. The gear cost me £7 10s. After a wait of four days the same came to hand. It was handsomely finished, and looked quite businesslike. I got this fitted easily; it took about three hours. I was even more anxious to test the new device than the old

one. After all was ready I got my wife in the car, started the engine with the neat handle supplied, pressed the side lever forward, and—well, the machine and car glided forward in a most wonderful way in spite of it being a fairly steep hill. I soon raised the gear and got into the top speed, when the machine flew along. What a change there was in the machine. Hills we used to push up before now were like the level. It was quite fascinating to be able to raise or lower the gear just as I advance or retard the spark. Well, we came to some thick traffic. I could simply drive the machine behind the slowest moke. Coming to a crossing we had to stop the machine (not the engine). A wait of a couple of minutes, and off we went again with simply opening the throttle and pressing the lever forward.



Well, for pleasure I can honestly say I never knew what motoring actually was until then. My friends were rather jealous of me, but they got over that by fitting a four-speed pulley themselves. By this time the price had come down to £5—quite a nominal figure. I at once knew that this gear would soon be quite popular. So it was in my district. While visiting Lincoln a few days ago I called at the works, and the manager, R. S. Osborne, kindly showed me over. There seemed to be a great amount of business going on. Four motor cycles were being fitted with the gears.

I was surprised to see the number of machines set apart for the manufacture of these pulleys. I went through the machine shop, fitting shop, mounting shop, and plating shop (this department was very interesting to me, not having seen anything of the sort before). They do copper, brass, nickel plating, etc.

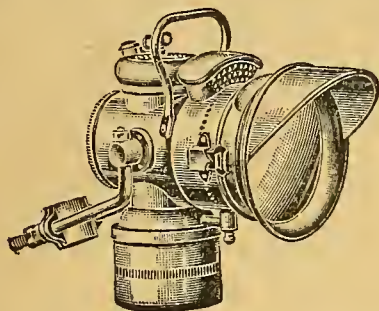
My time in the works was now expired, and I departed after my enjoyable visit. There was one thing that I noticed. That was the telephones in each department so as to facilitate handling urgent business with little work. As I was departing the postman came with a bunch of letters, which I was informed were mostly orders for the holidays. Then came several telegrams—some urging delivery, others money orders.

To conclude with, I should certainly advise everyone who finds motoring not a thorough pleasure to have one of the four-speed pulleys fitted at once. They cost £5 now if obtained direct from the makers, Messrs. Osborne Bros., Princess Works, Lincoln.

EVERYTHING FOR THE MOTOR CYCLIST

POWELL & HANMER'S MOTOR CYCLE LAMP.

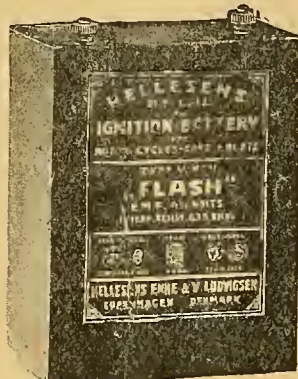
With hood and bracket (plated only).



Burning capacity about four hours.
Height 8½ in. Front 5 in.
Weight 3½ lbs.
Price 17s. 6d. Carriage 6d.

THE 'HELLESEN' DRY BATTERY.

6½ in. high × 4½ in. × 2½ in.



Clean and free from acid.
Price 6s. 6d. Tricar size 9s. 6d.

MOTOR CYCLISTS' MIRROR.

Enables the rider to see what's behind him, and, what's more important, the police trap.

Fitted on handle-bar.

Made on ball joint so that it can be adjusted to any angle.

Size of glass, 4½ in.

Adjustable in height from 13 in. to 18 in.

Price 6s. 9d. Carriage 6d.



FULLER'S NON-TREMBLER COIL.

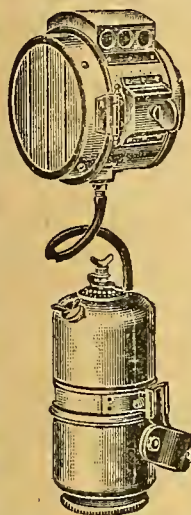
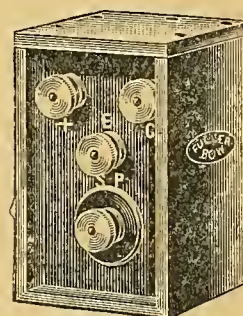
Size 2½ in. × 3 in.
× 4½ in.

Price 10s. 6d.

Twin - cylinder
ditto, 21s.

Fuller's Trembler
Coil, 2½ in. × 3 in.
× 4½ in., 17s. 6d.

Twin - cylinder
ditto, 35s.



The NEW LENS MIRROR MOTOR CYCLE LAMP.

Width of front .. 4½ in.

„ „ mirror .. 3½ in.

Price, complete with tubing and generator, 27s. 6d. Price with extra large generator to burn six hours, 30s. Lamp only, 19s. 9d. each. We also stock an extra strong two-way generator suitable for feeding two of these lamps, that can be used for tri-cars, price 21s. 6d. Lamps and generators can be supplied in brass or nickel, and the lamps with side or back brackets.

THE LATEST ALL-RUBBER GOGGLE.



Containing one set plain and one set smoked glasses.
Price 2s. 11d. Postage 2d.

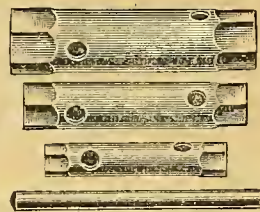
MOTOR CYCLIST'S TOOL PAD.



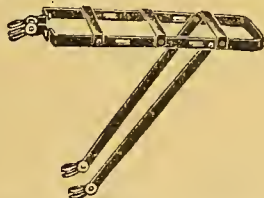
Containing eight useful tools.
Can be carried in wallet.
Price 4s. 6d. Postage 3d.

Motor Cycle Box SPANNERS.

Six sizes with tommy. Price 2s. 6d. set. Postage 3d. Quality guaranteed.

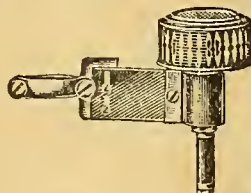


THE 'HUNT' REAR CARRIER.



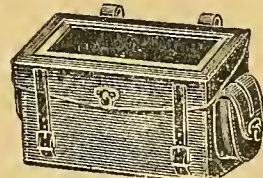
Extra strong, enamelled black, for "D" or oval shape stays. Fitted with extra strong leather straps, all joints riveted. Price 5s. 9d. Postage 8d. Size 17 × 8 in.

THE NEW SYREN.



Acts on front wheel. A good road clearer. Strong and well made. Fitted to any motor cycle. Finished in brass. Price 17s. 6d. Postage 6d.

LYCETT TOOL BAG.



Large and roomy. Contains two inside pockets for spares, and two outside pockets for oilcans. Size, 9½ in. × 5 in. × 4½ in. Price 7s. 6d. Postage 6d.

CATALOGUES
FREE.

HUNT'S (Motor Dept.), 104, Newgate St., London, E.C.
City Agents for MINERVA Motor Cycles (old machine taken in part payment).

Reliance SPARK PLUGS

Produce an Intense Spark.

Spark in Oil.

Require no Cleaning.

"I find the Reliance Plugs under all and any conditions give the best results of any I have tested."

6/6

each
per. post.

STEPHENSON'S

0, Canning Place,
LIVERPOOL.



TRANSFERS

for
Bicycles, Motor Cycles,
Tricars, etc., etc.

Special design submitted free
on receipt of wording.

Motor Cyclists requiring
Crests or Monograms for their
new mounts should write us
for prices.

Iliffe & Sons Ltd.,

Transfer Specialists
— Coventry. —



IN OPEN COMPETITION.

May 2nd, in the M.C.C. Hill at Sharpshoe, the "BROWN" Single Cylinder Motor Bicycle FASTEST TIME in the Single Cylinder Class, WON the Single Cylinder Handicap, and did FASTEST OF THE DAY with the exception of one twin cylinder which only two-fifths of a second. It, however, beat THIRTEEN CYLINDER MACHINES.

The "BROWN" secured THREE FIRSTS AND TWO SECONDS OUT OF FIVE EVENTS

Essex M.C. Open Hill Climb, High Beech, May 16th.

Auto-Cycle Union Hill Climb, Cotton Bank (May 30, 1908).

The "BROWN" 3½ h.p. won competition for Motor Bicycles with engines not exceeding 32 m m bore, being 31½ secs. faster than the machine that had second. The "BROWN" secured second place in the for engines not exceeding 32 m m bore.

What more convincing proof of the sterling qualities of "BROWN" Motor Bicycles could be given than the recent performances at Sharpshoe and High Beech and the letter from Mr. Stewart of Poona. It is not at all surprising to us that the "BROWN" gives such great satisfaction to riders, and such a good account of itself in Open competition—it is the way the engine is made and the way in which the whole machine has been designed and constructed.

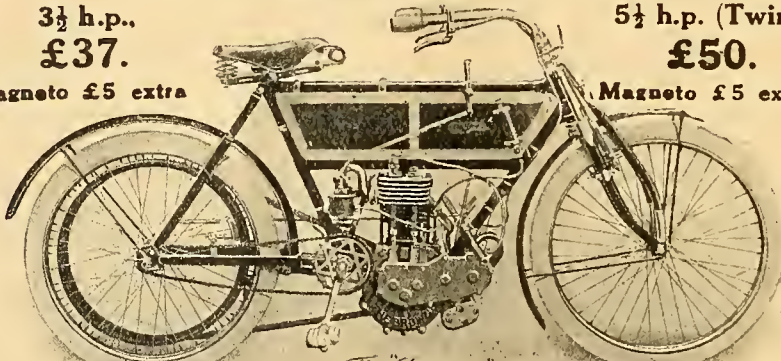
The Brown

Every "BROWN" Motor Bicycle is thoroughly tested on the road before being despatched, and each machine must come up to the high standard of perfection which has made it so popular all over the world. May we send you a copy of the latest "Book of the BROWN," which gives full particulars.

BROWN BROTHERS, LIMITED,
West End Showrooms—15, NEWMAN STREET, OXFORD STREET.
GREAT EASTERN STREET, LONDON, E.C.
Manchester and Paris.

3½ h.p.,
£37.
Magneto £5 extra

5½ h.p. (Twin),
£50.
Magneto £5 extra.



The Brown

NONE TO EQUAL THE "BROWN."

Poona, 30th April, 1908.

I thought I would give my "BROWN" Twin Cylinder Motor Cycle, which was purchased over a year ago, a really good test before rushing off to tell you how completely it has come up to my satisfaction.

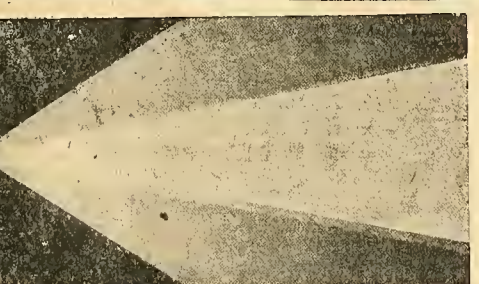
I will not say I have run the whole time without "touching a spanner," as I am too old a Motorist and have ridden too many machines to express my enthusiasm in that way.

Once you get into the "BROWN'S" way of running, I will emphasise the fact, very loudly, that you can say you have found your ideal mount. The rhythm of each cylinder makes Motor Cycling fascinating, and there is none of the "ennui" experienced on a machine which is continually shedding its nuts or requires adjusting every time you take her out.

There has only been one Motor Cycle Trial in India since I have owned her, and she did remarkably well, being the only machine out of thirteen others to finish on the second day. The roads were too dangerous then to proceed with the run.

I have yet to come across a mount to equal it in speed, and yet be used as delightfully for touring.

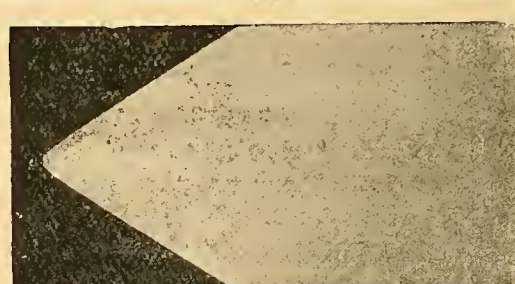
PATRICK A. STEWART



The above illustration shows the two distinct rays of light projected by "Autoclipse" Motor Cycle Lamps. The one penetrating a long distance, the other diffused, giving brilliant illumination of objects close at hand.

Get the New Catalogue

which tells all about the many distinctive features of



This illustration shows the rays of the "Autoclipse" Motor Cycle Lamp after the eclipsing mechanism has been brought into operation.

"Autoclipse"

REGISTERED TRADE MARK

MOTOR CYCLE LAMPS,

which, in addition to their great light-giving powers, are guaranteed to stand the vibration of a motor bicycle on the roughest roads.



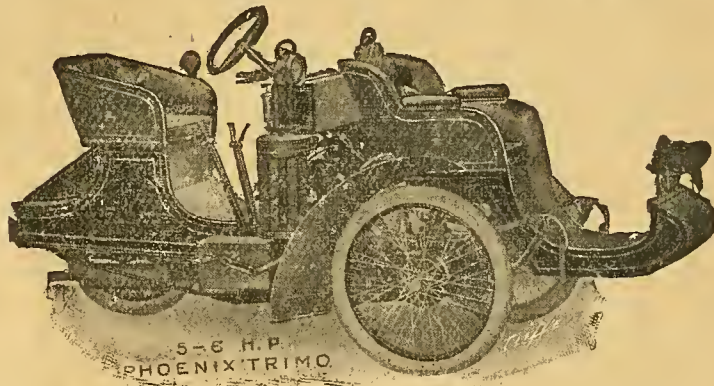
"AUTOCLIPSE" Motor Cycle Lamps are very strongly made, and are guaranteed to stand the severe vibration they are subjected to on motor bicycles. The Motor Cycle model has a double back, and the Bracket is riveted on, thus making it impossible for the back of lamp to come away, as in the case of most other lamps which are made with single back. Mr. W. H. Wells, the well-known motor cyclist, says: "Although near-sighted, I can see the road perfectly 100 yards ahead." If you are anxious to secure immunity from accident when riding at night, it is absolutely imperative that your cycle should be fitted with an "AUTOCLIPSE" Lamp. Let us send you the "AUTOCLIPSE" Catalogue, which gives all particulars.

With Eclipse Mechanism, brass 30/., plated 35/.

Without Eclipse Mechanism, brass 24/., plated 27/.

PHOENIX TRIMO — “RUNNING FAULTLESSLY.”

“I am pleased to say that the Trimo has been running faultlessly. I have not had an involuntary stop due to the car, only two from punctures. I must again thank you for your courtesy and good treatment.”



Yours sincerely, H. COLE,

4, Harold Villas, Douglas Road,
ROMFORD, 27th May, 1908.

Six years of experience behind it.

PRICE £90 nett.

LISTS BY RETURN.

PROMPT DELIVERY.

PHOENIX MOTORS, LTD., Blundell Street, Caledonian Road, LONDON, N.

Telephone—264 North.

Joint Managing Directors—J. Van Hooydonk, A. F. Hsley.

Telegrams—“Pacemakers, London.”

GRADUAL PAYMENT TERMS ARRANGED.

Sole Agent for Manchester and District—V. FOXWELL GRAY, 264, Deansgate, Manchester.

THE L.M.C.

3½ h.p. Single Cylinder.

RIGHT AHEAD. MADE FASTEST TIME.

FIRST ON FORMULA.

(See “The Motor Cycle” issue May 6th, 1908.)

BEAT ALL COMERS

including twin-cylinder machines.

At the Birmingham M.C.C. Hill-climb, Rose Hill (Worcs.), May 2nd, 1908.

**A.C.C. QUARTERLY TRIAL, APRIL 29th, 1908,
both L.M.C. machines MADE A NON-STOP RUN.**

Designed by Mr. W. J. LLOYD (late Director of the Quadrant Cycle Co., Ltd.) Designer of the

“ORIGINAL” QUADRANTS (Birmingham Make).

IMPORTANT TO RIDERS OF QUADRANTS (Birmingham make).—L.M.C. SPARES AND ENGINE REPLACEMENTS for these machines can be supplied from stock. PROMPT DESPATCH. LIST FREE. We have several excellent second-hand 3 h.p. and 3½ h.p. Quadrants (Birmingham make) for disposal. Re-plated and re-enamelled as new. Full particulars on application.

AGENCIES WHERE MACHINES MAY BE SEEN, AND ALL FURTHER INFORMATION OBTAINED:

London and District—The Service Co., Ltd., 292, High Holborn, W.C. Bristol and District—G. A. Hunter, 45, Park Street. Cardiff and District—R. Bevan, 31, Castle Street. Manchester and District—James Hall & Co. (Manchester), Ltd., 228, Stretford Road. Bridgwater and District—Real, Medland & Wills, Ltd.

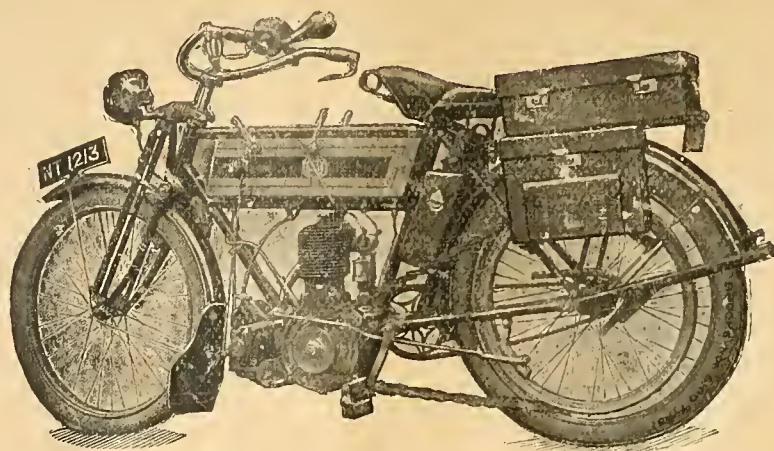
Makers: THE LLOYD MOTOR AND ENGINEERING CO.

MANAGER—W. J. LLOYD.

L.M.C. Works, 132, Monument Road, BIRMINGHAM.

Telegrams—“Obliging.”

In answering either of these advertisements it is desirable that you mention “The Motor Cycle.”



Ample accommodation

for your various spares, tools, clothing etc., with every good feature you could desire is provided in

BROOKS Special Bags for Motor Cyclists.

Do not load your cycle with bundles, but have the available space equipped with our Carrier, Pannier, or Frame Bags. We specialize on Bags of suitable sizes and shapes for luggage conveyance, and can fit up your cycle most effectively. Each Bag is made of finest stout quality Brown Canvas on Special Fibre Board—is Waterproof and Dustproof—is capacious, light, strong and neat in appearance. We also fit strong locks and good straps for affixing firmly to frame—ensuring safety and silence when riding. Prices on application.

Ask TO-DAY for our List and details of Motor Cycle Bags, etc.

J. B. BROOKS & Co., Ltd., Dept. 45.

The Saddle Specialists,.....Birmingham.

Brooks Motor Cycle Pannier Bag No. 9478.

This bag is made of finest quality waterproof canvas on special fibre board. Adaptable



for tools and spares or clothing. It is fitted with strong lock and is attached by straps to carrier and down stays on either side of machine. An expanding pocket on front is available for maps. Supplied in pairs or singly.

Triumph

3 $\frac{1}{2}$ H.P.

Holders of the End-to-End Record, 1908—
886 miles in 41 hours 28 min., by an Amateur.

- | | | |
|------------|--|--|
| June 5—6. | M.C.C. London—Edinburgh, 24 hours. | 24 Triumphs finished in schedule time.
<i>All these were Amateur riders.</i> |
| June 13th. | Newcastle and District M.C.C. 12 hrs. Newcastle to Edinburgh and back. | A. D. Nicholson, 3 $\frac{1}{2}$ h.p. Triumph, finished in schedule time.
There were 18 started, but only 3 finished. |
| June 14th. | Western District M.C. (London) Reliability Run to Salisbury, Silver Cup. | H. Vowler, 3 $\frac{1}{2}$ h.p. Triumph, Joint Holder of Cup. |
| June 20th. | Southern M.C. Reliability Trial, 100 Miles. | J. Wheeler, 3 $\frac{1}{2}$ h.p. Triumph. Winner Gold Medal.
T. E. Goodley, 3 $\frac{1}{2}$ h.p. Triumph. 2nd. |
| June 20th. | Sheffield and Hallamshire M.C.C. Reliability Trial. | F. Donovan, 3 $\frac{1}{2}$ h.p. Triumph.
F. Dover, 3 $\frac{1}{2}$ h.p. Triumph.
F. Farrer, 3 $\frac{1}{2}$ h.p. Triumph.
P. Wankyn, 3 $\frac{1}{2}$ h.p. Triumph.
4 Triumphs started, 4 finished in schedule time. |

Triumph Cycle Co., Ltd., Coventry.

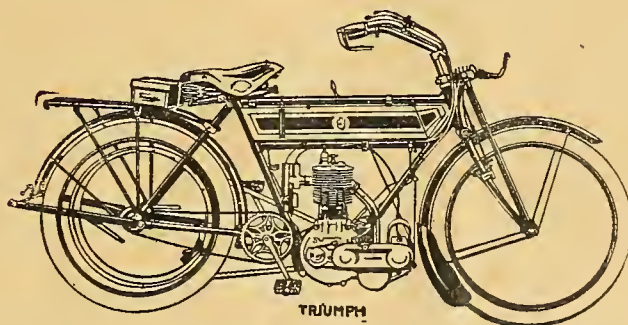
LONDON:

4-5, Holborn Viaduct, E.C

LEEDS: 4, King Edward St.

MANCHESTER:

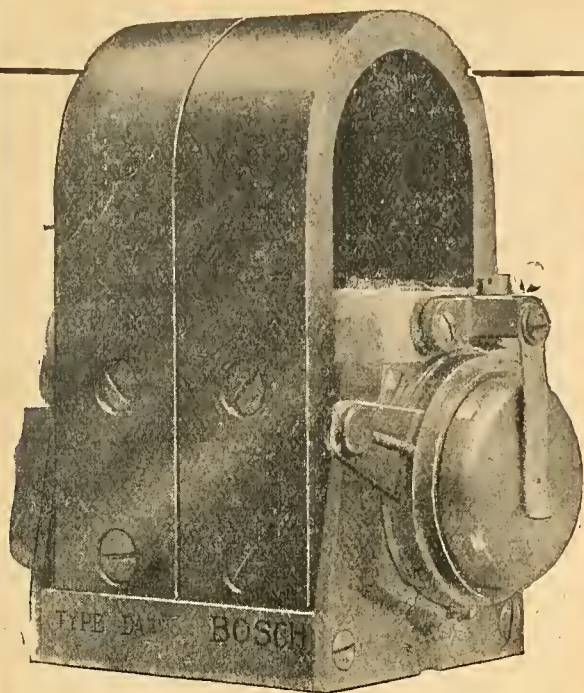
160, Deansgate.



GLASGOW: 101, Mitchell St.

DUBLIN (Wholesale only):

62, William Street.



The Bosch Magneto.

Fitted by all the leading makers of motor cycles.

FIBRE COVERS.

To prevent the ingress of mud, rain, or dust, invest in a new fibre cover. It affords fullest protection and prevents shorting.

3/6 each.

There is no
such thing
as ignition
trouble where
the

BOSCH MAGNETO

is fitted.

MORE POWER ON HILLS.

PROOF.

Empire, Glasgow,
May 4th, 1908.

The Bosch Magneto Co., Ltd.

Dear Sirs,—Will you kindly forward your booklet on "The Care of the Magneto".

I am using a 1908 single-cylinder REX-DE LUXE motor cycle, with your latest type of magneto machine, and as I am practically ignorant as to the management of a magneto, I should be pleased to have the book.

By the way, I am only asking for the book out of curiosity, as this is my third machine fitted with your magneto, and up to now I have never had to look inside, or to experiment, or to do the hundred and one little things I read about which other riders seem to have. Anything in the way of more reliable high-tension ignition for motors than the BOSCH is, in my opinion at least, impossible to be found. Since using the Bosch, I have forgotten that there is such a thing as ignition.

Thanking you in anticipation, and also for many a pleasant ride since discarding coils and accumulators.

I remain,

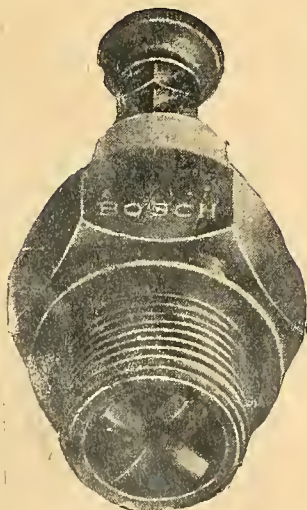
Yours faithfully,

JACK LANE.

Does that interest you?

Write for further particulars.

THE ... BOSCH SPARKING PLUG—



has *Four* distinct points of firing. It never soots, never misfires, and is always a "fat" hot spark.

Price **3/6** each.

THE BOSCH MAGNETO CO., Ltd.,

23, Store Street, Tottenham Court Road, London, W.C.

Telegrams: "Bomag, London."

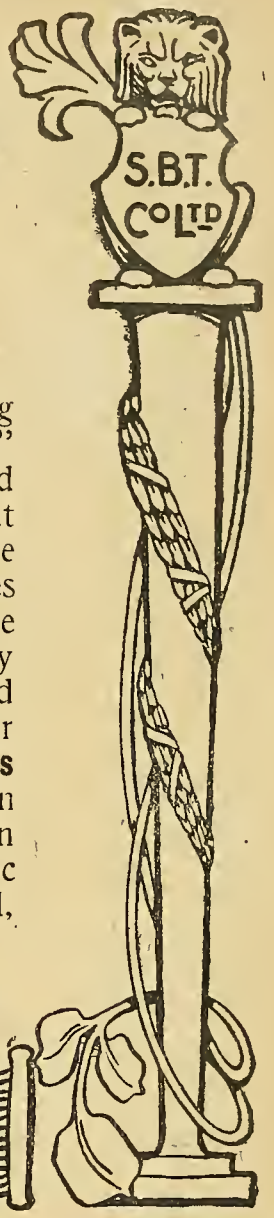
Telephone No. Gerrard 8634.



VINDEC SPECIAL

THE MOTOR CYCLE OF MERIT.

POPULARITY.



This results from well ascertained causes. The best of everything regardless of cost enters into the construction of the "Vindec Special." Not alone has the efficiency of the engine, the stability of the frame, and the design and finish of each component part been carefully studied, but due regard to the comfort of the rider has been considered by the adoption of the Truffault Suspension Fork (which practically eliminates all vibration), the accessibility of all levers; simplicity of control; ample brake power; substantial footrests; hinged rear mudguard giving ready access to the tyre in case of puncture, and tubular stand, attached independent of the rear axle. These are but a few of the reasons for "Vindec Special" popularity, but, considered from **the private owner's standpoint**, the fact that nearly 75 per cent. of successes in open competitions during the Season 1907 were secured by private owners in competition with trade riders, it will be evident that the "Vindec Special" does not depend upon the professional rider to prove its speed, ease of control, and absolute reliability.

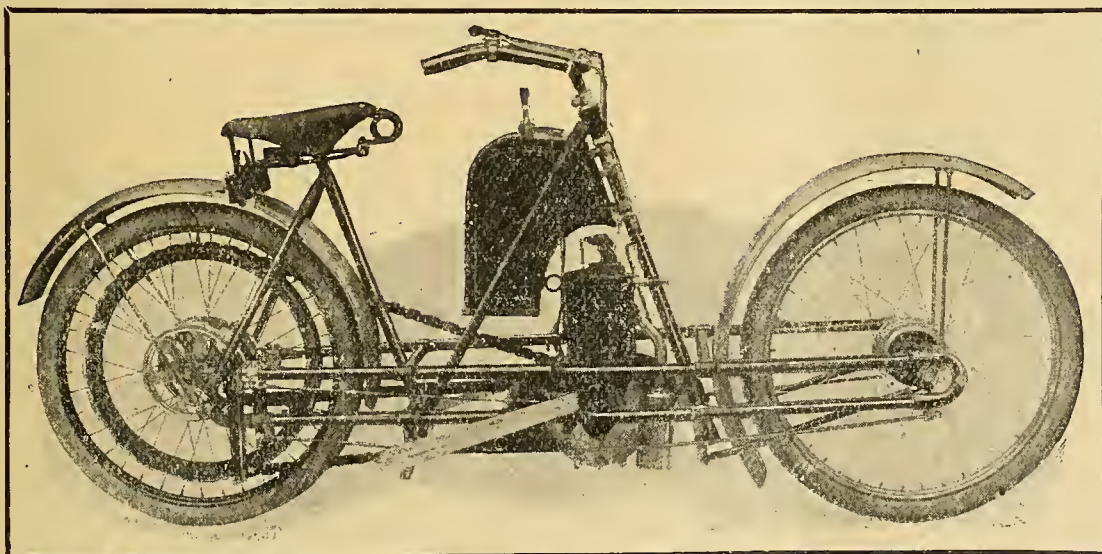
FULLY ILLUSTRATED BOOKLET SENT FREE UPON REQUEST.

SOUTH BRITISH TRADING CO LTD

13 & 15 WILSON ST, FINSBURY. LONDON.E.C.

ONE MORE OPPORTUNITY!

Owing to the tremendous success of their "Special Exchange Offer" in March, and the numerous requests since made for a repetition of the same, the Directors of Zenith Motors, Ltd., wishing to have one of the well-known "Zenith Bicans" running in **every** District in the Kingdom, are prepared to depart from their usual policy of refusing (all) business on exchange principles, and will make a reasonable allowance on a limited number of second-hand machines (of any make) belonging to prospective customers in districts where there is not at present one of the now world-famous "Zenith Bicans."



The "Zenith Bicar" Patent Twin-frame Spring-suspension System of Construction defies Road Shocks. "No front forks" is only one of its many pioneer points. No trouble, no vibration, no risk of slide-slip, no running alongside to mount—it starts with a handle, same way as a car. Comfortable footboards instead of pedals. Open frame and low build.

EASE and LUXURY.

Fitted with Fafnir $3\frac{1}{2}$ h.p. air-cooled engine, 80 mm. x 80 mm., Longue mare carburettor, free engine clutch, starting-handle, Prested high-speed trembler, two accumulators, exhaust valve lifter (operated from handle-bar), Clincher tyres (24 in.), Whittle's or Watawata belt, Brooks' saddle of the finest workmanship through; out; 43 guineas net cash. Two-speed gear or magneto ignition, 50 guinea s

"MOTOR CYCLES FOR SALE" seldom includes the "Zenith Bicar," despite its years of existence and widespread output. Unlike the many hundreds advertising their anxiety to part with other makes, "Zenith Bicar" riders "grapple them to their souls with hooks of steel"

OUR OFFER IS STRICTLY LIMITED TO FIFTY MACHINES ONLY.

When replying please send full particulars of your machine, date, condition, and lowest price you will accept, stating which model Zenith Bicar (standard, two-speed, magneto, or two-speed and magneto, 57 guineas) you wish.

ZENITH MOTORS, LTD., 101a, Stroud Green Road, LONDON. Nearest Station—**FINSBURY PARK.**

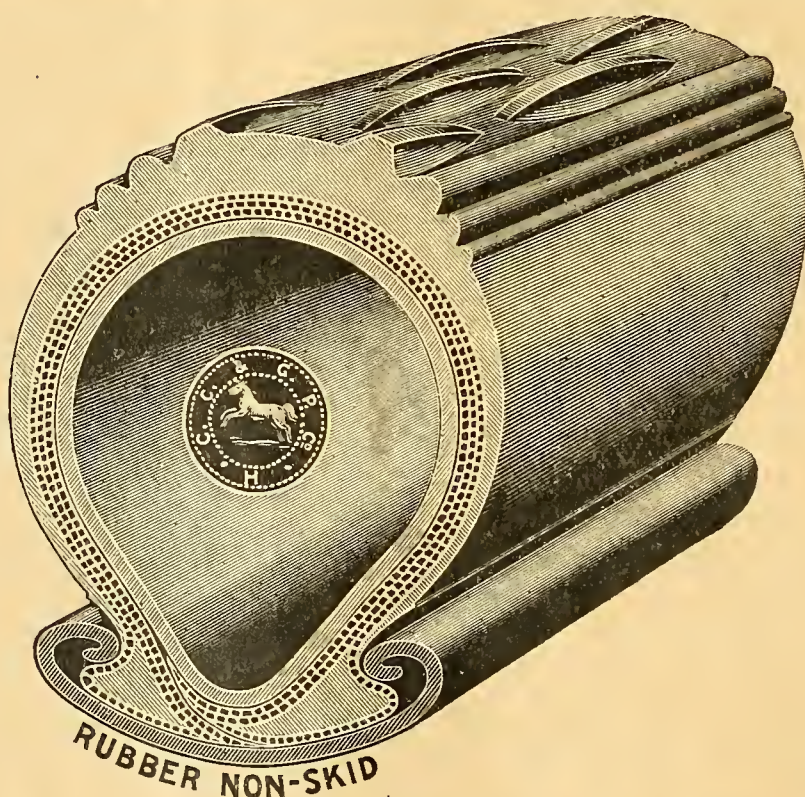
The "Zenith" Tricar, spring frame, built on same principle as "Zenith Bicar," with 6 h.p. twin-cylinder J.A.P. engine, two-speed gear and starting-handle, 72 guineas net. Marvellous value.

Agent for New Zealand—Mr. P. Genn, Christchurch, N.Z. Straits Settlements—Messrs. Hoot & Co., Ipoh, F.M.S. The "Bicar" is also running in S. Africa, India, Australia, Siam, Java, Hong Kong, Mexico, Brazil, and many other countries where the roads are of the very roughest description. Write for a catalogue, and see the enthusiastic testimonials respecting this unique machine.

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

RUBBER

NON-SKID



"CONTINENTALS"

MOTOR CYCLE TYRES.

PRICES.

24 x 2	..	32/6	per cover.	26 x 2	..	34/3	per cover.
24 x 2 $\frac{1}{4}$	..	36/6	"	26 x 2 $\frac{1}{4}$	..	38/9	"
24 x 2 $\frac{1}{2}$	..	41/9	"	26 x 2 $\frac{1}{2}$	..	43/-	"

In answering this advertisement it is desirable that you mention "The Motor Cycle."

ARE YOU A MOTORIST?

IF SO, WHY NOT

USE "LUBRIO" THE KING OF MOTOR OILS.

"LUBRIO"

has undergone a thorough theoretical investigation by an analytical expert. It has been severely tested by many Midland Motorists who have proved the practical efficiency of the oil.

WE GUARANTEE

That "Lubrio" is absolutely pure and free from acid.

That it will not gum up cylinder or piston rings.

That it will give perfect ease when starting in cold weather.

That it will give better compression, more power and greater flexibility.

Analytical report and testimonials on application.

QUART SIZE, 1/3. HALF GALLON, 2/-. GALLON, 4/-.

THE LUBRIO CHEMICAL CO., BILSTON, STAFFS.



MOTORS.

JAP Patent Carburetter.

As the result of experiments extending over several years, this Carburetter was devised nearly two years ago. We have had a number in constant use on various engines for the past 18 months. The advantages of this Carburetter are:

Simplicity.

Automatic action, needing no hand regulation.

Easier starting (with throttle almost closed). Engine starts smoothly and slowly without jump or jerk.

Slower, quieter, and more flexible running of engine.

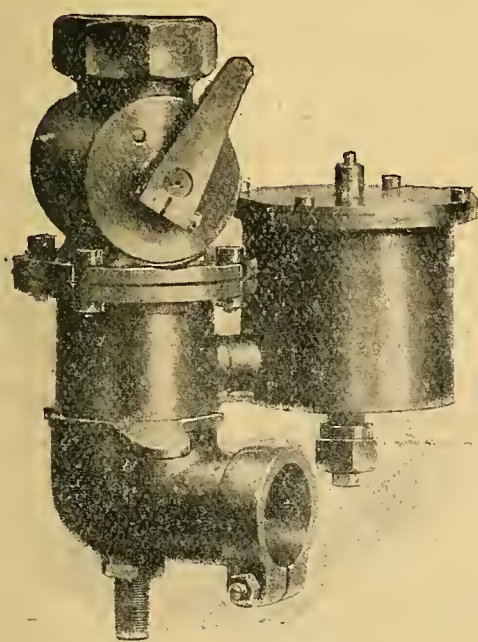
Greater speed and power with less petrol consumption.

Simpler and easier control.

Increases the pleasure of driving twofold.

Order at once to ensure prompt delivery.

Jap Patent Variable Pulley.



Price - - £2 2 0

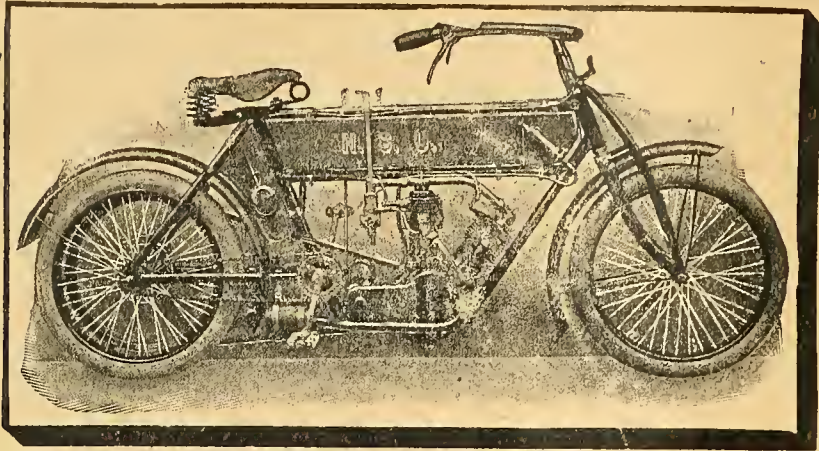
SEND FOR NEW ILLUSTRATED CATALOGUE—NOW READY.

John A. Prestwich & Co. 1, Lansdowne Road, Tottenham, London, N.

Telephone—1822 Tottenham.

Telegrams—"Prestwich, Tottenham."

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."



A Comprehensive Range

The range of N.S.U. models covers all the requirements of motor cyclists. It extends from the $1\frac{1}{4}$ h.p. lightweight to the 6 h.p. twin. The popularity of the N.S.U. is seen in every hill-climbing contest, in every reliability trial, and wherever motor cyclists congregate.

If your choice rests on a N.S.U. you will have made the same decision as 12,000 other satisfied motor cyclists. Write us or talk to your agent.

$1\frac{1}{4}$ h.p. Lightweight.

Spring Forks.
Stand complete.

Spring Forks.

3 h.p. Single cyl.

Spring Forks.

$3\frac{3}{4}$ h.p. Single cyl.

Spring Forks.

$3\frac{1}{2}$ h.p. Single cyl.

Side Cars.
Fore Cars.

Girder Forks.

3 h.p. Single cyl.

Girder Forks.

$3\frac{1}{2}$ h.p. Single cyl.

Girder Forks.

$3\frac{3}{4}$ h.p. Single cyl.

Twin cylinder.

4 h.p. Girder or
Spring Forks.

Twin cylinder.

$5\frac{1}{2}$ h.p. Girder or
Spring Forks.

Twin cylinder.

6 h.p. Girder or
Spring Forks.

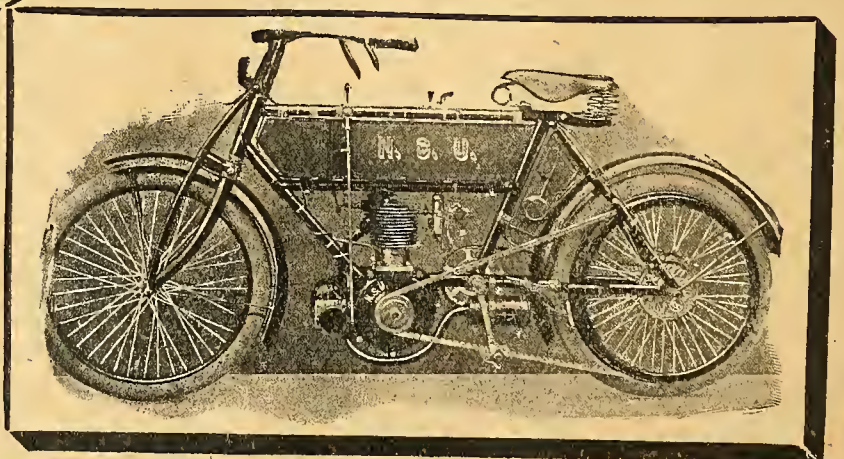
N.S.U.

LATEST WINS.

Worcester M.C.C., 6 h.p. N.S.U. FASTEST TIME.
" " 6 h.d. N.S.U. SPECIAL PRIZE.

N.S.U. Non-skid device prevents side-slips, saves
tyres and can be fixed in two minutes.
N.S.U. Sparking Plug, solves misfiring troubles.
N.S.U. Belt Fasteners are used by experts.
N.S.U. Two-speed Gear levels all hills

THE N.S.U. MOTOR Co., Ltd.,
78, Charlotte Street, London, W.



In answering this advertisement it is desirable that you mention "The Motor Cycle."

GAMAGES

DEPENDABLE GOODS — REASONABLY PRICED.

BELTING.

Whittle's patent combination of leather and steel links. The belt for passenger and high-powered machines.

1/2 in. 2/6, 3/4 in. 2/9, 1 in. 3/-, 1 1/4 in. 3/6, 1 1/2 in. 4/- foot.
 "Watawata" (leather), three-ply.
 1/2 in. 2/6, 3/4 in. 2/10, 1 in. 3/2 per foot. Fastener free.
 "Stanley Dermatine" (grooved rubber).
 1/2 in. 1/2, 3/4 in. 1/4, 1 in. 1/8 per foot.
 "Shamrock Gloria" (ditto).
 1/2 in. 1/3, 3/4 in. 1/9, 1 in. 1/10 per foot.
 Lycett's "V" pattern (leather).
 1/2 in. 1/4, 3/4 in. 1/9, 1 in. 2/3 per foot.
 Patent fastener free.
 Gamage ditto (special quality).
 1/2 in. 1/-, 3/4 in. 1/6, 1 in. 1/9 per foot.
 Lycett's belt dressing, 7d. Watawata ditto, 1/-

"UKANTES" BELT GRIPS.

(for worn or under-sized belts).

Box of forty with screws 2/6
 State original size of belt.

SPRING FOOTRESTS.

Foot shape, per pair 7/6
 "Luxuro," adjustable all ways 21/-
 Ball Bearing Pedal Footrests (not spring) 8/6

SPRING SEAT-PILLARS.

The "Sphinx" (post 3d.) 7/6
 The "XL'all" 8/6
 State diameter of present pillar.

SPRING FORK ATTACHMENTS.

"XL'all." No side play. Increased safely.
 Riding a luxury. Anyone can fit them. No filing, drilling, or brazing.
 Black or aluminiumed, per pair 17/6
 Plated all over, per pair 18/6

STANDS, etc.

Price's. State size and shape of side stays (D or oval), per pair 7/6
 "Millennium Express." With it the machine can be started from the saddle by pressing foot on lever 12/6
 Carrier for ditto 5/-
 State number of threads on back axle, or give name and power of machine.

HORNS.

Extra large treble twist, very loud and deep tone 6/3
 One slightly smaller, as sold elsewhere at 5/3 and 5/6; our price 4/9

GOGGLES.

The "Popular," latest egg-shape glasses, soft leather mask, very smart 1/9
 Superior 3/6
 Ditto, with nose protector 5/6
 The celebrated all-rubber goggle, genuine original make, with smoked and plain detachable glasses 2/6
 Similar, with curved detachable glasses (plain only) 1/6

SPARE TUBE BAGS.

Motor cycle size 10d. and 1/-
 Tricar size 2/9

WINGED PLASTERS.

For the permanent and efficient repair of outer covers. Saves weak spots getting worse. Easily fixed. Our price 9d.

TYRES.

The World's Best Outer Covers.

"Shamrock Excelsior," 26 x 2 1/2 in.	£2 10 0
Dunlop, 26 x 2 1/2 in.	1 3 10
Goodrich, 26 x 2 1/2 in.	2 0 0
Palmer Cord, 26 x 2 1/2 in.	2 18 9
Continental, 26 x 2 1/2 in.	1 8 9
Continental, Model de Course, 26 x 2 1/2 in.	2 4 6
Clincher "A Won" 26 x 2 1/2 in.	1 7 0
Clincher "Extra Heavy," 26 x 2 1/2 in.	1 9 6
Clincher, "Dreadnought," 26 x 2 1/2 in.	2 2 6

For other sizes and makes, also for tubes, retreads, etc., see our free 120 page book.

THE "RICH" DETACHABLE TUBES.

The genuine. Not butt-ended.
 Having free circulation of air all round. Improved pattern, quite new and fresh.

NOTE "GAMAGE PRICES"

(typical of the value on every article):
 Usual 26x2 26x2 1/2 26x2 3/4 28x2 28x2 1/2 28x2 3/4
 price 14/- 14/6 15/6 14/6 18/6 16/6
 Gamage
 price 12/3 12/6 14/6 12/6 14/6 15/6
 Fitted with best valves, seated on the inside.
 All Motor Cycle Tubes are made of Moseley's
 Best Quality Rubber and Standard Weights.



An extraordinary preservative and reviver of hardened rubber. Personally we have had remarkable results from its use. (Won't mend punctures.) Fluid. Per tin 2/3.



"MIRACULUM" PUNCTURE STOP.

"11,000 miles without a puncture."
 Collapsible tubes, motor cycle size 5/-

"SPHINX" PUNCTURE-PROOF BANDS.

Special make for motor cycles. Inserted between cover and tube. No fixing required. 3/6 each.

TYRE REMOVERS.

The "One Minute," set of three 2/9

EXHAUST CUT-OUTS.

The Bourne-Dala 6/6
 The "G.B." 12/6

SWITCHES.

Handle Switches, with dummy, per pair .. 3/-
 "Janes" Switch (press button to break contact), post 2d. 1/9
 Two-way Switch, post 2d. 1/3

CONTACT KNIFE.

Splendid innovation. Comprises cutting blade, push for valve cotter, screwdriver, inch rule, platinum file, millimetre rule (size of ordinary pocket knife), 2/9. Post 2d.

RESERVE PETROL CANS.

Specially made with lugs for strapping to motor cycle.

1/2 gallon, 1/- 1/2 gallon, 1/8. 1 gallon, 2/-

SUNDRIES FOR TRICARISTS.

Collan Oil, for fierce or slipping clutches (leather-faced). Recommended by "Motor," "The Autocar," etc. 1/- and 3/3.

"Motiphos," for slipping clutches, brakes, and belts. Collapsible tubes, 10d. Post 1d.

"Boilerine," cleanses radiators. 2/6.
 Hans Renold Chains. 1/2 in. pitch, 1/2 in. roller, 2/3.
 1/2 in. pitch, 1/2 in. roller, 2/9.

Chain Repairing Device, for holding chain in position whilst fitting bolt. 1/- and 1/6.

Box of Useful Sundries: Bolts, nuts, split pins, split and other washers, copper and asbestos washers, high and low tension terminals, etc., etc. 120 pieces in box for 6/6.
 (Thousands of boxes sold.)

MOTOR CYCLE COVERS.

Shaped to fit any ordinary motor cycle, and constructed so that machine can be wheeled when cover is on.

Green waterproof canvas 25/-
 State wheelbase, height to bars, height to saddle, and distance between centre of handle-bar and back of saddle.

RUBBER MATTING for Footboards.

12/6 per square yard.

TOOL ROLLS.

Leather, fitted eight best quality tools 12/6
 No. 2 Set, fourteen good tools 27/6
 Most complete kit, suitable for cars and tricar, highest quality tools, fitted pockets for plugs, etc., etc. 50/-

VOLTMETERS.

The "Gamage Beez" we can recommend as the highest grade and most reliable voltmeter made, and for dependability you can't have too high grade a voltmeter. 11/3.

SPARKING PLUGS.

A really high grade plug at a reasonable price is the "L.M.," beautifully finished, and always gives satisfaction.

White porcelain, 1/9. Blue porcelain, 2/4 1/2.
 The "Eyquem" combines a compression tap, spring terminal, and short-circuiting device (obviating the necessity of taking out plug to see if sparking). Nothing like it. Just the plug for motor cyclists. Price 5/6.

MAGNETO PLUGS.

The "Farouz" cannot be equalled at anywhere near the price. 3/3 each.

VULCANISERS.

The "Gamage" Cold Vulcaniser. Tubes repaired on the roads. Instantaneous and lasting. Complete outfit 4/6

Be sure and get a copy of our 120 page free book "Everything for the Motorist"; if it does not contain what you require, write us. No other house can give you half the service or quote you such prices as our facilities make possible.

A. W. GAMAGE, Ltd.,
HOLBORN, LONDON, E.C.

OUR PRICES, being based on a minimum working profit over cost of production, ARE FOR CASH ONLY, except where clients avail themselves of our deposit account system.

BENETFINK, Ltd.,
CHEAPSIDE, LONDON, E.C.

**Signed
and
Sealed**

**New Cont
Machines e**

GREAT REX

ON ALL MODELS, either direct o

SPECIAL PRICES FOR THE

2½ h p Featherweight	....	..	..	25 gns.
3½ h p Tourist, ball bearing engine	..	..	..	38 gns.
5 h p Tourist, ball bearing engine	..	..	..	43 gns.
3½ h p. De Luxe, ball bearing engine, Roc clutch	..	..	..	48 gns.
3½ h.p. De Luxe, ball bearing engine, Roc clutch, Rex two speed gear				53 gns.

THE REX MOTOR MANFG. CO.

A FEW LEADING AGENTS

LONDON—{ J. Horner & Co., Store Street.
Service Co., Ltd., 29, High Holborn.
MANCHESTER—L. F. Harvey & Co., 6, Chapel Street
(off Victoria Street).
LEEDS—A. I. Greenwood, 39, Guildford Street.
NORTHUMBERLAND & DURHAM—Kirsop, Murray & Co.,
Ltd., 43, Pilgrim Street, Newcastle-on-Tyne.
BRADFORD—E. Tidswell, 61, Preston Street.
DORCHESTER & WEYMOUTH—Tilley & Sons.
HULL—F. Green, 19, Anlaby Road.

BELFAST—Central Motor Co., Smithfield.
PRESTON—W. H. Swindells, North Road.
EDINBURGH—Alexander & Co., Lothian Road.
PERTH—Lindsay & Fenwick.
KENDAL—Atkinson & Griffin.
LEICESTER—Princess Motor Stores, 32, King Street.
ACCRINGTON—Athletic Supply Co., Ltd.
LIVERPOOL—F. C. Jones & Co., 3 Redcross Street.
GLASGOW—C. M. Farrow, 32, Cowcaddens Street.
DUBLIN—Wayte Bros., 11 and 12, Lemon Street.

ct for Second-hand
ered into June 20th.

EXCHANGE POLICY

ough our authorised selling agents.

MONTH OF JULY ONLY.

h.p. De Luxe, ball bearing twin engine, Roc clutch, .. **53 gns.**
h.p. De Luxe, ball bearing twin cylinder engine, Roc clutch,
Rex two-speed gear .. **58 gns.**
h.p. Litette, two seater, water cooled twin engine, Roc clutch,
Rex two-speed gear .. **75 gns.**

Ltd., COVENTRY.

BIRMINGHAM—The Premier Motor Co., Ltd., Aston Road.

SWINDON—J. Winslow, 90, Regent Street.

DARLINGTON—G. A. Hayward & Co.

DONCASTER—Clarke & Co., Station Road.

WIGAN—H. Timberlake.

CARDIFF—Messrs. J. Parsons & Co., 54, Albany Road,
Roath Park.

STOCKPORT—J. Garlick Looker, Heaton Chapel.

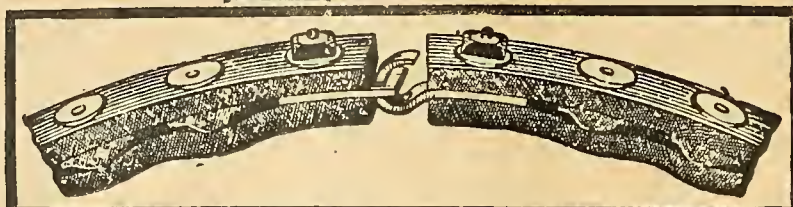
SOUTHSEA—W. J. Peckham, Ltd., 84, Osborne Road.

SHEFFIELD—J. Thompson & Sons, 85, The Moor.

*I declare my machine to be complete
and in running order, also that the
following is a correct specification:*

Make.....
Date of Manufacture
Horse-power.....
Transmission
Position of Engine
M.O.V. or Automatic Valves
Carburetter.....
Ignition (accumulator or magneto)..
Tyres (make and size)
Height of Frame
NAME
ADDRESS.....
.....
DATE

THE BELT
THAT
WAGES WAR
ON WASTE.



**THE "WATAWATA"
AND A
"WATAWATA" USER.**

The following is a letter which
will be of interest to most motor
cyclists:

14, Conan Mansions,
W. Kensington.

Dear Sirs,

I think it is my duty to let you know what I think of the "Watawata" Belt. I specified "Watawata" Belt with my new 1908 Triumph last December and have used it daily since the beginning of January, riding at Lippetts Hill (limb), Sutton Bank, and then in the London-Edinburgh Run, and I have not had the slightest trouble with it. It is really a record, I think, and I intend to use the original belt in the End-to-End Ride next July. I shall carry a spare, but no doubt will not require same. You are at liberty to use this for advertising purposes if you so desire.

Yours sincerely, GORDON GIBSON.

THE "WATAWATA" PREVENTS POWER WASTAGE AND HAS THE
MOST TENACIOUS GRIP.

LONDON:

W. B. BROOKE,
318, KING STREET,
HAMMERSMITH, W.

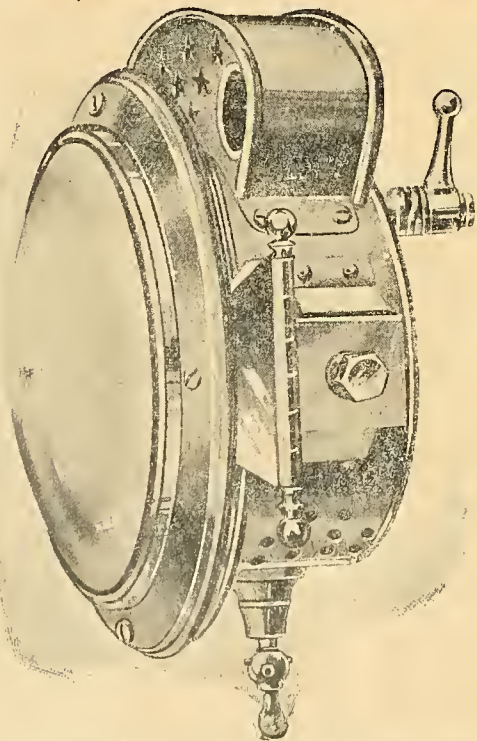
THE BELT
WITH THE
BULL-DOG
GRIP.



Write for
List,
Dept. B.

O. & W. ORMEROD, Ltd., ROCHDALE.

**The "AUTOCLIPSE"
Motor Cycle Lamps.**



Candle Power
400.

Projective
Power, 200 ft.

Combined
Projective
Power of two
Lamps, 270
feet.

Prices: Brass, £1 10s.; Plated, £1 15s. each.

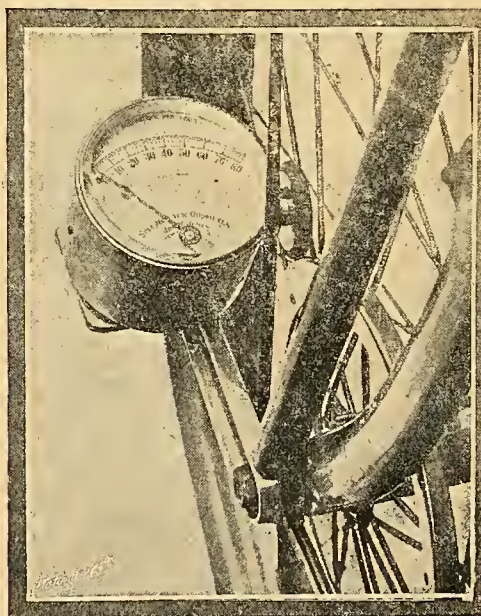
Without Eclipsing Mechanism—

Prices: Brass, £1 4s.; Plated, £1 7s. each.

THOMAS CLAYTON & SON, LTD.,
Showrooms—126, New Street (Next to the Midland Hotel)
BIRMINGHAM.

The purchase of a

"JONES" SPEEDOMETER



increases
tenfold your
pleasure
when Motor
Cycling and
ensures
Efficiency,
Reliability,
and an Accu-
rate Record
up to 50
miles an
hour. Full
particulars
from

THOMAS CLAYTON & SON, LTD.,
Showrooms—126, New Street,
(Next to the Midland Hotel),
BIRMINGHAM,

who invite you to inspect their extensive stock of all
Accessories and Requisites for Motor Cycles and Cars.



Shamrock Excelsior Tyres

and

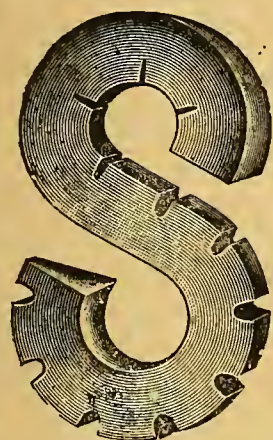
Shamrock Gloria Belts

OUTCLASS

ALL OTHERS.



THERE IS NOTHING BETTER!

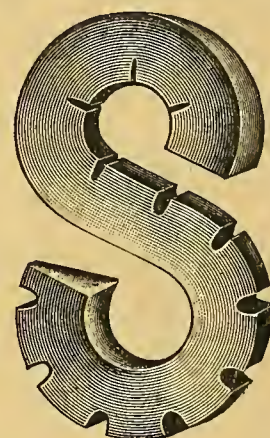


REMEMBER

**SUTTON BANK,
LONDON-EDINBURGH,
ETC., ETC.**

**LATEST SUCCESSES:
BARNESLEY HILL CLIMB.**

First and Second using S.G. Belts. Also fastest time :
J. Marshall, 3½ h.p. Triumph.



Sole Manufacturers : **THE HANOVER RUBBER CO., 29-31, Old St., London, E.C.**

ALL THE WORLD

is talking of the ROC—"the car on two wheels." No machine has more rapidly come into the very front rank. The Roc live axle with clutch and speed gear is the key to the future of motor cycling. The 1908 season has shown that the system is as efficient in practice as it showed itself to be in theory.

The 1908 Roc is also conspicuous by its workmanlike details; the ball-bearing engine, the low duplex frame, the new large silencer, the remarkable control, are other Roc points. The Roc 4 h.p. Royal Military Model, inclusive of these features, sells at **48 gns.** Early deliveries can now be given; also of the Roc conversion sets, adaptable to every make of belt-driven machine, at **10 gns.**

**A. W. WALL, LTD.,
ROC MOTOR CYCLE WORKS, BIRMINGHAM.**

London Agents—The Service Co., 292, High Holborn, W.C.

"YOUR WONDERFUL LITTLE MACHINE."

THE
WONDERFUL
LITTLE
MACHINE
IS
THE

MOTOSACOCHE.

SHREWSBURY HOUSE, NORFOLK ROAD, SHEFFIELD.

June 10th, 1908.

H. AND A. DUFAUX.

Gentlemen,—In enclosing a Postal Order, I should like to say that I'm still perfectly satisfied with your wonderful little machine. After 2,068 miles, including journeys into every corner of the Peak, the only mechanical trouble has been the fraying of a low tension wire at the contact breaker; put to rights in a few minutes. Yesterday I went from Sheffield to Buxton without a hitch or hill-stop of any description.

Yours sincerely, (Signed) J. W. MANTON.

H. & A. DUFAUX (England), LTD.,
65, HOLBORN VIADUCT, LONDON, E.C.

MICHELIN

Motor Cycle Tyres

are the most economical not only on account of their low price but because you can get twice the amount of wear out of them. Try one against a tyre of any other make.

**Wired-on Covers, 28" x 2",
17/6 each.**

Send for descriptive Booklet A.



Tel. Kensington 210,
4 lines.)

49-50, SUSSEX PLACE,
S. KENSINGTON,
LONDON, S.W

Teleg.: "Pneumiclin,
London."

MOTOR BICYCLES FOR SALE.

MOTOR Cycle, 2½ h.p. Minerva, beautiful hill-climber, in excellent order; £12 10s.—O. Austin, 61, Aytoun Road, Brixton.

JAP, 2½ h.p., thorough order, Palmers, long handle-bars, Lycetts, Bowden brake; £10.—11, Cedars Avenue, Walthamstow.

QUADRANT, 3½ h.p., 1906, reliable, ready for the road, tyres nearly new; £20, no offers.—Penfold, Kingscote, Beaconsfield.

23 h.p. Minerva, practically new; first £10 secures.—Garaged at Still and Conway, 111, Mitcham Lane, Streatham.

KERRY Motor, 2½ h.p., Chater-Lea fittings, Watawata, excellent condition; £10 10s. cash.—C., 13, St. John's Hill Grove, S.W.

VINDEC Special, 2½ h.p., perfect condition, very little used, all accessories; £15.—Burtle, 52, Blackstock Road, Finsbury Park.

4 h.p. Stevens, spring frame, new condition, 2½ in. tyres, fast, and absolutely reliable; offers.—60, Janson Road, Stratford.

QUADRANT, 3 h.p., low position, tyres unpunctured, Longuemare; for immediate cash, £10 10s.—84, Osborne Villas, Hove.

MOTOR Bicycle, complete, 2 h.p. Minerva engine, splendid condition, bag of tools; £10.—Child, 8, Cumberland Road, Acton, W.

3½ h.p. Rex, in excellent condition, new tyres, stand, etc.; £10, accept push bike and cash.—20, Kelvedon Road, Fulham.

ARIEL, 3 h.p., perfect order, low, long handle-bars; bargain, £12 12s.; seen any time.—6, Chatsworth Road, W. Norwood.

31 h.p. 1907 Triumph, new condition, brand new Palmer cord covers, puncture-proof bands; £30.—20, Surrey Street, Brighton.

DE DION, 2½ h.p., B.S.A. frame and fittings, spring forks, perfect condition; £14, or offers.—Crerar, North Amulree, Dunkeld, N.B.

13 h.p. F.N., climbs River Hill and Reigate Hill, without pedal assistance, good condition.—Can be seen, 106, Great Portland Street, W.

UNFORESEEN Circumstances.—3½ h.p. Minerva, 1908, in crate, just delivered; what offers; wires preference.—Tuson, jun., Leominster.

ARIEL-MINERVA, 2½ h.p., new tyres, climb Handscross, Dashwood, speed 33 miles hour; £14 10s.—George, 11, Liverpool Road, London, N.

MOTOR Cycle, 3 h.p., by Simms, London, new condition, magneto, Brown-Barlow carburetter; £13 13s.—35a, Fieldhouse Road, Balham, S.W.

31 h.p. Minerva, 1907, Advance pulley, non-skid; expert examination; 20 guineas.—Du Gué, Tregaron, after Saturday, Palace, Bordesley.

31 h.p. Light Low Rex, good condition; bargain, £12, or push bike and £10 between 7.15 and 8.30 p.m.—28, Churchill Road, Hackney.

TRIUMPH, 1907, magneto, been taken care of, climb anything, perfect condition, faultless; £33.—Meguyer, Shanklin, Acacia Road, Leamington.

VINDEC Special, twin, late 1906, almost new, all accessories; £34, with sidecar, £38; owner bought car.—200, The Motor Cycle Offices, Coventry.

3 h.p. Bradbury Motor Cycle, Longuemare carburetter, Clinchers, new belt, in good condition; £11 10s.—Edgar Smith, Ridge-well, Halstead, Essex.

1908 3½ h.p. Brown, bought June, only ridden 40 miles, perfect condition, all accessories and spares; £20.—Saltmarsh, 92, Castle Road, Bedford.

JAP-ROVER Lightweight, low, racy, new belt, Price's stands, good condition throughout; £12 15s., or near offer.—36, Carter Street, Walworth, S.E.

5 h.p. Twin Rex, just overhauled, better than new, fitted new Guenet coil, powerful hill-climber, easy starter; £20.—Bamber, Totley Rise, Sheffield.

ARIEL! Ariel!! Ariel!!!—For immediate delivery the 2½ h.p. lightweight; write for catalogue and full particulars; also 3 h.p. and 5 h.p. twin-cylinder models; a few 3 h.p. and 5 h.p. twins at clearance prices.—Ariel Works, Bournbrook, Birmingham

6 h.p. Twin Rex £18 18s.

or £4 and '07 single Rex, £6 and '06 Rex. Liberal allowances for other makes.

TWIN-CYLINDER MACHINES.

6 h.p. TWIN REX, black finish	£19 19
6 h.p. TWIN REX (1907), magneto	25 0
5½ h.p. REX DE LUXE, Roc clutch, magneto, twin tyres	27 10
5½ h.p. REX DE LUXE, shop-soiled, Roc clutch, magneto, black finish	35 0
4 h.p. TWIN N.S.U., magneto, two speeds ..	26 13
6 h.p. TWIN N.S.U., magneto, 2½ in. tyres ..	23 10
5½ h.p. TWIN VINDEC, magneto	29 10
4½ h.p. TWIN MINERVA, 2½ in. tyres	23 10
3½ h.p. TWIN WERNER, spring forks, light	13 13
5 h.p. TWIN G.B., magneto, 2½ in. tyres	25 0
6 h.p. TWIN ANTOINE, low built	18 18
6 h.p. TWIN REX and SIDECAR	23 0

SINGLE-CYLINDER MACHINES.

3½ h.p. REX DE LUXE (1908), Roc clutch, two speeds, magneto; cost £52	£35 0
4 h.p. ROC (1907), magneto, free engine	27 10
3½ h.p. TRIUMPH (1907), magneto	32 10
3½ h.p. N.S.U., magneto, low built	19 19
2½ h.p. REX LIGHTWEIGHT (1908), nearly new	23 10
FOUR-CYLINDER F.N., magneto	19 19
4 h.p. ANTOINE, M.O.V., 26 in. wheels	14 14
3½ h.p. REX, 26 in. wheels, 20 in. frame	11 11
3½ h.p. REX (1907), spring forks, 2½ in. tyres	16 16
3½ h.p. REX (1906), spring forks	15 15
3½ h.p. ARIEL, M.O.V., 26 in. wheels	12 12
3 h.p. ARIEL, M.O.V., 26 in. wheels	10 10
3 h.p. CLYDE, M.O.V., magneto, vertical ..	11 11
3 h.p. WHITELEY, spray, good tyres	8 10
3½ h.p. EXCELSIOR, very powerful	8 10
3 h.p. SIMMS, M.O.V., magneto	19 10
3 h.p. FAFNIR, Phoenix two speed	13 13

LIGHTWEIGHTS.

3 h.p. BRADBURY	£10	2½ h.p. MAGNETO	£10
3 h.p. HUMBER	10	3½ h.p. REX	10
3 h.p. CALVERT	9	2½ h.p. CENTAUR	8
2½ h.p. MINERVA	9	2 h.p. MINERVA	8
2½ h.p. REX	6	1½ h.p. MINERVA	8
1½ h.p. QUADRANT	6	2½ h.p. JAP	7
2½ h.p. BUCHET	8	3 h.p. HUMBER	9

Push Cycles taken in part payment.

TRICARS

4 h.p. HUMBER, W.C., Phelon and Moore two-speed gear, coach built	£13 10
4 h.p. TRENT, W.C., open frame, two speeds, wheel steering	18 10
4 h.p. DERRICK, coach built, free engine ..	16 16
4 h.p. REX, free engine, special engine	17 17
3½ h.p. ROYAL SOVEREIGN, light	8 10
5 h.p. QUADRANT, two speeds	22 10
3½ h.p. WHITE & POPPE, M.O.V., Kent three-speed gear	16 16
5½ h.p. REXETTE, open frame, two speeds ..	35 0
7 h.p. JOWETT, two-cyl., W.C., open frame, wheel steering, very smart	30 0

MOTOR TRICYCLES.

3½ h.p. AUTO	£5	2½ h.p. HUMBER ..	£4
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Cash, Credit, or Exchange.

HIGH-CLASS LUBRICATING OIL

Specially refined for air-cooled engines by the largest makers in the land. Heavy gravity, high flash point, great viscosity. Will increase your engine power 10 %.

HALF-GALLON CANS, 1/11. Approval.

**CORONET VARIABLE SPEED PULLEY.**

14/- each.

Special Terms to the Trade.

Standard makes can be had without sending old pulley for pattern.

The screwed flange is securely held in any position by a simple yet ingenious contrivance that distinguishes it as the most improved pulley made.

GRIPSKIN BELTING.

Scientifically made from selected parts of hides. An efficient belt at a popular price. Outlasts two rubber belts. Correct angle, perfect drive, non-stretching. We send on approval on receipt of P.O.

½ in., 9d.; ¾ in., 10½d.; 1 in., 1/-; 1½ in., 1/1.

Special Terms to the Trade.

Booth's Motor Exchange,

CORONET WORKS, WADE ST., HALIFAX.

Telephone 198Y.

MOTOR BICYCLES FOR SALE.

1906 3½ h.p. Rex, long low frame, spring forks, guaranteed in running order; £15; cash, credit, or exchange.—16, Westgate, Halifax.

ORMONDE, 2 h.p., recently overhauled, many parts replaced, tyres as new, accessories, good going order; £6 10s.—73, Stockwell Park Road, S.W.

WERNER, 1½ h.p., vertical engine, V belt, spray carburetter, toolbag, etc.; £4 17s. 6d.—Chauffeur, Cottage, Melbourne Lodge, Queen's Walk, Ealing.

23 h.p. Noble, F.N. carburetter, Palmer tyres, non-skid bands, stand, Salsbury lamp, overalls, tools, etc., good condition; £12.—Boswell, Aylestone, Leicester.

31 h.p. Minerva, in excellent condition, complete with spring forks, lamp, horn, new belt, etc.; £16, for quick sale.—119, Fawnbrake Avenue, Herne Hill.

5 h.p. N.S.U. Twin, and new detachable rigid sidecar (right side), good reliable machine; sacrifice £30.—Advertiser, "Woodside," Moor End, Henley-on-Thames.

3 h.p. White and Poppe, Chater-Lea, long, low, very good condition and running order; £14; seen by appointment.—Motor, 9, French Place, Shoreditch, London.

5 h.p. Twin-cylinder Vindec Motor Bicycle, not ridden 500 miles, no fault, full set spares; cost £60, to be sold half-price.—Hubert G. Ware, Elm Grove, Salisbury.

MOTOR Bicycle, M.M.C. 3½ h.p. engine, Chater-Lea frame, spring forks, nearly new tyres, little used, first-class condition; what offers?—1, Castlebar Road, Ealing.

31 h.p. Quadrant, spring forks, absolute-ly uns scratched, and as new from the makers, not run 300 miles; sacrifice £24, with spares.—W. Else, Leawood, Matlock.

3 h.p. Quadrant, Longuemare carburetter, Palmer back and Clincher front, complete with stand, lamp, and horn; £15, lowest.—147, The Motor Cycle Offices, Coventry.

31 h.p. Quadrant Motor Cycle, 1906 pattern, plating and enamelling equal to new, headlight and spares; £24.—Carnforth Cycle and Motor Co., 6, Lancaster Road, Carnforth.

FOUR-CYLINDER F.N., in splendid condition, magneto, spring forks, many spares; £18 (no offers).—To be seen at the F.N. Agency, 106, Great Portland Street, London.

VINDEC Special.—We have another of these famous machines, grand order and condition, 2½ h.p., tyres as new; bargain, £10 10s.—Invicta Motor Co., Tunbridge Wells.

3 h.p. Quadrant, spring forks, splendid order, powerful, reliable, 26 in. wheels; reasonable offer accepted, or exchange.—Motor, 86, Colvestone Crescent, Dalston, London.

5-6 h.p. Twin Rex, 50 guinea model new tyres, footboards, and all accessories; bargain, £19 10s.; rigid sidecarriage, £4, just like new.—G. Beech, 108, Bruce Grove, Tottenham, N.

2 h.p. Werner, spray, V belt, 25s. Lucas lamp, stand, and spares, re-plated and enamelled; trial; everything perfect; £9 10s., or offers.—H. H. England, 77, Cathies Road, Balham.

LANCASHIRE.—3½ h.p. Peugeot, effective silencers, new Palmers, spring seat-pillar, B100 saddle, full kit, two large accumulators, electric horn; £21.—Cunliffe, Lord Street, Southport.

FOR Sale, J.A.P., 1907, 3½ h.p., better than new, with Matchless silencer; £8.—Griffin, Filton, Bristol.

FOR Sale, lightweight Rover, 2½ h.p., practically new, 100 lbs. weight Clinchers; photo; £21.—31, Oxford Road, Liscard.

VINDEC Special, new July last, 5 h.p., magneto, Truffault suspension, Peter-Union, Vindec adjustable pulley, Lycett's belt, cut-out, carrier, spares, tools, perfect condition; trial allowed; £35.—Hugh, 105, Croxted Road, W. Dulwich, London.

5 h.p. Vindec, Roc two-speed gear, Jap automatic carburetter, Vindec adjustable pulley, Whittle belt, Goodrich non-skid, butted tubes, handle-bar control; £45, no offers; any trial by appointment; no dealers.—Kennedy, jun., 15, Alfred Street, Mayfair.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

p. Fafnir, grand condition, accessories, low; £16, exchange.—48, Sydney Road, Sey.

UMPH, 3 h.p., magneto, as new, climb any hill, spares; £25.—3, Fitzalan t, Glossop.

h.p. Triumph, 1907, perfect condition; what offers?—No. 202, *The Motor Cycle* ss, Coventry.

h.p. Twin Werner, two belts, spring forks; £15.—Brinkburn, Haslemere t, Crouch End.

UMPH, 1907, magneto, new condition, special machine; £32.—Smart, Murray et, W. Hartlepool.

h.p. Rex, long bars, low saddle, perfect order; £10.—Stevens, 4, Goldhawk s, Shepherd's Bush.

VIN Rex, equal to new, not run 500 miles; too powerful for owner; £18.—St. Malo, well, Newport, Mon.

h.p. Twin Antoine, Lycett, Dermatine belts, spares, etc.; £20.—Clapham, King rge Street, Greenwich.

h.p. Phoenix, thorough going order. tyres as new; £7, a bargain.—J., 37, orton Road, Harringay, N.

ACERS!—12 h.p. Peugeot, guaranteed perfect condition, new belt, complete; Wilkie, 2, South Cliff, Eastbourne.

h.p. Humber, re-bushed, re-enamelled, powerful, fast, faultless; £11 19s.; to.—Palfreyman, jun., Tideswell, Bux-

5, bargain, as new.—2½ h.p., Minerva en- gine, Eadie frame, Palmers, 2½, stand, p, etc.; 9 till 7.—Walker, 127, Fenchurch eet, London, E.C.

P, Fafnir carburetter, low position, long bars, Chater-Lea frame, excellent con- dition, 2½ h.p.; ten guineas.—H., 16, Albert ad, Stroud Green.

MINERVA, 2½ h.p., M.O.V., spray, tyres l good, Chater-Lea throughout, in thor- gh order; seen evenings; £7.—39, Palace ad, Streatham Hill.

OUR-CYLINDER F.N., 1908, 5 h.p.; cost 50 guineas; ridden 9 miles, new, per- t; £40, immediate cash.—No. 204, *The Motor e* Offices, Coventry.

OTOSACOCHE, stand, horn, etc., first- class order; £20, lowest, or exchange lady's, same condition.—Gibb, Worces- Street, Gloucester.

h.p. Antoine, like new, and Millford castor sidecar; offers, or exchange gneto lightweight.—69, Bensham Manor ad, Thornton Heath.

OR Sale, 3½ h.p. Jap, with sidecar, guar- anteed perfect order; given up riding; rifice £20.—Wm. Archard, White Wal- um, Maidenhead, Berks.

25.—Triumph, 1907, magneto, ball bearing engine, Palmer, new Dermatine, spares, mplete equipment, perfect condition.—74, eedy Road, Bromley, Kent.

TRIUMPH, 1907, magneto, excellent condi- tion, many spares and accessories; all rticulars given; no postcards.—Frampton, rman Barracks, Woking.

—3½ h.p. Rover, splendid condition and good running order, tyres good, low, verful; £15, or exchange tricar.—Mead, per, Croxley Green, Herts.

h.p. Minerva, Chater-Lea, lamp, horn, two accumulators, spare tyres, fine nning order; £9.—Murray, 12a, Perry- ad Street, Fulham, London.

15.—Four-cylinder Binks, pan seat, free engine, perfect running order; too ap for approval, but can be seen and d.—Rowell, New Inn, Windsor.

h.p. F.N., on English frame, grand ma- chine, in perfect order, £14; 2½ n nerva engine, carburetter, and silencer, fect, £3 15s.—Wareing, Daventry.

OC, magneto, Minerva spring forks, free engine clutch, good condition; £18 10s., exchange for Minerva or Triumph; cash ustments.—Mudd, Cottingham, Hull.

h.p. Kelecom, Chater-Lea fittings, 2½in. Clinchers, new spare parts, acces- saries, almost new; cost nearly £60, £25, or r.—61, St. Donatt's Road, New Cross.

Immediate Delivery.

MAGNETO IGNITION MACHINES.

3 h.p. SINGER, belt drive, Simms-Bosch magneto	£18 0
1908 F.N. Lightweight	32 0
1908 REX Lightweight	23 0
3½ h.p. Four-cylinder F.N., magneto	23 0
5½ h.p. REX-DE-LUXE, almost new	31 0
5½ h.p. REX-DE-LUXE, good	29 0
4½ h.p. Twin G.B., Nala two-speeds	32 0
4 h.p. ANTOINE, 1907	19 0
2½ h.p. SINGER, vertical	10 0

DUST LIFTERS.

5 h.p. Twin Peugeot, a flyer	£22 0
4½ h.p. Four-cylinder DURKOPP	23 10
3½ h.p. ARIEL, M.O.V., 26" wheels	14 0
5½ h.p. REX-DE-LUXE, twin tyres, clutch ..	23 0
5 h.p. Twin KERRY, very low	19 0
5½ h.p. Twin REX, a dream	19 0
3½ h.p. 1906 REX, spring forks	15 0
3 h.p. TRIUMPH	19 0

FASHIONABLE LIGHTWEIGHTS.

1½ h.p. MINERVA, spray	£8 0
2 h.p. WERNER, low, vertical	8 10
1½ h.p. MINERVA, good	5 10
2 h.p. MINERVA, M.O.V., 26" wheels	9 9
2 h.p. CYCLONE, vertical, spray	7 0

Push bike part payment.

VALUE FOR MONEY.

3½ h.p. DUX, vertical, M.O.V.	£10 0
2½ h.p. HUMBER, torpedo tank	9 0
3 h.p. EXCELSIOR, a flier	10 0
3½ h.p. REX, 1905 machine, M.O.V.	13 0
3½ h.p. REX, 22in. frame	11 0
3 h.p. REX, vertical, trembler	10 0
3 h.p. NOBLE, vertical, spray	10 0
2 h.p. QUADRANT, spray	8 8
2 h.p. PEBOCK, 26in. wheels	11 0
2½ h.p. R. and P., 26in. wheels, vertical ..	10 0
2½ h.p. CLARENDON, 26in. wheels	10 0
3½ MINERVA, low and long	18 0
3½ 1908 Lincoln Elk, new	18 18
3 h.p. N.S.U., M.O.V., 26in. wheels	16 0



Rubber and Canvas V Belting. Embodies all good points of other rubber belts without their drawbacks. "A distinct improvement."

Note.—The prices are between 33% and 50% less than other makes. Good rubber belts need not be dear. Send cash for sample length on approval. ¼" 9d., ¾" 1/-, 1" 1¼, 1½" 1/8 per foot. Any length cut. Fasteners 6d. each.

TRICARS.

5 h.p. REXETTE, two speeds	£29 0
4½ h.p. REXETTE, water cooled	25 0
5 h.p. REXETTE, sprung back and front ..	31 0

SIDECARS.

Flexible sidecar, 26in. wheel	£3 19
Brand New Sidecar, rigid, right-hand side, 26×2½in., Clincher tyre	5 0
Brand New Sidecar, rigid, right-hand side, 28×2½in., Clincher tyre	5 0

FORECAR.

Nice forecar, 26in. wheels, two brakes	4 10
--	------

ODD BARGAINS.

Eisemann Magneto, suit any twin V engine, £2 15s.
Osborne Four-speed Gear, 1908 pattern, £3 3s.
New Twin Coil, 10/- New Lycett's B Toolbag, 6/-
New Lycett's L72 Saddle, 6/9. Double Twist
Horn, 4/8; large size, 6/- Motor Cycle Back
Brake, new, 6/- New Rex Free-wheel, 4/-
Osborne Free Engine Clutch, 27/6. Set 2 h.p.
Castings, 9/6.

CLINCHER TYRES.—See my advert. on page 28.

NEW TYRES FOR OLD.

Genuine Continentals.	Genuine Continentals.
Cover. Tube.	Cover. Tube.
26 × 2 24/- 9/6	28 × 2 25/- 10/-
26 × 2½ 25/6 10/-	28 × 2½ 27/3 10/6
26 × 2½ 29/6 11/-	28 × 2½ 29/9 11/3

3/- allowed for old covers, 2/- for old tubes.

Traders and Agents send for discounts.

LYCETT'S "LIGHTNING" STANDS.

FIRM. RIGID. STRONG.
For 24", 26", or 28" wheels. 4/9 per pair.
Send for Price List of Accessories. Pounds saved.
WANTED.—Triumphs, Vincies, N.S.U., or any good 1907 or 1908 machines. Cash waiting.

E. FARRAR,

ALBION WORKS, SQUARE ROAD, HALIFAX.

Next door to Square Church.

MOTOR BICYCLES FOR SALE.

GODFREY and Applebee.—We can offer you better machines and cheaper prices than anyone else. Exchanges, gradual payments, and liberal cash discounts.

GODFREY and Applebee.—Every machine we supply is thoroughly tuned up by ourselves before delivery; no office boys.

GODFREY and Applebee.—3½ h.p. Rex, spring forks, new Clincher tyre, grand order and condition, guaranteed; £13 10s.

GODFREY and Applebee.—Twin Rex, 1907 model, simply flies; £16 15s.; a rotten price but a grand machine.

GODFREY and Applebee.—3½ h.p. Jap engine, almost new, perfect, overhead valves, complete with carburetter; £7 10s.

GODFREY and Applebee.—2½ h.p. Minerva, tyres good, and machine in splendid order; £8 15s., bargain.

GODFREY and Applebee.—Bassee-Michel trembler coil, brand new, 12s.; Rex pulleys, 6s. 3d.; the new A.G. adjustable pulley, 15s.; quick deliveries motor cycles, unbreakable watches, complete with handle-bar clip, 5s. 6d.; perfect timekeepers; hundreds supplied.

GODFREY and Applebee tune up machines at moderate charges, and we can do it you know. Satisfaction always guaranteed when dealing with the Rex twins.—Godfrey and Applebee, 9, Church Hill, Walthamstow.

ROC, 4 h.p., new 1908 model, spring forks, handle starting, two-speed gear, magneto, new condition, not ridden 300 miles; any trial; £40.—Hopkins, Alveston House, Ledbury.

ARIEL, 3½ h.p., splendid condition, with accessories and spares. £16; F.N., 1½ h.p., £8; both machines just overhauled, tyres like new.—Darby, 27, Park Avenue, Chelmsford.

MINERVA, 3½ h.p., perfect condition, pedals and rests, accessories, and Montgomery flexible sidecar, all tyres new thick motor; £20, or separate.—263, Balham High Road, S.W.

3 h.p. Ariel, late 1907, long bars, low seat, new condition; any trial here; perfect engine, two accumulators, new belt; must sell, no work; sacrifice £18.—Great-bach, Shifnal.

3 h.p. Humber, Chater-Lea frame, low, perfect condition, £14; sidecar for same, excellent condition, £4; the lot, or singly, if together £17, bargain.—Moggridge, High Road, Potters Bar.

5½ h.p. Late 1907 Rex de Luxe, excellent running order, Goodrich non-skid front, Whittle belt, adjustable pulley, with rigid sidecar; £40 cash.—21, Sherrieff Road, West Hampstead, N.W.

3½ h.p. Ariel Motor Bicycle, perfect condition, would exchange with cash for higher power twin, or four-cylinder, good make.—Whittle, Briery, Graham Road, Wealdstone, Middlesex.

3½ h.p. Rex, 1906, spring forks, 2½ Continental tyres, nearly new, stand, carrier, horn, lamp, accessories, Montgomery flexible cane sidecar; £20, or will sell separately.—Blackstone, Stamford.

F.N., four-cylinder, 1908 model, Palmer cords, nearly new, £37 10s.; 1907 model, grand condition, £31 10s.; owners purchased 6 h.p. models.—Alsford, F.N. Agent, 129, Alma Road, Bournemouth.

FAST Combination.—7 h.p. Peugeot and brand new coach-built sidecar, latter not finished yet; send for complete specification, price, etc.—X., c/o Housekeeper, Salisbury House, E.C.

1906 Rex, 3½ h.p., in capital condition, tyres good, Bradbury stand, horn, bag of tools; £10 10s.—Walt Greenacre, 10, Newburgh Row, Radcliffe Co., near Acklington, Northumberland.

3½ h.p. Minerva, Phoenix two-speed gear, Mills forecar, Matchless silencer, footboards, new tyres, £28; 3½ h.p. Humber tricar, free engine, etc., £12.—Bannisters', Essen Street, Dublin.

3½ h.p. 1907 Fan-cooled Rex, with Montgomery sidecar, ¾in. Whittle belt, Goodrich non-skid, lamps, tools, spares and accessories, sound and reliable outfit, in new condition, and little used; trial run if desired; £32 10s. the lot, genuine bargain; no offers.—Bradley, Eaglescliffe, Co. Durham.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

OC, 3½ h.p., magnto, free engine clutch, very low, excellent condition; £19 19s. elow.

MINERVA, 3½ h.p., M.O.V., vertical, 26 by 24, splendid order; £16 16s.—41, Skelok Street, Earlsfield.

h.p. Ariel Lightweight, 1908, magneto, nearly new; £30.—Land, Borobridge ad, Knaresborough.

08 Triumph Motor Cycle; delivery promised June 28th from makers; owner abled; £48.—Jones, Lichfield.

h.p. Ariel-Minerva, splendid lightweight, very speedy, and good hill-climber; £8 —Chilton, 199, High Street, Watford.

h.p. Triumph, Clincher tyres, as new, two accumulators, Dermatine belt; gain, £13.—73, Church Street, Camberwell.

h.p. Jap Engine Motor Cycle, Clinchers, Brown-Barlow carburetter, Lycett's and, in good order; £6 10s.—Jones, Lich.

5 15s.—2 h.p. Minerva, F.N. carburetter, Clinchers, V belt; trial allowed; part change.—78, Steyne Road, Horne Lane, on.

h.p. Triumph, perfect condition, two accumulators, 24 tyres, Gloria belt; £19; roval.—Eagles and Co., High Street, Ac.

h.p. N.S.U., 1907, 20in. frame, 24 by 24 Peter-Union tyres, equal to new; £20; roval.—Eagles and Co., High Street, Ac.

h.p. N.S.U., magneto ignition, 20in. frame, 24 by 24 Peter-Union tyres, U., two-speed gear, and free engine; £25. roval.—Eagles and Co., High Street, on.

h.p. Genuine De Dion Engine, Chater frame, 26in. wheels, Longuemare, net coil, in excellent running order; ce £10.

h.p. Vertical Engine, 28in. wheels, Palmer tyres, Longuemare, stand, horn, s, etc., in good running order; price £7. se are genuine bargains.—Apply, Page, East Hill, Dartford, Kent.

h.p. Jap, long bars, low, N.S.U. carbur-etter, just overhauled, splendid iber; bargain, £15, or offer.—3, Myrtle scent, South Shields.

h.p. Minerva, very low, in splendid condition, will do 30 miles per hour; 0s.; after 6 o'clock.—17, Clarence Terrace, en's Road, Dalston, N.E.

h.p. Bowden, F.N. engine, handle-bar control, chain drive, stand-carrier, s, etc.; £8 10s.; in thorough good con-on.—Chilton, High Street, Watford.

IRT Cheap.—Good sound machine, vertical F.N. engine, equal new, spray car-etter, 26 wheels, Palmer tyres, back er new; £12 10s.—Lawson, Burley Mount, ds.

h.p. Minerva, Chater-Lea frame, Longuemare, two accumulators, thor-ly overhauled, absolutely perfect; good se sale; £12.—H.B., 22, Hadley Street, tish Town, N.W.

h.p. Raleigh-Fafnir, with art cane side-car, in splendid condition, two belts, ee pulleys, and all spares; £25 for quick bargain; any trial.—H., 13, Rattray d, Brixton, S.W.

h.p. Fafnir, long bars, low, Chater-Lea, B. and B., new Dunlops, new Dermatine, res, very powerful and fast; any trial; 10s.; letters only.—Nicholls, 4, Ruston vs, Notting Hill.

ADY'S 2½ h.p. Jap, 16in. frame, Sharpe's silencer, Jebron points, complete, dle-bar control, sprung, gas lamp, un-ctured; trial; £12 10s., lowest, or ex-enge.—61, Denmark Hill, Camberwell.

h.p. Antoine Twin, guaranteed first-class order, spare valves, belt tools, nd, horn, studded tyre back; £18 10s., or e 2½ h.p. good make part exchange.—ticulars, Siddall, Imery House, Hamilton.

h.p. Minerva, late 1907, not been ridden 200 miles, new condition spring forks, r accumulators, Colliers footrests, foot ke, lamp, horn, all accessories, tyres un-ctured, powerful engine; sacrifice £28. eed, 346, Garratt Lane, Earlsfield London.

FOR YOUR SELECTION.

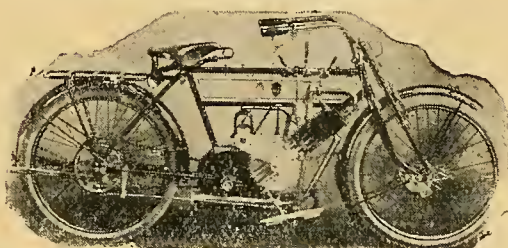
SINGLE, TWINS, and FOUR-CYLINDER MODELS, LIGHTWEIGHT TWO-SPEED MACHINES, and SIDECARS.

— NOW ON VIEW. —

We have carefully studied the wants of motor cyclists, and are in a position to supply any make of machine, and always have a good selection on show.

Not only can we do this, but we will take your old bicycle in part exchange, buy it outright, or sell it on commission, on the understanding that no sale no commission.

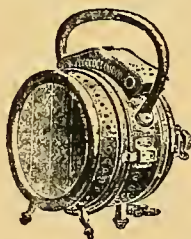
Send us particulars of the machine you require, and let us have your old machine for valuation.



Phelon and Moore Two-speed Magneto. No pedals required. Gold Medal London to Edinburgh this year. £52 10s.

BARGAINS.

- | | |
|--|-----|
| 6 h.p. LITETTE, magneto ignition, two speeds, 1908 model, not driven fifty miles | £65 |
| 9 h.p. RILEY, three speeds and reverse, lamps, etc. | £60 |
| (182) 2½ h.p. KERRY, spray, stand, and carrier | £12 |
| (218) 3½ h.p. N.S.U., cream colour, very smart | £18 |
| (224) 2½ h.p. BAT pattern, De Dion type engine, runs grandly | £15 |
| 5 h.p. REX DE LUXE, Roc clutch, twin wheel, 1907 model | £30 |
| 5 h.p. REX DE LUXE, jack, no skid stand | £16 |
| (303c) OSBORNE, four-speed gear, 1908 pattern, only used for trial | £3 |
| (223) ORMONDE, spray, long handle-bars, low seat | £7 |
| (244) ROC, Bosch magneto | £22 |
| (246) 2½ h.p. MINERVA engine, Equity frame, Palmer tyres | £10 |
| (50) 2½ h.p. PHENIX, Minerva engine, M.O. valves, Phoenix gear, fine touring machine | £16 |
| (123) 5 h.p. XL'ALL, twin cylinders, spring seat, and forks | £18 |
| (131) 2½ h.p. F.N., long handle-bars | £14 |



ACCESSORIES.

SELECTIONS.

The SERVICE Mirror Lamp.—Fitted with detachable mirror lens, and supplied complete with generator and length of tubing. N.P. or brass. 26/6.

TYRES.—Only a few left of these special covers. Guaranteed Peter Union make. Prices: 26×2½in., 15/-; 26×2½in., 16/-.

A customer writes: "The tyres arrived this morning. They are a capital fit, and appear very good value indeed."

INNER TUBES.—The SERVICE stout heavy tubes are guaranteed. 26×2½in., 6/6; 2½in., 7/-; 2½in., 7/6.

BELTING.—All makes supplied. Write for list of prices. From 9d. per foot.

SPARKING PLUGS.—Oleo accumulator, 1/4; Oleo magneto, 3/4. Post 2d.

HORNS.—Our prices cannot be equalled. Call and inspect, or we send on approval. Prices. Double twist, 4/9; large size, 5/9. Post 4d.

CONTACT FILES.—Invaluable for touching up contacts. Complete in metal case. Price 9d. Post 1d.

THUMB SLIDES.—For handle-bar control. Air and throttle supply. Single clip, 2/8; double clip, 3/8. Post 2d.

STANDS.—Prices: 6/9; S.N.P., very strong, 10/6. SERVICE, automatic action, for oval stays, approval, 10/9. Carriage 4d.

VALVE LIFTERS.—Screw action. Entirely satisfactory. Price 2/6. Post 2d.

Our list contains many interesting specialities. Write us for a copy to-day.

THE SERVICE CO., LTD.,

292-3, HIGH HOLBORN, LONDON, W.C.

(Facing First Avenue Hotel).

Telephone 260 Central. Tel.grams: "Admitted.v."

MOTOR BICYCLES FOR SALE.

£7 Cash.—2 h.p. F.N., splendid order. Mason, 60, Deodar Road, Putney.

MOTOR Cycle, 2½ h.p., good condition; £8, or offer.—R.H., 411, Old Kent Road, S.E.

£7 10s.—2½ h.p. Clyde, splendid condition, Palmer tyres.—39, Amgask Road, Catford.

£10.—2½ h.p. De Dion (genuine), perfect order; bargain.—39, Amgask Road, Catford.

£1 Per Month for six months for 2 h.p. Werner.—114, Risley Avenue, Lordship Lane, Tottenham, N.

BROWN, 2½ h.p., fast and powerful; any trial; £10.—1a, Frideswide Place, Kentish Town, N.W.

MOTO Reve, twin engine, magneto, not soiled; no reasonable offer refused.—Cass, High Street, Chelmsford.

MINERVA, 1½ h.p., perfect condition, re-enamelled and plated throughout; £7.—62, Colvestone Crescent, Dalston.

WERNERS, Werners, Werners, Werners, Werners, Werners; the sole concessionnaires.—Beard Bros., Cricklewood.

2½ h.p. De Dion, Chater-Lea frame, low, 24 long bars, perfect order, new tyres; £12.—77, Crescent Lane, Clapham Park.

3½ h.p. Rex, Longuemare, trembler, long 32 bars, new ¾in. Dermatine; £10 10s., lowest.—8, Wiverton Road, Sydenham, S.E.

3 h.p. Motor Cycle, spray carburetter, Fuller's coil, Clinchers; £9, or offer; seen after seven.—36, Durand Gardens, Clapham.

£9.—3 h.p. Humber, new condition, all spares; push bike in part payment.—Emslie, 3, St. Alban's Road, Seven Kings, Essex.

1906 3½ h.p. Rex, long low frame, spring forks, guaranteed in running order; £15; cash, credit, or exchange.—16, Westgate, Halifax.

4½ h.p. Twin Minerva, spring forks, footboards, faultless; £30; no approval; exchange for 7-8 h.p. Minerva.—H. Pixton, Bowdon Hydro, Cheshire.

3½ h.p. Brown, genuine hill-climber, footboards, new re-treaded tyres, lamp, spare accumulator, fine condition; £18.—H.F., 10a, Hythe Road, Willesden, N.W.

1908 Rex, 3½ h.p., ball bearing engine, magneto, cost 38 guineas, new three weeks ago; accept £28 18s.—7, Campbell Road, Hamilton Road, Longsight, Manchester.

NEW 2½ h.p. Featherweight 1908 Rex, magneto, new lamp, horn, stand, toolbag, mirror, numbers; £26.—"Z.", O'Connell's News Agency, Dartmouth Street, Westminster.

7 h.p. Peugeot-Bat, handle-bar control, R.O.M. synchronised ignition, perfect; trial; £25, complete, with sidecar, £28.—Seen at 10, Carmichael Road, South Norwood.

FOR Sale, Triumph, 2½ h.p. Jap engine, new last season, new Palmer cord tyre and Dunlop tube, guaranteed in good order; price £12 10s.—Thompson, Easingwold, Yorks.

3½ h.p. Kerry, long handle-bars, footboards, 32 Palmer cord tyres, two accumulators, new Stanley-Dermatine belt, spare as; £11 10s.—Haydon, 8, Reaston Street, New Cross.

3½ h.p. Kerry Motor Cycle, late 1905, 26 by 32 Clincher A1, new accumulator, pulley and inner tubes, spare belt and valves, climb anything; price £15, or offer.—S.D., 17, Bedford Place, Southampton.

5½ h.p. Twin Rex, cantilever seat, spring forks, stand, Brown-Barlow, R.O.M. synchronised, handle-bar control, spare belt, two accumulators, just overhauled, put in perfect order at cost of over £15 (receipts shown); sacrifice £20; owner left England.—15, West Street, Pimlico, London.

£11 10s.—F.N. 2½ h.p. Lightweight, good climber, three brakes, Acetyphote, two accumulators, Hilton stand, tyres and tubes in first-class condition; an absolute bargain; must sell; have bought four-cylinder F.N.; gent's bicycle, free wheel, Bowden, good condition, 25s.; trembler coil, 10s.; 40 amp. accumulator, 17s. 6d.; Acetyphote, 2s. 6d.; jack 6s. 6d.; charging board, 8s. 6d.; 760 cc on Michelin tube, 10s.—Cassell's, 66, Marvella Road, Fulham, S.W.

MOTOR BICYCLES FOR SALE.

BLACKPOOL.—3½ h.p. N.S.U., 1908, magneto, as new; £36.

BLACKPOOL.—3½ h.p. N.S.U., 1907, magneto, good condition; £20.

BLACKPOOL.—3 h.p. N.S.U., 1908, new magneto; £33.

BLACKPOOL.—1½ h.p. N.S.U., 1908, as new; £30.

BLACKPOOL.—2½ h.p. Minerva, good condition, 26in. wheels; £10.—Stanworth, New Road.

1½ h.p. Minerva, good running order; £3 15s.—Wauchope's, 9, Shoe Lane, E.C.

3½ h.p. 1907 Genuine Brown, perfect condition; £16.—W.H., 15, Radlix Road, Leyton, E.

5 h.p. Twin Rex, spring seat and handlebars, new condition; £20, bargain.

5 h.p. Twin Hamilton, fast, racy machine, suit passenger work; £16 10s.

3½ h.p. Werner Twin, very light and fast machine; £16.

2 h.p. Rex Light Motor Cycle, smart machine; £8.

2½ h.p. Humber Lightweight, climb almost any hill, splendid condition; £8 10s.

3 h.p. Trent, in excellent condition; £11 cash, bargain.

2½ h.p. Bradbury, fast, powerful machine; £10 15s.—123, High Road, Tottenham.

4 h.p. Ormonde, round tank, very fast; £8 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

6 h.p. Twin Antoine, Chater-Lea, with sidecar, 2½ and 2½ tyres; £28.—16, Sansome Walk, Worcester.

3½ h.p. N.S.U., low frame; going cheap at Wauchope's, £15.—9, Shoe Lane, Fleet Street, London.

2½-3 h.p. Kerry, re-enamelled and plated fast, reliable machine. — 479, Green Lanes, Harringay.

3½ h.p. Humber Tricar, £17 10s.; free engine clutch, very fast.—Wauchope's, 9, Shoe Lane, E.C.

£8.—Triumph-Minerva, inclined engine, 2½ h.p., spray, M.O.V.; can be seen after 7 p.m.—12, Baggally Street, Bow.

3 h.p. Quadrant, in good running order; £12 12s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

MINERVA, 3½ h.p., Campion make, with Fit-all two-speed gear, perfect order; £15.—Parker, Melbourne, Derby.

5 h.p. Light Tourist Vindec Special, in condition as new; £35.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

1907 3½ h.p. Quadrant, spring forks, two accumulators, perfect; £18.—8, Barrett Street, Manchester Square, W.

1907 3½ h.p. Minerva, spring forks, seen very little use; £19 19s.—Seen at Wauchope's, 9, Shoe Lane, E.C.

STOCKPORT.—5 h.p. Vindec Special, 1907, magneto, Truffault, Kempshall, 2½in. tyres, excellent machine; 30 guineas.

STOCKPORT.—4 h.p. 1907 twin N.S.U., magneto, two-speed gear, Peter-Union tyres; 26 guineas.

STOCKPORT.—1½ h.p. Excelsior, Clinchers, good machine; £6 10s.

STOCKPORT.—Why not remain clean and comfortable, and ride a Midget Bicar the all-weather machine, built like a car; write for catalogue; easy payments and exchanges arranged.—Lund and Davies, Heaton Lane.

WHO wants a bargain?—3½ h.p. Riley, Palmers, easy starting, romps up hills, in perfect order.—20, Sheet Street, Windsor.

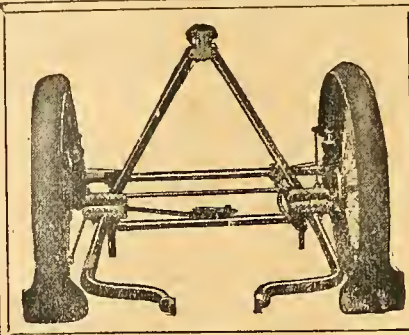
THE Latest New 2½ h.p., 1908 and 9 Ariel, magneto, lightweight, now on show at Wauchope's, 9, Shoe Lane, E.C.

1906 3½ h.p. Rex, long low frame, spring forks, guaranteed in running order; £15; cash, credit, or exchange.—16, Westgate, Halifax.

FOR Sale, 3½ h.p. Westfield, Chater-Lea throughout, very low, Nilmelior coil, two Pfuger accumulators, two belts; want repairing; £7 10s.—H. McK. Arkinstall, Newport, Salop.

**2 heads are better than 1
3 wheels are better than 2**

The Phoenix attachment will convert your motor bicycle into a safe and pleasurable three-wheeler for single or passenger work.



PHOENIX MOTORS, LTD.,
Blundell Street, London, N.

Tricycle Attachment, £12 10s.
Passenger " £15.

"SIMPLEX" PATENT Belt Fasteners.

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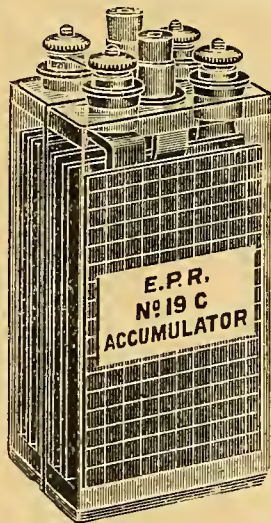
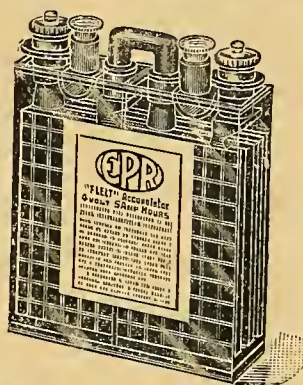
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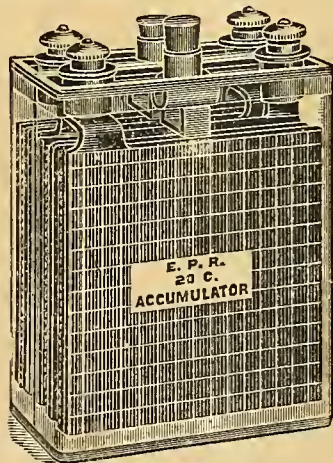
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WOLSELEY, 12 h.p., side entrance body, long wheelbase, upholstered pigskin; £95; seen by appointment.—Chauffeur, Cottage, Melbourne Lodge, Queen's Walk, Ealing.

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6 h.p. Humberette, two-seater, Dunlop tyres, in good condition, fitted with Cape hood, lamps, etc., in fine running order; 35 guineas.—82, Queen's Road, Peckham, S.E.

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Dear Sir,—I do not know whether we have written to you about the Bentley End-to-End record. Mr. Bentley had a Stanley Dermatine Belt fitted to his motor cycle. It gave him entire satisfaction, and had not to be touched once during the whole ride of 886 miles.

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Second season in use, and still going strong,
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800 miles, and no trouble nor once shortened.

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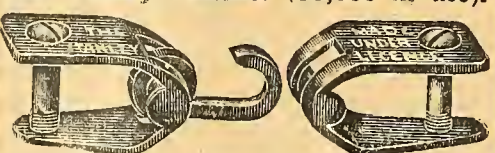
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BALANCE of Lease, motor and cycle business, including valuable works extension agreement, established and convenient, on Brighton Road; owner going abroad; bona-fide, so must accept quick reasonable offer.—Box 206, The Motor Cycle Offices, Coventry.

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HUGH J. BOSWELL, Insurance Broker. Norwich, issues all classes of policies for motor cycles at lowest possible rates; inclusive policy, 20s.; fire insurance only 2s. 6d. for £25, or 3s. 6d. for £35.—Write for particulars.

SITUATIONS VACANT.

TRAVELLER, calling on cycle agents, etc., wanted to take up a really good side line on commission.—Particulars to Box 12,723, The Motor Cycle Offices, 20, Tudor Street, E.C.

ACCUMULATORS.

NEW 27 Hour Dinin, 20s.; new Humber size Premier, 8s. 6d.; new 40 hour Singer, 21s.—Exchange, 16, Westgate, Halifax.

CELLULOID Accumulator Repair Outfits, useful for all celluloid repairs; full directions; post free, 1s.—Osborne Works, Forest Hill, London.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

EXCHANGE.

EXCHANGE 3-3½ h.p. Humber tricar, free engine, handle starting, for lady-back tandem and £8 cash, or sell £16.—Motorist, 149, Sandringham Road, Dalston, London.

24 h.p. Napier, four-cylinder, magnificent car, condition perfect, exchange for lower power and cash, or sell outright, £160.—Motor, 4, Gatefield Mansions, Lewisham.

3 h.p. Triumph, accumulator, Fafnir, splendid condition; exchange for lower power, or tricar, or sell £15.—J.W., 18, Ferncliff Road, Sandringham Road, Dalston, London.

EXCHANGES are arranged at Wauchope's. —Second-hand machines are allowed for in part payment for new models of any leading make.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

5½ h.p. Roc, splendid condition, two speeds, magneto, Brooks non-skid, Dunlop unpunctured, spares; any trial; suitable for sidecar; exchange Triumph, or sell.—Motor, 29, Prince Street, Bristol.

WANTED, good motor cycle (magneto preferred), in exchange for all or part of following: Lady-back tandem, two gent's cycles, Caligraph typewriter.—Roy, Chapel Bar, Nottingham.

EXCHANGE, for good motor cycle, tricar, or reliable car, new high-class furniture, any description, direct from the works. —Furniture Manufacturer, 7-11, French Place, Shoreditch, London.

EXCHANGE a Gent's 18ct. gold keyless lever watch, extra jewelled movement, and new, for motor cycle, 2 or 3 h.p., in good order, watch value £9, warranty given, cash adjustment.—208, The Motor Cycle Offices, Coventry.

EXCHANGE 4½ h.p. V.C. Bradbury Tricar, two-speed gear box, Panhard lever, 9in. clutch, foot pedal, for a good single and sidecar, or 3½ h.p. and cash adjustment, or sell £27 10s., a bargain; photo sent.—Smith, 129, Western Road, Hove.

TRICAR, Clement-Garrard, 5 h.p., w.c., three speeds, free clutch, three brakes, Palmer tyres, coach-built, just re-painted and overhauled; cost £120; exchange for 1908 Triumph, or Vindec twin.—F. Jermy, Leighton Holme, Frimley Green, Surrey.

TRICAR, 4 h.p. Antoine, Chater-Lea, two-speed, free engine, chain, fan, for twin motor cycle; forecarriage, perfect condition, extended arms, 26 by 2, fit any cycle 35 or exchange for sidecar and cash.—A. W. Beal, Milton Villa, Midland Road, Peterborough.

EXCHANGE Garrard Tricar, 5 h.p., water-cooled, coach built, sprung frame, worm drive, three speeds, handle-bar control, bucket seat, perfect order; wanted, good motor cycle, sidecar, wheel steering tricar, or exchange offers. —Saunders, 3 Archery Terrace, Leeds.

EXCHANGE for low-built gent's push bike and £10 cash, 3½ h.p. Phoenix-Minerva inclined engine, two speeds, handle starting, Longuemare, footboards, no pedals, B100, extra tank, 2½ Palmers, two accumulators, toolbag, excellent order.—235, Kenelm Road, Small Heath, Birmingham.

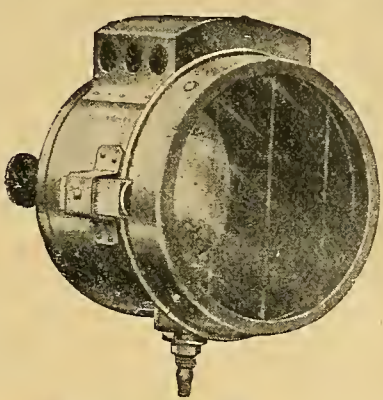
EXCHANGE for good 1908 motor cycle (N.S.U., Triumph, or Brown preferred), 3½ or 4 h.p. magneto, with or without sidecar, £10 10s. treadle sewing machine, £15 15s. lecture lantern, 250 slides, gent's Coventry Cross 24in. bicycle, £3 3s. marble clock—Replies, Tibbott, Manfield, Wrexham.

FREE Engine Clutch, with starting handle, suit Minerva, for new 26 by 2½ beaded tyre and Wright's footrests; handle-bars, with switch, and horn, for good accumulator; gent's cycle and Columbia graphophone and records for sidecar.—Saunders, 33, Margaret's Road, Elmer's End, Kent.

SPLENDID Pen of prize winning barred Plymouth Rocks, with fifty chickens bred from same incubator and foster mother; also B.S.A. spring frame pedal cycle, three-speed Pedersen hub; exchange the lot for good motor cycle value £16.—Jas. Whitehead, 34, Clyde Street, Oldham.

EXCHANGE Humber Tricar, 3½ h.p., free engine, chain driven, trembler coil, and all accessories, in perfect running order (any trial given), for 3½ h.p. motor bike, very low frame, and good maker, must be perfect and good condition; cash adjustment if necessary.—Cowles, 54, Bridge Road, Bat-tersea.

A NEW OFFER—



FREE TRIAL of the British Made

PREMIER SEARCHLIGHT

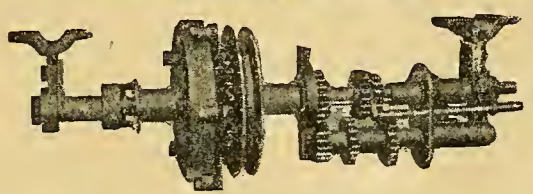
As not one of our Searchlight Lamps sent out on approval (for inspection) has ever been returned, and as only Premier lamps which we receive for repair have been damaged by accidents, **WE NOW OFFER** three days' TRIAL of this perfect lamp, and will take back without question all that are not entirely satisfactory, provided that they are not damaged.

PRICE 30/- complete with Generator, gener bracket and rubber tube, brass or nickel plated.

The PREMIER was the first lamp of its kind to be offered to the public, notwithstanding advertisements to the contrary. Your agent can supply it, or it may be ordered direct from

The PREMIER MOTOR CO., LTD.,
Aston Road, BIRMINGHAM.

THE KENT THREE-SPEED GEAR.

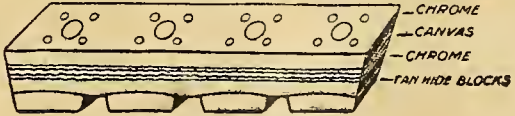


This gear has been re-designed and improved. Can be fitted to Tricar in two hours. Price £11-11-0.
List Free. Discount to Trade.

RODGERS BROS.,
330, Kennington Road, S.E.
'Phone: 1000 Hop.

MOTOR RUNS FASTER.

40, Jubilee Road, Doncaster, May 12th, 1908.
Dear Sir,—I am very pleased to inform you that the sample Centipede 3in. belt you sent me gives every satisfaction. It is the best belt I ever used, and I'm no chicken in motor matters. It "grips" and is beautifully clean, practically free from stretch, very flexible, and my machine runs faster with it than ever before. Trusting you may have the success you deserve,
Yours faithfully, J. H. Wilkinson



Price of Belt per foot:
¾ 1/6, ¾ 1/9, ¾ 2/5, 1 2/3, 1 2/6.
Special terms if desired—half the amount with order and the balance in three months if satisfactory.

POLLIN, BELT MAKER, SPALDING.

OUR NICKEL STEEL VALVES are the best.

All sizes in stock. No waiting. Orders for large quantities to any model or drawing can be executed at the shortest notice.

A. BINET & CO.,
99, Great Eastern Street LONDON, E.C.
Telephone 9024 London Wall.
Telegrams: "Binetique, London."

WANTED.

13 h.p. F.N. Lightweight, 1907-8, wanted.—14 51, High Street, Stamford.

WANTED, Spring Seat-pillar, perfect. —Millard, Dinnington, Rotherham.

WANTED, 3½ h.p. Triumph, or other good make for cash.—J. J. Edney, Fareham.

WANTED, 3½ h.p. Engine, suit Chater-Lea frame; cheap.—Duguid, Kirkby Lonsdale.

CASH given for any class of motor or parts.—A. Friend, Coldharbour Lane, S.W.

TRIUMPH, magneto; condition and price; would exchange tricar.—Faire, Ems Road, Leicester.

WANTED, 2 to 3½ h.p. Motor Cycle; cheap.—Watts, 8, Corrance Road, Brixton, London.

DE DION w.c. head, 2½ h.p., also silencer, good make.—Heaton, Hamsterley, Darlington.

WANTED, Old Accumulators: best price given.—Motories, 3, Arley Grove, Armley, Leeds.

F.N. wanted, four-cylinder, 4½ h.p.; cheap for cash.—C. Upton, Raithby, Louth, Lincolnshire.

TRIUMPH, 1908, wanted, cash.—Price, particulars, E. Martin, 41, Cambridge Road, Aldershot.

WANTED, 28 by 2 Wired-on Cover, also 26 by 2 beaded, second-hand.—30, Dale Street, Blackpool.

MONTGOMERY Flexible Sidecar wanted, suit 1907 twin Rex de Luxe.—Clark, photographer, Brecon.

LARGE Fan, cheap, 10in. box-blade preferred, fit 7 h.p. Peugeot tricar.—19, Mountfield, Prestwich.

WANTED, 3½ h.p. N.S.U., or good make; must be cheap for cash.—W. Beaumont, Birds-Royd, Brighouse.

WANTED, 2½ or 3 h.p. Motor Bicycle, by good maker and up-to-date, low machine.—Jones, Engineer, Rye.

MOTOR Cycle, over 3 h.p., in exchange for 6 h.p. two-seater car; any evening.—33b, Grand Parade, Haringay

WANTED, any good make motor cycle, magneto, and two speeds preferred.—Farrar, Square Road, Halifax.

WANTED, a Tricar, in exchange for 2½ h.p. Ariel cycle and Barlock typewriter.—5, Park Avenue, Palmer's Green, N.

SPRAY Carburetter, suitable 3½ h.p. engine; state make and price, complete.—Armstrong, 47, Percy Park, Tynemouth.

WANTED, 3½ h.p. Motor Cycle, 1907, good make and condition, for cash.—Harris, 4, Patten Road, Wandsworth Common.

MOTOR Cycle Wanted, Triumph, Vindec, Roc, Phoenix, or Phelon-Moore preferred.—Motorist, 14, Crescent Avenue, Whitby.

MOTOR Cycles in part exchange for new 1908 Motor-Reve lightweights; immediate delivery.—Crisswell's Garage, Newmarket.

WANTED, Tricar Hub, with two chain wheels, 5in. apart, Kerry-Abingdon preferred.—Gilbert, 80, Quarry Hill, Tonbridge.

WANTED, good single-cylinder magneto, in level exchange for spring fork twin Rex.—Box 203, The Motor Cycle Offices, Coventry.

LIGHT Motor Cycle wanted for cash, or for new motor lamps and accumulators, in part exchange.—99, Montague Road, Leytonstone.

NORTH of England.—Motor Cycles wanted, any make; prompt cash; postcard, particulars.—Box 190, The Motor Cycle Offices, Coventry.

HALIFAX. — Wanted, modern magneto single-cylinder machines; any quantity bought for spot cash. — Motor Exchange, Westgate, Halifax.

THE Proprietors of the patent rights of R.O.M. synchronised contact breakers are prepared to accept offers for the rights to manufacture in France; write for particulars.—Continental Motor Co., 32, Rosebery Avenue, E.C.

WANTED.

WANTED. Tricar, good condition. — 73, Church Street, Camberwell, S.E.

WANTED. Up-to-date Motor Cycle, magneto, for cash.—H. Waite, Spilsby.

TRICAR. exchange small car, wind screen, lamps, etc.—Brockley Cycle Works, S.E.

WANTED. 1908 Triumph, or late magneto Jap.—Fawcett, Newstead, Ripon Road, Harrogate.

WANTED. castor wheel sidecar; must be cheap.—Holmes, 12, Spencer Street, Leamington.

WANTED. 5in. belt, 28 by 2 wired coter cover, rear brake.—Foote, Island, Twickenham.

WANTED. 26 by 2½ beaded cover, good condition, Palmer preferred.—Hetherington Moffat.

WANTED. Triumph, or any good make; also sidecar for cash.—5, Heath Street, Hampstead.

WANTED. good Sidecar, will give gent's 10-guinea pedal cycle, new.—Farrar, Square Road, Halifax.

WANTED. smashed up car, or one out of repair; cheap.—142, Lewisham High Road, New Cross, S.E.

WANTED. Pair Springs for tricar, chair seat.—Particulars and price, 14, Barrack Street, Colchester.

WANTED. 2½ h.p. De Dion engine (air-cooled), new condition.—3, Retreat Road, Thornton Heath.

WANTED. Cars, Tricars, or Cycles to repair and sell on commission.—Wood, 50, Victoria Road, Stroud Green.

WANTED. Rover Car; cheap for cash.—Letters only, to "Motor," 1, Arthur Villas, Arthur Street, Walworth, S.E.

WANTED. Lightweight (magneto preferred), give £15-15s. cycle, new, and little cash.—23, Dudley Street, Wednesbury.

WANTED. Cylinder for 2 h.p. Ariel-Minerva, 1904 pattern, must be in good condition; state price.—Waite, Heslington, York.

WANTED. Darracq, Humber, or Rover car, about 12 h.p., side entrance preferred.—Write, H., 58, High Street, Walthamstow.

£6 Down, 12 monthly payments £1 10s., for magneto Triumph; state lowest easy terms.—H. Bigg-Wither, 50, The Drive, Hove, Brighton.

TRICAR Wanted, Riley or Singer, 9 h.p., 1907 machine; must be cheap.—Description and lowest price to 529, Fulham Road, London.

WANTED. 100 Motor Cycles, for shipment, any condition; must be cheap for cash.—5, Heath Street, Hampstead. Tel., 2578 P.O.

WANTED. 1908 Triumph, with all accessories; state mileage, lowest price, full details; approval.—Grove Lodge, Bromley, Kent.

WANTED. Open Frame Tricar, convertible to triecycle; exchange new 1907 Triumph motor cycle.—Moore, 27, Curzon Street, Long Eaton.

WANTED to exchange, 2 h.p. Humber and cash for more powerful machine of well-known make.—R. J. Joice, Winchester Street, Basingstoke.

WANTED at once, Combustion Head for old pattern front drive Werner, bore of cylinder 2½ inches.—Cottam and Buller, West Bradford, near Clitheroe.

WANTED. good Motor Bicycle, will give from £20 to £30 for suitable machine.—Write, stating fullest particulars, to Motor, 16, Camberwell Road, S.E.

WANTED. Motor Cycle, 2½-3½ h.p., exchange lady or gent's cycle and cash; call Thursday or write.—108, Bennerley Road, Wandsworth Common, S.W.

WANTED. Tricar, powerful, pay cash, preferred, without forecarriage, water-cooled, three speeds, magneto ignition.—Philip Armitage, 95, Portland Street, Manchester.

WANTED. Motor Cycle, Triumph or other good make, in exchange for harp, double action, Gothic Erat, and basket case, value £30.—Browne, 39, Benton Road, Sparkhill, Birmingham.

If you ride a Motor Cycle you will be interested in the "TEE BEE" Booklet, describing the famous

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Tee Bee High-tension Wire Clip	6d.
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RICH DETACHABLE AIR TUBE.

24" x 2"	26" x 2½"
13/6	14/6
24" x 2½"	26" x 2½"
14/-	15/6
24" x 2½"	26" x 3"
15/-	22/-
26" x 2"	28" x 2"
14/-	14/6



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Folding Gauze Eye Shields, flat glass elastic fastener, and nose piece. Light and small. Post free, 10d.

ORIGINAL.

Price

£1.



STRONG PLAIN RESTS, 8/6.

A. G. WRIGHT, 5, LORRIMORE BLDGS., WALWORTH.

WANTED.

WANTED. First-class Motor Cycle or Tri-car, hand camera, cost £50, china or pictures, and cash balance.—Motorist, 63, Nimrod Road, Streatham.

WANTED. Phoenix Trimo Forecar, first class condition, coach or cane built preferred, to fit 3½ h.p. Minerva.—Mettham Gladstone Terrace, Grantham.

I WILL give £25 and my 3 h.p. Roc, free engine, magneto, Brooks B100, etc., in good condition, for new 1908 Triumph. Dean, 85, Finsbury Park Road, N.

WANTED. Motor Cycle, or 5in. lathe, in exchange for 10ft. steel car frame four-cylinder engine castings, cash adjustment.—9, Wharncliffe Road, Sheffield.

WANTED. Front Cylinder for 6 h.p. Antoinette engine, second-hand or reworked one not objected to, has to be re-bored; cheap for cash.—349, West End Lane, Hampstead, London.

WANTED. to purchase for cash, Triumphs, Quadrants, Minervas, Bats, Japs, Riley and Lagonda tricars, or exchange arranged for new models.—Wauchope's, 9, Shoe Lane, London, E.C.

WANTED. good Motor Cycle, tricar, or reliable car, in exchange for new high-class furniture, any description, direct from works.—Furniture Manufacturer, 7-11, French Place, Shoreditch, London.

WANTED. large air-cooled Engine, or crankcase and flywheels, out of order, not objected; also motor cycle, Binks four cylinder preferred, any condition; exchange push cycles.—Biggs, High Street, Witney.

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ENGINES Re-bushed throughout from £1.

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TRIUMPH, Brown, Fafnir 4s 9d.

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DE DION, M.M.C., 6s. 9d.

ABOVE 4½in. Diameter, extra 9d.

AXLES, cranks, spindles, handle-bars, seat pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed. — Tufnell and Co., Lightning Motor Works, Leytonstone.

TRIUMPH Magneto Covers, 1907, 4s. 6d. 1908, 5s.—John Guest and Son, Walsall.

THE Rusel Castiron Headed Valve for any engine; 3s. 6d.—Below.

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CASTINGS of twin motor cycle engine 25s.—Sladen, 4, Albion Hill, Exmouth.

TANKS of all kinds made to order.—Doggett, metal worker, 65, Turnmill Street, London.

THE Best Silencer made is Aldington's patent Silent, from 10s. 6d.—Below.

THE Ball Bearing Ideal Fan will cool any engine; 28s. 6d.—Below.

MY Footrests, reduced to 6s. 6d., are a luxury, spring rests, 17s. 6d.—Aldington, 59, Haydon's Park Road, Wimbledon.

WHIPCORD Breeches, latest cut; 10s. 6d.—J. C. Savage, 119, Donegall Street, Belfast.

175 Copies "Motor Cycle," clean; quick offer.—72, Morris Avenue, Manor Park.

MISCELLANEOUS.

IRIDIUM "Champion" Contacts, any parts fitted; returned same day; 1s. 3d. each.

IRIDIUM "Champion" Contacts, warranted pure; trimmers for polishing iridium, 9d.; no filing required.

IRIDIUM "Champion" Contacts. —William's, 16, Wellington Street, Woolwich. Pure platinum fitted, to order, from 1s. 9d.

ADJUSTABLE Pulleys. 4½in., 8s.; 5in., 9s. —Lee, motor engineer, 18, Somerset Road, Edmonton.

BROWN-BARLOW spray carburetter, nearly new; 15s., bargain. —100, Varna Road, Birmingham.

SHEDS for Motor Cycles, 45s.; portable. —Stevens, 82a, Leighton Road, Kentish Town, London.

STEPNEY Wheel, 880 by 120, with tyre and tube; £7 7s. —Seen at 12, Kew Bridge Road, Brentford.

LOOK! — Bankrupt stock. Goggles, with case, 1s. post free. —Gasson, Government, Rye, Sussex.

DRUMMOND S.C. Lathe, with chucks, etc., all brand new; £12 5s. —G. Grafton, 11, Killyon Road, S.W.

COW-VOICED Double Twist Horns, large size, terrific noise; usually 8s. 6d., my price 5s. 10d. —Farrar.

FARKAR'S Motor Handle-bars, 20in. long, 4s. 9d.; Lycett's patent Lightning stand, 4s. 9d. pair.

FARRAR'S Beautifully Enamelled Mudguards, 2s. 6d. pair; massive plated horns, terrific noise, 3s. 9d.

FARRAR. —Send for my price list, pounds saved; sole agent Premier accumulators. —Farrar, Square Road, Halifax.

WHIPCORD Cycling Breeches, latest cut; 10s. 6d.; write for patterns. —Booth, Tailor, Longton, Staffs.

JEBRON Contacts, registered, 291289, vastly superior to platinum; cures misfiring; is reliability and efficiency.

JEBRON, best contact obtainable for blades, screws, cranks, rockers, plungers, magnetos, coils.

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JEBRON Magneto Screws, complete, for Bosch magneto, DA2, will fit contact breakers 5A, 5B, 5C, 5s. 9d. pair; old screws fitted with Jebron, 2s. 6d. each; everlasting wear, requiring no attention.

JEBRON, the King of Contacts, fitted per return post; no delay; post free home or abroad; liberal trade terms.

JEBRON. —From the Inventor, J. Edwards Brown, 38, Herbert Road, Plumstead, Kent.

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JOB Line. —17 feet lengths ¾in. leather V belting, reliable, 10s.; ditto, ¾in., 12s. —Pollin, belt maker, Spalding.

JACK-NO-SKID, new type now ready, light, strong, easily fitted, absolutely stops side-slip. —Horner's, Store Street, W.C.

JACK-NO-SKID, king of motor cycle non-skids, perfection as a jack; £2 2s., complete. —Horner's, Store Street, W.C.

JACK-NO-SKID gives greater security and convenience than any other motor cycle attachment. —Horner's, Store Street.

WATERPROOF Coats and Overalls; best value in trade. —Horner's, Store Street, W.C.

MEREDITH'S, "Wearwell," Northwich, 1s. for whipcord motor cycling breeches; 3s. 6d.; post free; patterns.

WHITTLE Belt, ¾in., splendid condition, 25s.; Autoclipse lamp, cost 55s., sacrifice 25s. —Horton, Leominster.

WATERPROOF Mackintosh Motor Jacket, scarcely used; cost £1 1s., accept half. —Smith, Square, Leominster.

TWO Tricar Lamps, brass, for acetylene, self-contained, brand new; price £1. —Page, 74, East Hill, Dartford, Kent.

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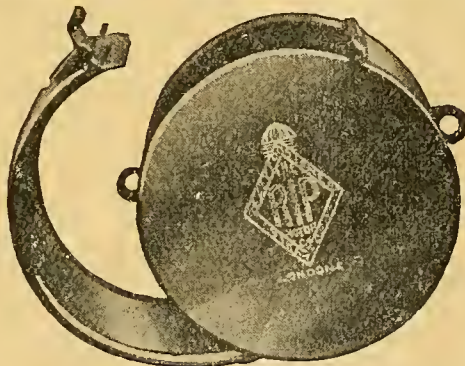
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NEW PISTON COMPLETE & RE-BORE CYLINDER
14/- up to 2½ h.p. Larger sizes in proportion.
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We are the **ACTUAL MANUFACTURERS**.
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BLACKFRIARS ROAD, S.E.**

ORDER NOW, POST FREE.

Exhaust Valves, "Non-Corrosive" special
nickel alloy, 2/6. Piston Rings (three), 2/3.
Reboring and New Piston, 14/-. New
Cylinder, 27/-. Variable Pulley, 8/6. Gears
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Spring Forks, front or rear. Rests, Silencers,
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Our list will aid you if in trouble.

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BOOTH. —Glare electric lamps, newspaper
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BOOTH. —500 Fuller's Midget plain coils,
10s. 6d.; 230 Fuller's Midget trembler
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BOOTH Takes your old coil in part pay-
ment; part with troublesome coils.

BOOTH. —Fuller accumulators, 20 amp.,
17s.; Rex type, 16s.; Minerva, 16s.;
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BOOTH. —5s. 6d. allowed for your old ac-
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ler's.

BOOTH. —Long motor handle-bars, 21in.,
4s. 9d.; heavier gauge, 5s. 6d.; best
plating.

BOOTH. —Silent silencers, for engines to 5
h.p., very efficient, no back pressure;
3s. 3d.

BOOTH. —Stanley belting, XI'all spring
forks, N.A.B. seat-pillar, 5s. 6d.; Ariel
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BOOTH. —New Antoine frame, with wheels,
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guards; £5 10s. set; low built.

BOOTH. —Six accumulators, require slight
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BOOTH. —Gramophones, typewriters, Tri-
umph Roc, Rexes, all models; cash
waiting. —Booth's Motor Exchange, Wade
Street, Halifax.

LARGE French Engine, coil, accumulator,
good condition; enormous bargain, £3
the lot. —Prance, St. Budeaux, Devonport.

ADVANCE Pulley, fit Quadrant, 10s. 6d.;
also wood fibre magneto cover, 5s.; ap-
proval. —Gibb, Worcester Street, Gloucester.

BELT Rim Brakes, flexible cable, hand ap-
plied, easily fitted, stop anything; 8s.
6d., usual price 15s. —Slack's Garage, Stock-
port.

VALVE Lifters, complete with hand levers
and flexible cable, easily fitted, 4s. 11d.;
usual price 9s. 6d. —Slack's Garage, Stock-
port.

EVERYTHING Made in Tanks and Radi-
ators except a fortune. — Write for
prices, A. Phillips, 2, Strathnairn Street,
Bermondsey.

NEW Trembler Coil, small, 10s. 6d.; new
20 amp. Holborn accumulator, charged,
10s. 6d. — East Ham Garage, High Street
South, East Ham.

DRUID Spring Forks, new illustrated book-
let now ready. It will interest you.
Send for it to-day. — A. Drew, Conybere
Street, Birmingham.

PLAIN Coil, 10s.; lamp, separate generator,
5s.; strong stand, 5s.; Minerva engine
and carburetter, £3; or exchange. —16, San-
some Walk, Worcester.

LAMPS. —Pair acetylene side lamps, small,
also Karlite rear, all brass, equal to
new; accept 20s. the set. —Motor Accessories,
Broad Street, Coventry.

LOOK! — Bankrupt Stock, 4,000 splendid rub-
ber motoring jackets, lined with blue
serge; 10s. 6d.; carriage paid. —B. Dept., Gas-
son, Government, Rye, Sussex.

SIX Pairs Genuine Simplex spring fork at-
tachments for motor cycles; 9s. 6d.;
carriage paid; plated; approval. —Mitchell,
22, Leghorn Road, Plumstead, S.E.

POWERFUL Motor Lamp for sale, sepa-
rate generator, patent clips, absolute-
ly new; worth 30s., accept 16s. 6d.; appro-
val. —Millard, Dinnington, Rotherham.

AMATEUR Photographers. —Superior En-
largements (bromide) from your nega-
tives; 8 by 6, 9d.; 10 by 8, 10d.; 12 by 10, 11d.;
15 by 12, 1s. 1d.; cash; from prints 6d. ex-
tra. —Greame, Wellesley, Whyteleafe.

READERS Having Photographic Apparatus
for sale should advertise in "Photo-
graphy and Focus" Emporium, ½d. per word,
minimum 9d. —Address, "Photography and
Focus" Offices, 20, Tudor Street, London, E.C.

MISCELLANEOUS.

MAUDE'S.—Two-speed gear, fit $3\frac{1}{2}$ h.p. Peugeot. £3 5s.; Bosch magneto, four-cylinder, perfect, £2 10s.

MAUDE'S. — 2 $\frac{1}{2}$ h.p. Kelecom engine. A.O.I.V., £2 10s.; 2 h.p. Givaudan, £2 5s.; Werner, $1\frac{1}{2}$ h.p., £2; 2 $\frac{1}{2}$ h.p. genuine De Dion, A.O.I.V., £3 10s.

MAUDE'S.—Rip, magnetos, armature runs on ball bearings, guaranteed, easily fitted, singles 57s. 6d., twins 70s.

MAUDE'S.—B. and B. carburetter, brand new, latest model, handle-bar control; 22s.; B. and B. carburetter, fits Triumph, 15s.; Longuemare, 15s.

MAUDE'S. — Longuemare spray carburetter, 18s.; mica plugs, best quality, 1s. 10d. per pair.

MAUDE'S. — Rubber goggles, 2s. 3d. per pair, low tension wire, $3\frac{1}{2}$ d. yard; high, 9d. per yard.

MAUDE'S.—Lathe, screw-cutter, $3\frac{1}{2}$ in. centres, overhead and treadle motion; £9. —Powell Street, Halifax.

FRAME, by Singers, new, 15s.; tandem attachment, 8s.; stand-carrier, 5s.; Osborne free pulley, 10s.—50, Victoria Road, Stroud Green.

31 h.p. Ariel, 1906, in perfect order; £13 10s.—Bensley, 720, Holloway Road, N.

3 h.p. Lurquin and Coudert, perfect order; £10 10s.—Bensley, 720, Holloway Road, N.

OSBORNE Four-speed and free engine pulley, with all fittings, nearly new, and guaranteed perfect condition; £3 lowest.—Quarman, 13, Mornington Crescent, N.W.

"3,500 Miles and Doesn't need grinding" is what a doctor says of the Druid exhaust valve; price 4s. 6d.; send old valve as pattern.—A. Drew, Conybere Street, Birmingham.

THE Last Word in Belt Fasteners. — The Advance adjustable belt fastener, for use with variable pulleys; price 2s. 6d. for any size. — Advance Motor Mfg. Co., Ltd., Northampton.

N.S.U. Two-speed Gear, new, £3 15s.; rubber belting, equal to any elsewhere obtainable; $\frac{1}{2}$ in., 1s. 1d. foot; $1\frac{1}{2}$ in., 1s. 6d. foot; sample sent.—Hodgson, 10, Horton Road, Bradford.

CHARGING or Lighting Plant, 1 h.p. Ideal gas engine, 300 watt dynamo, large switchboard, all new; £20, or exchange powerful twin, or tricar; cash adjustment.—Paxman, Tewkesbury.

LATEST No. 6 Chater-Lea Frame, complete with forks, mudguards, handle-bars, engine lugs and plates, all brand new and genuine; £4 4s.; appointment.—H. Tilman, 7, Canonbury Road, Islington.

MOTOR and Cycle Agents should read "The Cycle and Motor Trades' Review." Specimen copy post free on receipt of trade card.—"The Cycle and Motor Trades' Review" Offices, 15, Harp Alley, E.C.

MOTORPROOFS, double texture, cashmere finish, 21s.; rubber finish, leather bound, with wind cuffs, 19s. 6d.; overalls, black, 3s. 9d.; fawn or blue, 4s. 9d.; marvellous value; rubber belts, all makes, stocked; startling prices. — Write or call, Para Rubber Co., 93, John Bright Street, Birmingham.

HALIFAX.—Rubber and canvas Serratrix V belting, nothing better value obtainable; $\frac{1}{2}$ in., 9d.; $\frac{3}{4}$ in., 1s.; $1\frac{1}{2}$ in., 1s. 4d.; $1\frac{3}{4}$ in., 1s. 6d. per foot; Perfection leather V belting, same price. — Motor Exchange, Westgate, Halifax.

STEEL Crankshaft for four-cylinder engine, new, £1; 4in. piston, with rings, new, 4s.; dynamo, over type, 50 volts, 8 amps, unfinished, machinery and winding done, 45s.—Millburn, Cambridge Street, Aylesbury.

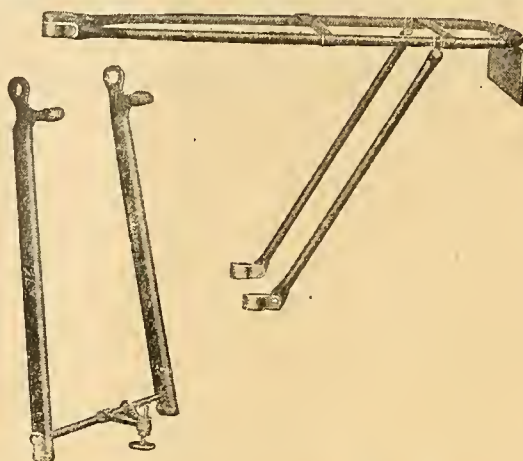
GOT Trouble with your belt slipping, why, of course you have? But you need not if you fit Ukantes belt pulley grips; box containing 40, with screws, 2s. 6d., from Price's stands.—Price and Co., 11, Mount Pleasant, London, E.C.

MINERVA Tank, lined green (new), nickel pump, clamps and levers; 16s. (letters only); back wheel, 26 by 2 $\frac{1}{2}$, Eadie motor coaster hub complete, perfect, £1; 26 by 2 $\frac{1}{2}$ A Won Clincher, little used, 6s. 6d.—Nicholls & Ruston Mews, Notting Hill.

TO FIT ALL MAKES

of Motor Cycles without exception. Special curved-top pattern of **Carrier** supplied for machines such as Rex de Luxe and those fitted with B100 Saddles etc.

Sent on **THREE DAYS' APPROVAL.**



The Premier Tubular Stands and Carriers. Easily attached, beautifully finished in black or aluminium. Plated clips. Stands, 7/6; Carriers, 8/6. Three days' approval.

Ask for details of the **Premier Road Cleaner**, an electrically operated horn. Infinitely superior to the ordinary bulb horn. **3 Days' Approval.**

THE PREMIER MOTOR Co., Ltd.,
ASTON ROAD, BIRMINGHAM.

Speedy Results.

13, St. John's Hill Grove,
New Wandsworth, S.W.,
March 16th, 1908.

Dear Sirs,

Thanks for cheque to cover for motor bicycle sold so promptly through my advt. in "The Motor Cycle."

You may like to know that although I paid for two insertions of my advt., the motor was sold before the second advt. appeared, and I therefore consider that the sale is especially speedy.

If you care to use this information, you are at liberty to do so.

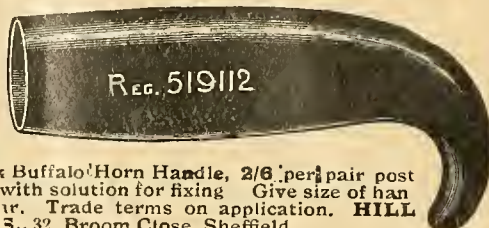
Yours truly,

L. J. CALLCOTT.

One Advt.
only needed.

Order your new mount at once.
One of "The Motor Cycle" readers
is waiting to buy your old one.

THE GRIP MOTOR CYCLE HANDLE.



Black Buffalo Horn Handle, 2/6 per pair post free, with solution for fixing. Give size of handle-bur. Trade terms on application. **HILL BROS.**, 32, Broom Close, Sheffield

MISCELLANEOUS.

PULLEYS for any motor, De Dion, M.M.C. 6s. 9d.; Antoine, N.S.U., Kelecom, Rex F.N., 5s. 9d.; Peugeot, Brown, 5s. 6d.; Triumph, Fafnir, Sarolea, Minerva, 4s. 9d. plated, guaranteed; carriage paid.—J. Perkins, High Road, Leyton, London.

LONDON Auto Co., Clapham, S.W., agents for Chater-Lea frames and fittings, and all makes of engines; No. 6 frames, £2 18s. 6d.; girder forks, 15s. 6d.; long handle-bars, 3s. 9d.; wheels, 30s. per pair; tanks from 12s.; low quotations for all other parts illustrated frame and engine lists stamp.

350 Government Gauntlet Gloves, all leather, 2s. 6d. pair; 600 Bedford corset riding breeches, 4s. 6d. and 5s. 6d. pair; 450 selected trousers, 3s. pair; 500 police oil-skin capes, 3s. 6d. and 4s. 6d. each; 60 officers' leather waist belts, with metal clasp, 1s. 3d. each; 400 leather leggings, 2s. pair.—Ancomb, 14, London Road, S.E.

FOR Sale, De Dion gear case, with 1906 pattern 6 h.p. differential gear, new what offers? Also four-seated trailer, vis-a-vis upholstered in red, two loose cushions plated hand rails, Dunlop tyres, coach-built body, with elliptical springs, strong tubular frame, easy running, price £4 10s.—Clark and Co., Motor Engineers, Doncaster

SOLID Value for hard cash for motor cycles and accessories; lowest price in the trade; all latest novelties in lamps, swan-neck seat pins, long handle-bars, foot rests, free engine pulleys, spring forks, belts, tyres, covers, etc.; write p.c. for 25 pp. illustrated list.—Metropolitan Machineists' Co., Ltd., M.C. Dep., 75, Bishopsgate Street Without, London, E.C.

PULLEYS for Fafnir, $3\frac{1}{2}$ to 4, 5s. 6d.; N.S.U. same diameter, 6s.; Rex, 1904 to 1906 same diameter, 6s.; Kelecoms, $4\frac{1}{2}$ to 5 diameter, 6s. 6d.; Peugeots, same diameter, 6s. 6d.; M.M.C., or De Dion, 4in., 6s. 6d.; $4\frac{1}{2}$ in., 7s.; to suit $\frac{3}{4}$ to $\frac{1}{2}$ belts, all plated and post free; pulleys to suit any make of engine.—Dene Cycle Co., St. Thomas Street, Newcastle-on-Tyne.

GIVING up the Motor Cycle Trade.—Millenium carrier stands, 7s. 6d., usual price 20s.; Vim stand (starts like free engine), 6s. 3d., usual price 17s. 6d.; Phillips's brakes 4s., usual price 10s. 6d.; Vim flexible cable brake, 5s. 6d., usual price 12s. 6d.; hand levers, and Bowden cables for valve lifters 3s. 3d., usual price 7s. 6d.—Slack's Garage Stockport.

STAND-CARRIERS Combined, 4s. 9d. and 5s. 9d.; large toolbags, 3s. 6d.; L.A.C. spring forks, 15s. pair; 5 h.p. Aster water cooled engine, £9; Clarendon engines, new 2 $\frac{1}{2}$ h.p., £3 each; Clarendon frames, £2 each; Jane's handle-bar switches, 1s. 9d.; Mabor two-speed gear, belt drive, £3 15s.; Antoine engine, 37s. 6d.; and various other miscellaneous goods.—Wauchope's, 9, Shoe Lane E.C.

STAMFORD HILL.— $3\frac{1}{2}$ h.p. carburetter, 12s. 6d.; 2 h.p., 10s.; $3\frac{1}{4}$ h.p. Whitley, 13s. 6d.; 3 h.p. B. and B., 12s. 6d.; motor cycle plain coils, twin 10s. 6d., single 6s. 6d.; 3 $\frac{1}{2}$ h.p. Rex engine, £3 18s.; $3\frac{1}{4}$ h.p. De Dion, £3; tyres, 26 by 2, 26 by 2 $\frac{1}{2}$, 13s. 6d.; 4in. steel mudguards, 1s. 9d. pair; tricar wing mudguards, 6s. 6d. pair; good long handle-bars 7s. 6d.; over-back seat-pillars, 4s.—128, High Road, Tottenham.

THE Stour Motor and Cycle Depot.—The fair dealing motor exchange. Triumphs a speciality. 1907 and 1908 machines in stock. Good second-hand machines taken in part payment. Tricar, $4\frac{1}{2}$ h.p., water-cooled, two speeds, £40; tricar, Rex, twin-cylinder, $5\frac{1}{2}$ h.p., £35; Rover motor bicycle, with detachable forecarriage, 19 guineas; Rex motor bicycle, $3\frac{1}{2}$ h.p., £12; Excelsior, $3\frac{1}{2}$ h.p. M.M.C. engine, £12 10s.; Noble, 2 $\frac{1}{2}$ h.p. nearly new, £11 10s.; machines coming in daily; write for particulars.—27, Fleet Street, Coventry.

CASH Bargains.—Motor Cycle covers, wired edge, 26 by 2 $\frac{1}{2}$, and 2 $\frac{1}{2}$, 11s. 6d. each; 29 by 2 $\frac{1}{2}$, and 2 $\frac{1}{2}$, 12s. 6d. each; beaded edge 2s. extra; motor cycle tubes, with valves, 6s. 9d. each; Kerry tricar lamps, brass, 12s. 6d. pair; plated ratchet control levers, 1s. 6d.; Whitley carburetters up to $4\frac{1}{2}$ h.p., 13s. 6d.; large plated double-twist horns, 5s. 3d.; good quality V belting, $\frac{1}{2}$ in., $\frac{3}{4}$ in., $1\frac{1}{2}$ in., at 8d., 10d., and 1s. foot; half-round belting, 7ft. 6in. lengths, 2s. 6d.; subject to being unsold; cash with order; approval.—Bastone 215 and 217, Pentonville Road, King's Cross, London, N.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

AUTOGENOUS Welding.—Send that broken casting to the Alvaston Motors, Derby, to be welded by patent process; metal reunited.

AUTOGENOUS Welding.—Costly castings saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, and a thousand other things.

AUTOGENOUS Welding.—Wonderful results. Broken flanges, lugs, brackets, etc., all amenable to our process; send part to-day; quotations on sight.

VIBREUR Trembler Coil, as new; exchange for 26 by 2 cover, or sell.—26, Ladbroke, Redhill.

CHATER-LEA Frames; special prices; illustrated list stamp.—Automobile Supply, Coldharbour Lane, S.W.

REX 1906 forks, good condition, 10s.; Rex 1905 cylinder, 10s.; N.S.U. 4 $\frac{1}{2}$ in. pulley, for 1 in. belt, 4s.—Reynolds, Broadway, Dorset.

RUST! Tarnish!—Our splendid preparation annihilates these like magic; polish follows; send 7d.—Shaddick, Dept. C., 99, Montague Road, Leytonstone.

OSBORNE Four-speed Pulley and Free Engine, complete, 50s.; Minerva accumulators, 8s.; Fuller's trembler coil, 10s.; 26 by 2 $\frac{1}{2}$ inner tube, 8s.—Kingsley, fishmonger, Pitfield Street, Hoxton.

CYLINDER Wanted, for 1905 3 $\frac{1}{2}$ h.p. Rex.—W., 24, London Road, Brighton.

FITALL Gear, also variable pulley, both new; offers.—Dr. Truman, Combe Martin, Devon.

CHARGING Dynamo, and powerful water motor, perfectly new; 30s.—Matthews, Pawnbroker, Croydon.

74 MM. De Dion pattern cylinder; 70 mm. ditto, 14s. each; brand new, perfect.—31, Herongate Road, Manor Park.

DON'T Scrap that cracked cylinder. try Barker's iron cement; 1s. tin; permanent repair.—Oxford Road, Worthing.

COMPLETE 3-cell Primary Battery for charging ignition accumulators; 2s. 6d.—Pearce, 30, Sandy Park, Brislington, Bristol.

OSBORNE free engine pulley, with starting handle and fittings, complete and perfect; 15s.—Fear, 49, Queen Square, Bristol.

CHATER-LEA Matchless frame, for inclined engine girders, tank, oil pump, levers; 50s.—483, Grove Green Road, Leytonstone.

3 $\frac{1}{2}$ h.p. Antoine engine, working order, £3; also 26 by 2 $\frac{1}{2}$ butt-ended tube, perfect, 8s. 6d.; no approval.—132, Cross Lane, Salford.

FULLER twin plain coil, 11s.; model H. carburetter, 12s. 6d.; 7ft. 6in. Brooks four-ply Stratex belt, 10s.; all good; approval.—Potter, Blenheim Square, Leeds.

APPROVAL.—Eisemann high tension twin magneto, with coil, cost £8 15s., as new, £4 10s.; 2 $\frac{3}{4}$ h.p. M.M.C. engine, perfect condition, £3.—Smith, Ford Street, St. Mary, Nottingham.

PHENIX Trimo Attachment, 26in. wheels, band brakes, wicker seat, £5; Chapman's expanding pulley, with lever, Jockey pulley, etc., complete, bored for 2 $\frac{3}{4}$ h.p. F.N., £3.—B. A. Coles, Winchfield, Hants.

2 $\frac{3}{4}$ h.p. Genuine De Dion Bouton, silencer, pulley, carburetter, coil, £4; pair 26 by 2 new wheels, plated rims, New Departure hubs, 35s.; Phoenix forecarriage, less wheels, spring axle, band brakes, cheap.—W. Powell, 72, Fairview Road, Cheltenham.

LONDON Auto Co., Clapham, S.W., agents for Chater-Lea frames and fittings, and all makes of engines; No. 6 frames, £2 18s. 6d.; girder forks, 15s. 6d.; long handle-bars, 3s. 9d.; wheels, 30s. per pair; tanks from 12s.; low quotations for all other parts; illustrated frame and engine lists, stamp.

FOLLOWING Articles made to meet your own requirements.—Long handle-bars, 4s.; swan-neck saddle-pillars, 2s. 6d.; tanks from 5s.; frames, £3; wheels, 25s. pair; quick deliveries guaranteed; several patterns of above in stock.—Green, 14, Avondale Road, Peckham, S.E. Works: McDermott Road.



THOSE HILLS YOU PEDAL.

Read this extract from testimonial.

Before I had the gear I had frequently to use pedals to assist engine up steep pitches, but since purchasing the gear from you, I have never on the road had to use the pedals and can easily get up any hill round here including Clayton and Hand Cross with passenger on board. H. ASHLEY GAITSKELL, M.D.

THE BURGESS ENGINEERING Co., Oxford Road, Clarendon Park, LEICESTER. Tele: 4251.

Additional to Tyres, we offer

GNAVITER

BRITISH-MADE INDIARUBBER AND CANVAS MOTOR CYCLE BELTING.

CIRCUMSPICE!

Insist on the Brand **GNAVITER**.

Plain or serrated. The product of a leading British manufacturer.

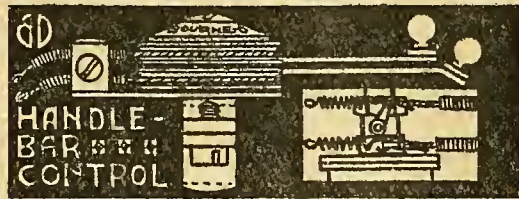
Good as gold—strong as steel.

3 in., 8 $\frac{1}{2}$ d.; 4 in., 11 $\frac{1}{2}$ d.; 5 in., 1' 3; 6 in., 1' 6 per ft.

True and deep section. Usual trade terms.

Sole Agents for Wholesale and Retail:

DEFIANT NON-SKID TYRE CO., 1, Farnival Street, LONDON, E.C.



Nickel Finish, Single, 6/6; Double (as illustrated), 9/6. CABLE, 1d. foot; Outer Covering, 4d. foot. Fitted by anyone. No soldering required.

BOURNE-DALE MOTOR SPECIALITIES, HIGH LANE, CHORLTON, MANCHESTER.

BANCROFTIAN CO.'S GREAT ANNUAL SALE of CYCLES,

Cycle and Motor Accessories, Phonographs, and Athletic Goods. The most genuine sale in London. The greatest bargains ever offered. For 28 days only. Send for list at once. Don't delay, a 4d. postcard may save you pounds. Don't buy any cycles or accessories until you have seen it, otherwise you will regret it. Great Reductions in the famous Bancroftian Tyres.

BANCROFTIAN CO., 49, Bishopsgate Street Within, LONDON, E.C. and 147, WALTHAMSTOW.

WE EXCHANGE

Push Bikes or anything Motorish. 3 h.p. REX, £9 10s. 3 h.p. Automotor, £12. 6 h.p. Twin Special, £25. 3 h.p. Humber, £9 10s. 2 $\frac{3}{4}$ h.p. Humber, £8 10s. 6 h.p. REX Triette, magneto, £35. 4 h.p. Fleet, coach built, £25. Let us know what you want—we have them.

MILLHOUSES MOTOR EXCHANGE, SHEFFIELD.

MISCELLANEOUS.

3 IN. Shamrock Gloria Belt, 8ft., with fastener, unused; 8s.—Motor, 56, Cranley Gardens, Highgate.

BUCKET Seat, new, strong, light, highly finished, suit cycle or tricar; 25s.—Tuson, jun., Leominster.

WERNER Spare Parts and Replacements.—Beard Bros., sole concessionaires, Cricklewood Broadway, London.

SPLENDID Wicker Body, upholstered dark green, with cushion, new; 22s. 6d.—99, Benthall Road, Stoke Newington.

MISCELLANEOUS.

AUTOGENOUS Welding.—Alvaston Motors, Derby. Telephone. 1, Alvaston.

ALVASTON Motors, Derby.—Bargains.

LOOK!—Genuine 4 h.p. M.M.C., mechanical inlet, air-cooled motors, only a few left, brand new, £5 10s., worth £12.

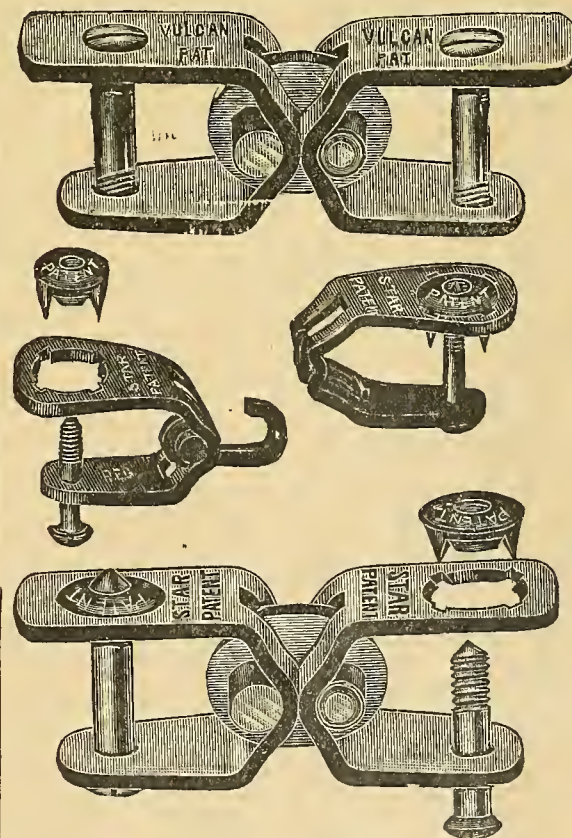
ALVASTON Motor Bargains.—10in. lathe, by Lee and Hunt, heavy compound slide rest, powerful heavy tool, in excellent condition; accept £6 15s., worth £20.

ALVASTON Motor Bargains.—Practically new Fitall two-speed gear, complete, perfect; accept 70s.; guaranteed sound; first wire gets it.

ALVASTON Motor Bargains.—7 h.p. launch motor, water-cooled, brand new, first-class design; clearance price, £9 10s.—Alvaston Motor Works, Derby.

30 Amp. P. and R. Accumulator, charged, and in tip-top condition, 17s. 6d.; 25 amp. new Blumels (not been used), 18s.; free engine clutch, complete, 14s. 6d.; Dunhill's speedometer, 3s. 6d.—S. Minshall, 1, Stoneway, Bridgnorth.

ABSOLUTE Clearance of Motor Cycle Goods.—Bensley and Dedman, 720, Holloway Road, must clear following goods: 3 h.p. Lurquin and Condert motor cycle, in good running order, £9 10s.; new motor cycle tank, all compartments, 20s.; new brass petrol and oil tank, 20s.; two-speed gear, for belt drive, 15s.; new frame, complete, for inclined engine, 30s.; stands for motor cycles, 3s. each; 3 in. belting, new, 1s. foot; Whitley carburetter, 12s. 6d.; pair N.S.U. handle-bars, plated, 3 in. stem, 6s.; non-trembler coil, perfect, 7s.; two-cylinder trembler coil, perfect, 30s.; 26 by 2 $\frac{1}{2}$ wired-on cover, 8s. 6d.; 26 by 2 $\frac{1}{2}$ red tube, new, 8s. 6d.; 26 by 2 red tube, new, 8s. 6d.; Singer two-cylinder wipe commutator, new, 12s.; new bucket seat, 27s. 6d.; several silencers, 3s. and 4s. each; large front mud flaps, 6d. each; pair new tricar side lamps, 14s. 6d.; new 6 h.p. water circulating pumps, 15s. 6d.; 3 h.p. Ariel engine, w.c. head, £3; Sharpe's silencers, 10s.; Lucas No. 19 lamp brackets (soiled), 1s. 9d.; springs for front forks, 1s. 6d. each; security bolts, Palmer, 3d. each; tricar dashboard petrol tanks and oil pump 22s.; new, free engine clutch, 15s.; 26 by 2 in. beaded edge cover, new, 13s. 6d.; Vim brakes, motor cycle, 10s. each; round trembler coil, new, 10s.; 26 by 2 butt-ended tube, not used, 7s. 6d.; latest vulcanite thumb switches, 2s. 9d.



All 1/- each,

S. T. ROBSON, 7, Blake Lane, Birmingham.

MISCELLANEOUS.

DON'T write to "The Motor Cycle" to worry them with tips before you have tried Motiphos. Motiphos has proved a cure for overheating troubles, loss of power, loss of speed, slipping belts, slipping and fierce clutches, slipping and inactive brakes—in fact, most of these troubles can be traced to inefficiency of drive through the leather parts, because the leather wants feeding and bolstering up. Motiphos will do this. Any dealer can supply you a tube, or, if difficulty, send P.O. 1s. direct.—The Motiphos Co., 34, New Bridge Street, London, E.C.

TRADE ADVERTISEMENTS.

CLEMENT-GARRARD genuine parts; sole English agent.—Frank Walters, 82, New Street, Birmingham.

CLEMENT - GARRARD Interchangeable Parts.—The Garrard-Maxfield Motor Co., Aston Road, Birmingham.

N.S.U. Motors (West London District Agency). latest pattern models in stock, two-speed gears, spare parts; liberal allowance for your motor in part exchange; deferred payments; trial runs by appointment.—Eagles and Co., High Street, Acton. Telephone, 556, Chiswick.

TWENTIETH Century Motor Co., Ltd., Padua Road, Penge, S.E.—2 h.p. carburettors, new, 8s.; 3½ h.p. ditto, 10s.; 6 h.p. ditto, 14s.; two-way sight feed oil pumps, new, 3s. 3d.; single control levers, new, from 1s. 3d.; double, 3s.; piston, ring, and pulley castings; pinion circulating pumps, new, 15s. Send stamp for long list of second-hand and new motor parts; approval.

TOO LATE FOR CLASSIFICATION.

FOR Sale, 6 h.p. De Dion two speeds, Dunlop tyres; what offers?—47, Camden Grove, Peckham.

FOR Sale, 3½ h.p. Bradbury, A Won Clinchers, Longuemare carburettor, low frame, powerful, perfect condition, accessories; bargain, 18 guineas.—83, Chestergate, Macclesfield.

WANTED, coach-built sidecar, 24in. wheel, to fit N.S.U.; approval, deposit.—B. c/o Swanson, 89, Elderslie Street, Glasgow.

FOR Sale, 6 h.p. two-seated Decauville car, in good running order; £15.—Stannard, West Street, Reigate.

FOR Sale, Kerry forecar, with side stays, £4 15s.; Rex motor cycle, wants assembling, £4 15s.; lady's motor cycle, unfinished, £4 15s.—Vickery, Ealing Road, W.

FOR Sale, 2½ h.p. F.N., spring forks, new Dunlop, just overhauled, fast; £7.—Letters, Burgess, 26, Holloway Road, London.

FOR Sale, 1908 Minerva, 3½ h.p., spring forks, new May, unscratched, guaranteed; £28; buying car.—Letters, J.S., 27, Eldon Street, London.

FOR Sale, Watawata belt, 3in., 8ft., good condition, 6s. 6d.; Centipede, 3in., 4s.—Cox, 25, St. Andrew's Street, Cambridge.

WANTED, Raleighette, or similar machine; exchange 6 h.p. twin Onaway, not done 100.—Steam Bakery, Croxley Green.

FOR Sale, 10-12 h.p. two-cylinder Pick car, four-seater, in good going order; sacrifice £35, or exchange for good new bicycles; photo.—1, Magdala Buildings, Weston-super-Mare.

FOR Sale, 2½ h.p. Antoine, good running order, complete, headlight, and tools; £8.—62, Buchanan Gardens, Kensal Rise. After 7.

FOR Sale, F.N., 5-6 h.p., four-cylinder, new, low frame model, absolutely new, not unpacked from crate; satisfactory reason for selling; £45.—Box No. 209, The Motor Cycle Offices, Coventry.

FOR Sale, 3½ h.p. Bradbury, and trailer, two Castle accumulators, and trembler coil, Lucas horn and lamp, 26 by 2½ Palmer tyres, nearly new; £25.—Plastow, Grimsby.

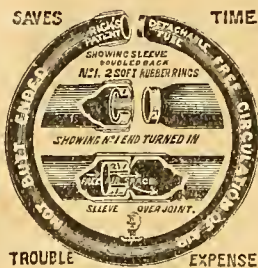
FOR Sale, 3 h.p. De Dion Tricycle, with trailer seat and wheel attached; £7.—Plastow, Grimsby.

FOR Sale, 1½ h.p. twin Vindec Special, magneto, Shaw non-skid on back, spare valves and contact, condition as new; £28 10s.—Plastow, Grimsby.

THE RICH DETACHABLE

As used in the LONDON to EDINBURGH and BACK trials, with success.

The only Perfect Detachable Air Tube on the Market.



Selling in all parts of the world.

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The Rich Detachable Air Tube Co., CRAWLEY, Sussex.

¶Readers who purchase, or contemplate purchasing, a new machine, should advertise their present mount in these columns. ¶Experience has shown that "The Motor Cycle" is, in the majority of cases, successful in finding a purchaser. ¶This applies also to accessories and spares. *

TOO LATE FOR CLASSIFICATION.

FOR Sale, Minerva motor cycle, 2½ h.p., a very good hill-climber, has only been used for experimental purposes, in perfect running condition, with adjustable pulley; immediate cash price £9.—2, North Road, Birkenhead.

FOR Sale, 8 h.p. Phoenix Quadcar, perfect condition, only used 500 miles, four lamps, large horn, spares, tools, etc., all tyres fitted Shaw's leather non-skids; price £70.—Harry Eaton, Witney, Oxon.

FOR Sale, 1906 6 h.p. Rex (gold medal End to End), R.O.M., thumbslides, genuine Longuemare, Guenet trembler, Peto accumulators, two-way and handle-bar switches, 2½ Continentals, studded band, jointed tube, 3in. Rawido, folding footboards, pedals, carrier-stand, and number plates, spares, 3in. Shamrock-Gloria, Rich's detachable, inlets, exhausts, springs, washers, plugs, excellent running order, just overhauled, with best Montgomery, latest non-skid couplings; £28; wife too nervous; trial run by appointment.—Elwes, 1, Hall Place Gardens, St. Albans.

FOR Sale, 4½ h.p. twin Minerva, 1908 model, new last March, detachable studded band on back wheel, new Clincher A Won on front, spare tyre and inner tube, two exhaust and inlet valves, two sparking plugs, tools, etc.; remember a similar model recently won London-Edinburgh reliability trials; going abroad very shortly; must sell; 29 guineas, or reasonable offer; bargain.—F., Northlea, King's Road, Doncaster.

FOR Sale, Singer, 2 h.p., magneto, chain driven, good condition; seen any time; £7.—4, London Road, Forest Hill, S.E.

EXCHANGE 3 h.p. F.N., and cash, for twin Vindec, Jap, or Antoine.—63, Pelham Road, Wimbledon.

FOR Sale, 1907 (late) Triumph, not ridden 100 miles, condition perfect; bargain, £39.—141, High Street, Merton, S.W.

BENZ, 4½ h.p., wanted; lowest for cash and 1½ h.p. Minerva-B.S.A. cycle.—Garbett, Stratford-on-Avon.

TOO LATE FOR CLASSIFICATION.

FOR Sale, 5 h.p. twin Rex, guaranteed perfect running order, just overhauled, tyres as new; £22 10s., or near offer.—Phillips, Smedley Lane, Manchester.

FOR Sale, tricar, Rex 6 h.p. twin-cylinder Triette, as new, tyres not run 50 miles, electric Daimler lamps, upholstered rebuttoned leather, with apron, just been replated, 100 amp. accumulator, cantilever seat, foot operated brake on rubber coverboards, Osborne 1908 four-speed gear, Whittle belt, petrol and oil gauges; £23, or near offer.—Harrison, 8, Vesey Street, Birmingham.

FOR Sale, nearly new tricar, 4½ h.p. Stever engine, Oppermann two-speed, A Won tyres, good goer, starts like a car; bargain; £25; photo.—1, Magdala Buildings, Weston-super-Mare.

FOR Sale, 3½ h.p. Rex, splendid condition, hill-climber, speedy, the best Guenet coil, unspillable accumulator, Gloria belt, unused, Clincher on back, new; expert's examination and trial invited; first reasonable offer accepted.—Pihlens, Little On Hall, Stafford.

FOR Sale, speed indicator, accurate, perfect, 20s.; 1½ h.p. Minerva engine, 1½ cylinder, 10s.; wanted, new 26 by 2 tyre.—102, Kennington Avenue.

FOR Sale, 5-6 h.p. twin 1907 Sarolea, in perfect condition throughout; £28, or exchange for 3½ h.p. Triumph and cash.—Brooke, 24, Dragon Road, Harrogate.

FOR Sale, 2½ h.p. Griffon-Zedel, magnetos, spring forks, as new; what offers? trial by appointment.—21, Crouch Hall Road, Crouch End, N.

FOR Sale, Mabon clutch, brand new, 35s. Aldington's footrests (plated), new, 5s. electric buzzer (new), 5s.—3, Beaumont Street, Hexham.

FOR Sale, 3 h.p., 26 by 2½ Dunlops, good condition, new 20 amp., new belt, Bowden exhaust, splendid order; £7 10s.—23, Bugate, Canterbury.

FOR Sale, tricar, 6½ h.p. Aster engine, three speeds, coach built; £45.—Drage, Enfield Town.

FOR Sale, twin Brown, Palmers, good condition, very powerful and fast; £25.—Drage, Enfield.

FOR Sale, The bargain of the week.—1907 3½ h.p. Quadrant, just returned from makers after complete overhauling, everything perfect, complete with stand, bag, new Rawido belt, spring forks, plates, spare etc.; this machine is nearly new, and has had very little wear, 4 to 40 miles per hour accept £25, no offers.—Millard, Dinnington, Rotherham.

FOR Sale, £7 7s., 2½ h.p. Minerva, good condition, take road racer in part exchange.—130, Stoke Newington Road, N.

4 h.p. N.S.U., magneto, perfect condition, and running order, spare tyre, valve fasteners, full kit of tools, 2½ by 24 Pete Unions, specially built, hardly scratched £30; any trial.—Ballantyne Kellar, 45, Woodstock Road, Bristol.

FOR Sale, 4½ h.p. twin Minerva, little used, perfect order, variable pulley, Pete Union bands, many improvements and spares; cost £48, sell £19, or offer; own leaving district; no other reason for sale, really a bargain to effect quick sale.—D. King, Hatherleigh, Devon.

PALMER'S Green—5 h.p. Kerry, Sarolea twin engine, new Calmon back tyre, footboards, headlight, with separate generator, very fast, easy running, and powerful on hills; £21 10s.

PALMER'S Green—3½ h.p. Jap, Chater-Le Longuemare, new Whittle belt, Millennium stand and carrier, low frame, footboards, long bars, as new; £21 10s.

PALMER'S Green—2½ h.p. Opel, Peter-Union tyres, as new, Watawata belt, low built, easy starter, complete with strong carrier, tools, and accessories; £9 15s.

PALMER'S Green—2½ h.p. Jap-Enfield, Palmer tyres, spray, good coil and accumulator, smooth, easy running machine; £9.

PALMER'S Green—We can supply anything in the motor or cycle line.—Note the address, The Gem Cycle Co., 7, Broadway Parade, opposite the Cock Inn.



THE MOTOR CYCLE



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TUNING UP FOR THE END-TO-END.

By B. H. DAVIES.

I HAVE been intending for some while to write a few notes about preparing 1906 and 1907 machines for the End-to-end, as there are certain to be a number of would-be entrants who cannot run to a brand new mount, and there is no doubt these riders will have an excellent chance of a gold medal, since knowledge of one's mount is at the very least quite as important as the inherent excellence of the mount itself. In 1906 an amateur on a brand new Triumph fresh from the works rode through *unofficially* without a single adjustment; that is to say, with less anxiety than Hulbert, Bramley-Moore, Cooper, or myself, since he did not even experience a puncture; but this was a gorgeous fluke, and taking the percentage of luck, a sound knowledge of an old machine is a better asset in these trials than a start on a comparatively unknown machine specially tuned by the makers. Now I often meet with amateur owners whose machines have lost that pristine "zip" with which they once used to hum along the roads, and have joined the army of plod-along-somehow, uncertain uphill sort of beasties, and I want now, if I can, to aid these gentlemen to get their machines so fit that they can compete in the great run of the year with a good confidence.

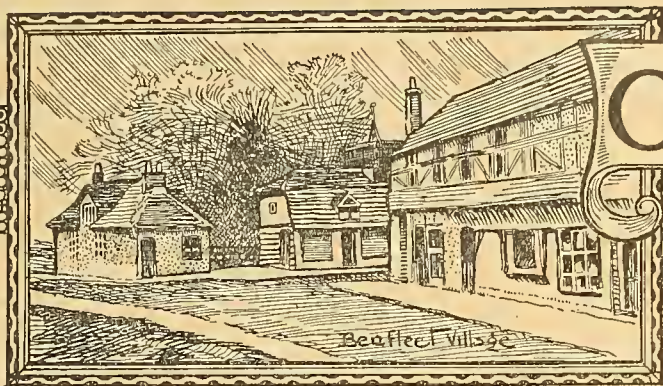
Two things are capable of wrecking any entrant's prospects. One is any serious derangement, capable of necessitating a prolonged delay in any section; the other is the want of full power, or the loss of full power. On a schedule run this last is of prime importance. A rider might reach Moffat without a single stoppage of any sort or kind, but the power might have faded away so that after a twenty minutes' tyre stop on a

short section he could not raise the speed required to save his marks. This mischance would be followed by pushing part of the way up two or three hills with more losses of marks, and although his machine has proved itself perfectly reliable from a non-stop point of view, his award would only be at the best a silver medal. We must guard against both the long stoppage and the gradual decay of engine efficiency.

The long stoppage is conceivable even if the good old crock has already behaved excellently for 5,000 miles or more. I append precautions:

1. TYRES.—*New tyres are absolutely essential.* New tyres—especially of a different make—have a habit of not fitting accurately, in which case they are either very hard to get on and off when a puncture comes, or else they leave a gap between the beads, and nip the tube sooner or later. Therefore, the wise entrant will fit his new pair of tyres at home, make absolutely certain they are a sound fit, and knead them by two or three detachments if necessary, until they slip on and off like a glove. He will then replace the old ones, ride down to Penzance, arrive in good time, and fit the new ones there for the start of the run, further safeguarding himself by carrying two or three detachable tubes—these last are *essential*, since punctures have a way of occurring in the shorter controls, where without detachable tubes heavy loss of marks is *inevitable*.

2. ENGINE.—No matter how good the apparent condition of the valves, they should all be replaced by new ones, since some metal parts show no sign of failure till a very few miles before failure comes. The



OCCASIONAL COMMENTS.

By "IXION."

Belt Fasteners.

Mr. W. H. Berisford, the patentee of Brooks Stratex belts, reminds me that his belt resembles the Wata-ta in the ideal feature of requiring no fastener at all. Unfortunately, rubber belts, which were naturally included in my general remarks, cannot be designed as endless; one wishes they could. It would be interesting to know if Mr. Berisford has ever experimented with a belt composed of his Stratex principle out of little strips with a canvas basis and rubber covered. If this would work we should have an endless rubber belt. I have received several sample fasteners from different patentees, and, while several of them show great ingenuity, nearly all of them are fitted with wretched apologies for screw threads, both as regards the bolts and the bolt holes.

The End-to-end.

I should like to add my congratulations to the chorus now besieging Mr. A. W. Bentley, and couple with them my commiserations on the failure of his ending arrangements. This was particularly hard on him, as one or two other riders intend making strenuous efforts to win the record from him, and the three hours or so he undoubtedly lost through these errors would have made his record almost unassailable except with the best of luck. Riders who know the route and have held or attempted the record assert that, given the best of luck with the weather and machines and tyres, the ultimate record should fall as low as thirty-five hours or thereabouts; and if Mr. Bentley had set the figures at thirty-eight hours, as he narrowly failed to do, the record would have stood to his credit for a far longer time than is at present likely.

Footrests Fouling Ground.

The Sutton Bank climb revealed the fact that while a road, low footrests serve admirably as rests for the machine when stationary, they add a grave danger to taking sharp corners at speed. I wish makers would realise how seriously this applies to pedalling gear on the modern low framed machine. I do not know a standard 1908 model which I can safely drive up a certain twisty hill near my home unless I first make sure that the near side pedal crank is either horizontal or vertical above the bottom bracket, and neglect to do that this pedal is in the correct position has nearly brought me down on several occasions, and has cost me a couple of broken cranks. The time is surely near when pedalling gear may be dispensed with on first-class powerful modern machines, on which it is seldom of the least use, and often in the way. And when long footrests are fitted they should be set higher up on the machine.

A Good Gear.

I just lately examined a Phelon and Moore gear which was fitted to a powerful twin in 1906, and has been running on it with and without a sidecar ever since. During this period the makers have never once seen the gear, and it has never given trouble. Considering the lightness of the chains and sprockets, this record speaks volumes for the workmanship of the gear as a whole, and especially for the delicacy and efficiency of the bronze rings and steel wedges which form its clutch system. Similar chains were fitted last summer to a light tricar under my notice, but in combination with a leather cone clutch and dog clutch gear, and under these conditions, working with a similar load and engine, the chains gave such an infinity of trouble that they had to be scrapped, sprockets and all, and chains of heavier make substituted. I wonder whether any other gear can show a record of two non-stop seasons with a twin engine and sidecar? The gear in question is now as good as new.

Abnormal Engine Conditions.

Mr. Earle L. Ovington's description of the behaviour of his big four F.N. interested me, particularly because I have once or twice experienced something very closely resembling it when running a single-cylinder engine on paraffin. Everyone who uses a machine for running about towns on everyday business knows that a habit of carelessness about the amount of petrol in the tank is apt to develop, and so it is not an infrequent experience for me to run out of petrol. Under these circumstances I have often been able to fill up with paraffin before the engine got cold, warm it up well on the stand, and then drive home on pure paraffin. On these occasions when my return journey has lain over open roads I have suddenly felt the engine, as it were, take the bit between its teeth, and tear along with me at speeds never attained upon normal fuel; and yet on these occasions it has never failed to stop when the current was switched off, and the increase of speed has been consequent upon gross overheating, and has taken some miles of running as a first condition, and a short spell of very favourable speed conditions for a second condition.

We have just received a copy of the "Annuaire de Route" of the Automobile Club de France. This useful publication is practically indispensable to those who intend touring on the other side of the Channel. The information it contains is of the greatest possible value, as it mentions the smallest villages in France and particulars of their hotels, repairers, tyre depots, etc. Last year we used the book constantly, and found it to be absolutely reliable.

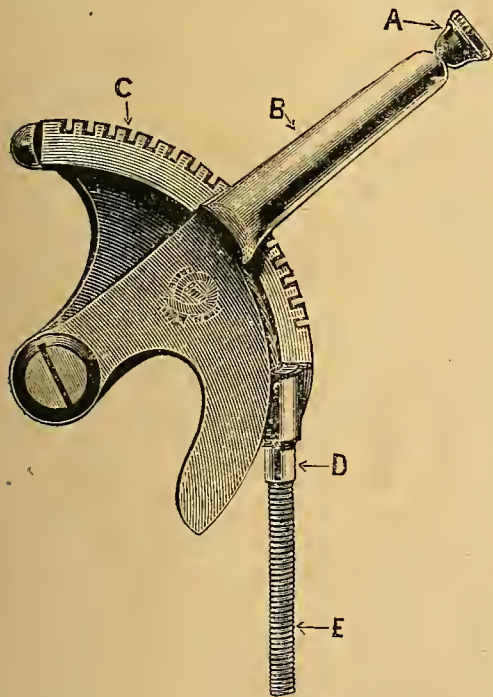
A RUN ON A FOUR-CYLINDER F.N.

THROUGH the courtesy of the F.N. Motor Agency, of 106, Great Portland Street, W., we recently had an opportunity of trying a $4\frac{1}{2}$ h.p. four-cylinder F.N. motor bicycle, and we were very agreeably impressed by the speed, hill-climbing capabilities, and smooth running of this excellent machine, which, as our readers know, is constructed in one of the largest small arms factories in Europe, viz., the Fabrique Nationale at Liege. Whatever opinion may be expressed with regard to multiplicity of cylinders on motor bicycles, there is no doubt that the four-cylinder F.N. is a flier, and, properly handled and kept in tune, it will compare most favourably with any other machine on the market of equal power. As might be expected, it starts with great ease—in fact, it is probably the easiest motor cycle engine to start—due to the four cylinders and the moderate gear with which it is fitted. We must admit that previous to trying the machine we had the opinion that with a gear of six to one, which we believe is the standard, the speed would not be very high, but a run on the machine convinced us that the engine is capable of an extremely high number of revolutions per minute, which enables the machine to attain a speed which is quite fast enough for average British roads, and faster than is required for touring. Hills it takes in its stride—at least those hills which we tried it on with grades of about 1 in 10 and 1 in 11. Long hills do

not tire it or cause the engine to overheat, and there are only one or two things we can suggest which would improve this machine. One of these is the brake, which is of the back-peddalling variety. This necessitates the feet always being on the pedals. Footrests would be preferable, and a separately controlled pedal actuated brake. The other improvement we should like to suggest is in the nature of the control. Handlebar control to the carburetter would make this machine ideal. At present, there is not much difficulty in controlling the engine, but we feel sure that handlebar control would provide a very much more delicate manipulation, and we should strongly advise the makers to give this point their attention. The spring fork is excellent, and all the other details of the machine are well carried out. The humming of the gear is strange to the rider after a belt-driven motor bicycle, but the immunity from transmission troubles fully compensates for this, and in the course of an hour or two's ride one becomes quite accustomed to the purring of the gear—in fact, provided it is well lubricated, it is no detriment whatever. Good workmanship and reliability have made a name for the four-cylinder F.N., and it is daily gaining favour. Riders who have tried it are very enthusiastic with regard to its capabilities and sweet running, and several to whom we have spoken concerning it say they would not return to a single or twin-cylinder machine.

A SPECIAL LEVER.

THE "sector" or quadrant lever is a form of hand lever which is found specially suited to many systems of motor driving, many tricar owners having a special predilection for this type in preference to any other where it can conveniently be used. Hitherto there has been nothing on the market specially adapted for use in connection with the Bowden wire mechanism, and to remedy this the E. M. Bowden's Patents Syndicate, Ltd., have just introduced the pattern illustrated here. It is supplied for either right or left side, and, like all levers operating the Bowden wire, can be placed practically anywhere on a tricar within reach of the

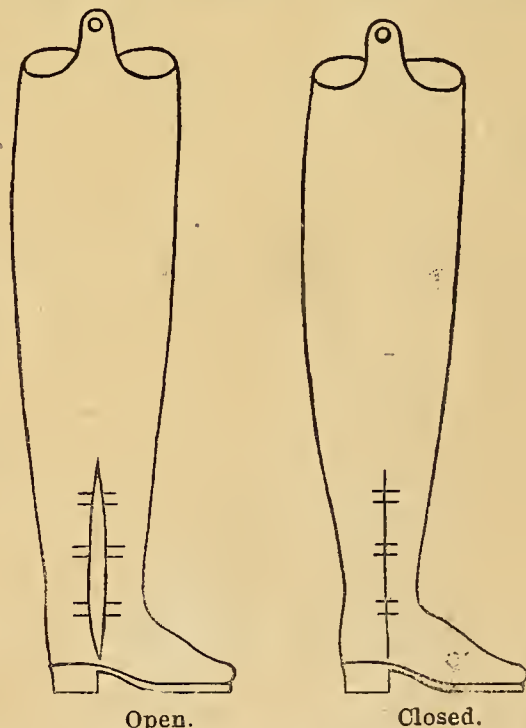


driver's hand. The illustration requires little explanation, and will no doubt convey a clear idea of the lever. A is a milled knob operating a pawl, which with its return spring are concealed in the stem B. The pawl engages with the rack C, and is released by pulling the milled knob A. E and D represent respectively the Bowden wire and its "stop."

SUGGESTED WATERPROOF OVERALLS.

"SURGEON," East Anglia, sends us the drawing (reproduced) of a pair of overalls for medical motor cyclists. They are ordinary overalls, wider than usual, and with a tuck

from knee to leather sole, so that they can be slipped off, leaving the shoes or boots quite clean. The soles should be ribbed or nailed like football or cricket boots. A medical man wearing the ordinary overalls finds them unsuitable for paying calls on a succession of patients, but the above would fill the bill. Instead of a hole to button over brace button, a clip could be fitted, as on many belts.



"Surgeon" is having a pair made to order, but feels certain that if put on the market there would be a good sale. "Special ailments require special remedies," and there is no doubt that motor cycling is a pastime that requires special clothing. The ideal motor cycle suit has yet to be made.



Through Many Lands by Motor Cycle.

Our readers will doubtless remember that we published a few months back a paragraph stating that Mr. E. M. Baxter, an American journalist, was leaving England for a lengthy motor cycle tour on the Continent of Europe, which would probably be extended to the northern shores of Africa. We arranged with this gentleman that we should publish a series of articles describing his experiences, and we are pleased to be in a position to place this week the first instalment of an article from Mr. Baxter's pen before our readers. The writer is an American and Agricultural Editor of *The Buenos Ayres Herald*, therefore his opinions on Europe and European customs will be read with interest. Further instalments will be published as they are sent in and space permits, but we must ask readers not to look for the articles as a weekly feature. Mr. Baxter's movements are necessarily somewhat doubtful owing to his professional engagements, but the continuation of "Through Many Lands by Motor Cycle" will be inserted whenever the exigencies of space permit.

FROM the unkept trails of South America to the well-made roads of Europe is a transition that impresses one with the old world means of travel by carriage. The railways and the steamers of South America are the equals of those of Europe in general, but they are confined to the thin fringe of settlements on the coast and along the mighty navigable rivers of the interior. An important exception to this is found, it is true, in the Argentine Republic, where extensive systems of railroads, chiefly due to British capital and enterprise, are laid in all directions across the great fertile grain zone of the Pampas. Away from the more populous sections of the continent there is now and then a stage route, and in some districts journeys of a few score miles may be tediously made by carriage, automobile, or cycle. The chief means of travel, however, outside the narrow zones served by train and steamer, is the saddle horse. But journeys made on horseback naturally entail very considerable inconveniences and difficulties, and frequently some danger. There must be a guide and servants, and the major part at least of the requisites of living must be taken on pack animals. Beyond the frontier an armed escort is necessary to guard against possible assault by natives or renegade whites.

American and European Roads Compared.

Rio, Buenos Ayres, and other progressive cities of South America have some well-paved streets and excellent park roads open to all classes of vehicles, but in no case are the roads leading from the cities comparable with those that radiate from all European towns. The best are mere tracks on the soft earth, cut up at all times by the wheels of heavy carts, and made almost or quite impassable in wet weather by the mud.

From the nature of the roads it is evident that there is no place in South America suitable for the sport of motor cycling—at least no place worthy of consideration. The disposition to engage in the sport is not lacking, particularly among the tens of thousands of people of British extraction. As an evidence of this disposition, a very small number of motor cycles may be seen on the boulevards and in the parks of some of the larger and more enterprising cities. But so circumscribed are the opportunities for the use of the motor cycle even in the most favoured centres of popu-

lation that few care to engage in the pastime. A man may row or ride or shoot in many parts of South America under true amateur conditions, but motor cycling is practically out of the question to-day, and many to-morrows will become yesterdays before there can be any radical change.

In view of the means of travel to which he is accustomed, it is not surprising that the man from South America looks with admiration, and even a little longing, on the splendid roads of Europe. Here the traveller who is not under the necessity of making a long tour in a short time is strongly drawn to the wonderful highways. A great variety of vehicles, mechanical and otherwise, are seen everywhere, beckoning one to use and enjoy. Soon the man who is accustomed to the saddle is attracted to the powerful and rapid motor cycle—it calls insistently for a trial. And why not give it the place of the horse? It is easy to drive, economical to use, and it makes possible a trip into many an enchanting district closed to travellers tied to train, river, and tourist agencies.

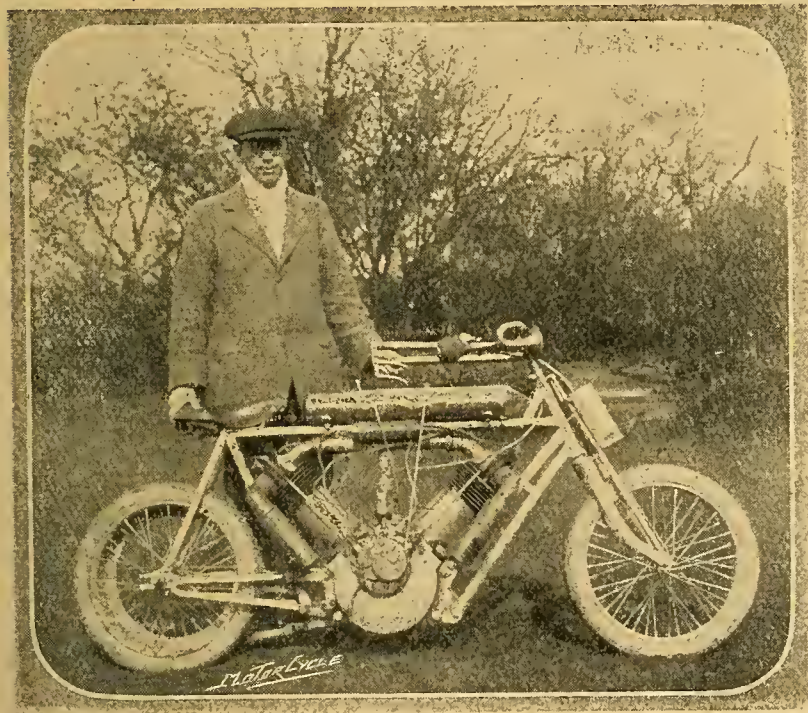
When the writer succumbed to the allurements of the motor cycle the problems to be solved in its adoption as a means of travel were the exacting demands to be made on a machine in a tour that seemed likely to exceed ten thousand miles in the Old World, with the probability of its being prolonged in the New several thousand miles besides. All kinds of roads would have to be traversed and every condition of weather encountered. Countries civilised and densely populated and countries semi-civilised and sparsely populated would be travelled. A machine that is eminently satisfactory on the good roads of Britain might give no end of trouble on the uneven and dusty surfaces of the highways of the Iberian Peninsula or on the burning sands of Mediterranean Africa. A motor cycle that will carry the unencumbered ten stones rider throughout tourist Europe without strain might soon break down on the rough and difficult roads of America and Canada. Fuel of varying degrees of excellence would have to be used, and in some districts substitutes for the usual fuel might have to be found. In the face of such momentous questions the novice decided to seek expert advice concerning the type and make of motor cycle it would be advisable to procure. Very small indeed was the number of machines designated

Through Many Lands by Motor Cycle.—

as being likely to meet the requirements of the severe demands of the proposed trip. As more than half of the advisers consulted recommended a Triumph this was the one ultimately selected. How well it has justified the encomiums given it will be apparent by the results obtained in its use.

Early Attempts.

In the latter part of last January it was handed over to the writer at the works, Coventry. An expert motor cyclist was detailed to initiate the novice into the mysteries of the new machine—mysteries which proved to be very simple indeed. First the mechanism of the cycle was studied with some care, after which the machine was taken to the street and a half-hour spent in learning to drive it. The novice was aided to start by the instructor. He rode down the street a few yards at slow speed, stopped, turned round, and waited for the instructor to come up and help him get away on the return. Each time the start was made with the learner in the saddle, as he particularly wanted to begin in this way. He would not have needed this



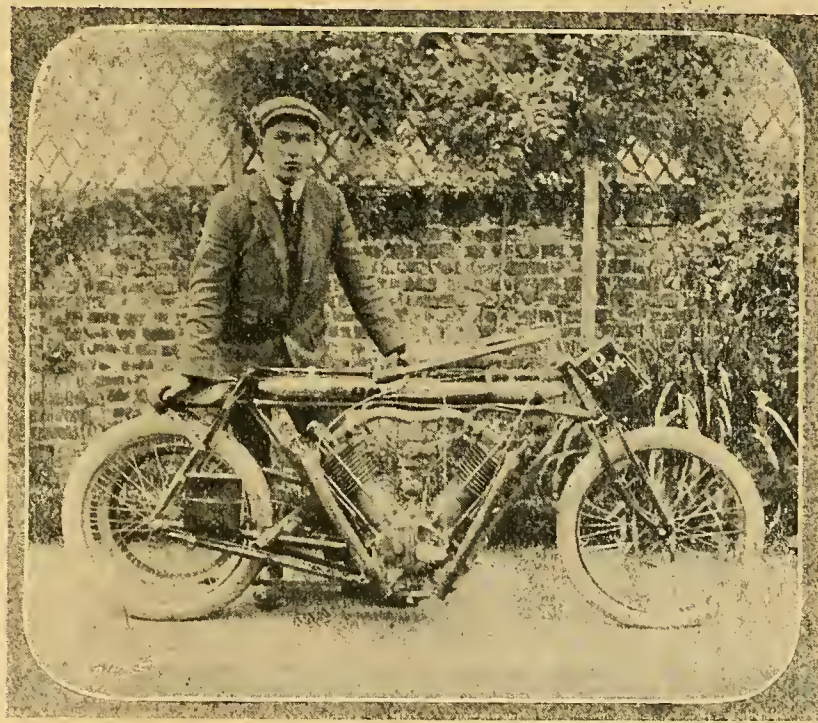
C. B. Grimshaw, of Sunderland, and his new 20 h.p. twin-cylinder machine, one of the highest-powered motor bicycles used on English roads. The bore is 115 mm. and the stroke 125 mm., and the total weight 300 lbs. A single oil is fitted and a special distributor.

help from the instructor had he been proficient in the use of the free-wheel and pedals. On the following morning another half-hour was spent in practice in the street, succeeded by a run of several miles in the country "like an old hand." The novice then felt safe in setting out alone on his trip south. This trip of about a hundred miles was made at the rate of some ten miles an hour. The roads were in a "prime state of grease," rains having been both frequent and heavy for a number of days. During the run the wind blew a gale most of the time, accompanied by frequent squalls of rain and sleet. Several herds of sheep and cattle were successfully "wriggled through," although in most cases the drovers made no attempt to clear a track. In fact, they seemed to think it clever to obstruct the course of a motor cyclist. One "crew" became very abusive when the engine slowly opened a way by means of loud and continued hooting and hissing. In another place a half-grown boy deliber-

ately drove a cow in front of the rider, but an accident was averted by the prompt application of the brakes and the cutting off of the power. Two automobile "road hogs" were encountered. One forced the wheelman into the soft rather stiff mud at the side of the road at a sharp turn, but, thanks to the non-skidding rear tyre, the danger of side-slip was safely passed; the other "shaver" rushed by from behind, apparently almost scraping the rider's body, and nearly causing him to fall from the suction of the swiftly moving car. As London was approached the dense traffic was rather annoying, but a clear though tortuous course was maintained by running very slowly and freely using the hooter.

The management of this particular motor cycle was so easily learned, undoubtedly, because of the following facts:

1. The handle-bar control.
2. The low centre of gravity.
3. The non-skid rubber studded cover on the rear wheel.
4. The ease of steering.



W. H. Bashall and his 20 h.p. Jap-engined Bat bicycle. This machine is capable of terrific speeds; in fact, we should imagine the chief difficulty is to control its speed. The cylinders measure 120 mm. each way. Mr. Bashall will ride his Tourist Trophy Triumph in the End-to-end Run.

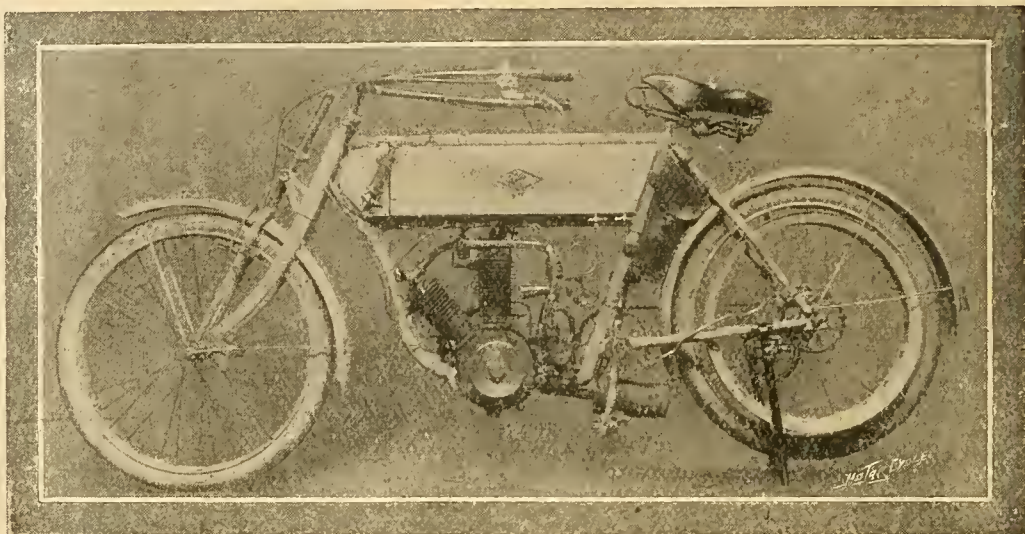
Moreover, the seat being low, the rider can place both feet "squarely" on the ground at the same time—a matter of no small importance on rough and "greasy" surfaces. Another point exemplified in the writer's learning to drive the Triumph is that the beginner does not need to be an expert pedal cyclist. The writer can hardly be said to have been a cyclist, since his little riding experience was more than a dozen years back, and even then was limited to less than five hundred miles on a *fixed* pedal bicycle. His greatest difficulty in mastering the motor cycle was to get control of the free pedals in starting off. Even mature age need hardly be given consideration by the man who has the sporting disposition, provided he is young in spirit, as the man of sixty may engage in the sport of motor cycling with all the assurance of an easy and successful beginning and the full after enjoyment that are popularly supposed to belong peculiarly to youth.

(To be continued.)

The Diamond Motor Bicycle.

HANDLED by the Victoria Trading Co., 47, Lamb's Conduit Street, W.C., the Diamond motor bicycle made its *début* before the British public in the early part of the current year. It is a machine following absolutely standard lines, embodying all those points which are desirable on a modern machine. The frame is low and long, the rider's position comfortable, and the appearance in general pleasing. The machine is made in four models—B, C, D, and E—to suit all types of riders. Model B is moderate in price, of 2½ h.p., 70 by 70 mm., a.o.v., single-cylinder, has 26in. wheels, girder forks, and 5⁄8in. rubber belt. Model C is of 3½ h.p., single-cylinder, 78 by 84 mm., m.o.v., overhead system, has petrol and oil tanks arranged separately, 2¼in. tyres, and 1in. rubber belt. Model D has a twin-cylinder engine, 65 by 72 mm., a.o.v., but otherwise resembles the aforementioned model. Model E is particularly worthy of notice, in that it has a 5 h.p. twin-cylinder engine, 73 by 78 mm., fitted with mechanically-operated valves excellently arranged—a point which is generally neglected in the case of twin-cylinder engines. The following standard fittings are common to all the above. Bosch magneto ignition, chain driven, chain in oil-tight case, F.N. carburetter with variable air control, spring forks (except with Model B) of excellent design, and a complete set of tools with each.

Reverting to the inlet valve arrangement on the 5 h.p. and 3½ h.p., this is by means of adjustable overhead tappets—a system which has proved to be effective on similar types of engines, notably the N.S.U., one of the advantages being that the valves operate automatically at high speeds and mechanically at low speeds, and also should anything go wrong with the valve gear the valves can easily be made to work



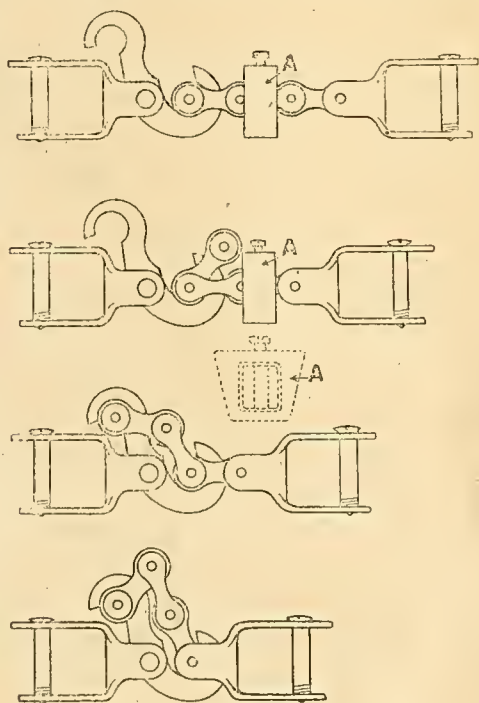
A specimen of a twin-cylinder Diamond with magneto ignition and spring forks.

automatically if a weaker spring is fitted.

The engines, we understand, are made by the F.N. Co. Most of the machines are finished in French grey—a colour which does not show the dirt.

THE MATCHLESS FLEXIBLE BELT FASTENER.

NOW that adjustable pulleys are so popular among motor cyclists, any accessory which will tend to facilitate their use will be heartily welcome. As will be seen from the accompanying illustrations, the belt fastener has a flexible connection composed of a small piece of roller bicycle chain, giving four distinct adjustments, such as may be desired when the adjustable pulley gives a difference in the gear ratios of, say, from three and a half to six to one. The fibre block A is connected to a section of the chain, and when the fastener is extended to its fullest length serves to steady it as it passes round the pulley and prevents it from slipping. The illustrations are self-explanatory. The makers, Messrs. Collier and Sons, Herbert Road, Plumstead, S.E., are prepared to guarantee the Matchless flexible belt fastener for at least 1,000 miles.



MOTOSACOCHE HINTS.

Mrs. Edward Kennard is an enthusiastic user of a special Motosacocche ladies' motor bicycle, which has been built to her order by the Clyde Cycle and Motor Co., of Leicester. In a letter to the editor she gives an excellent tip for keeping the round twisted belt in order. The belt should be dressed inside with collan oil, and before rewinding filled with a soft cord. This prevents the diameter from shrinking too much. With some G.B. dressing outside this answers satisfactorily. These little engines are somewhat difficult to start at times, owing to the piston sticking through solidifying of the lubricant. If paraffin is injected while the engine is cooling and engine pulley turned a few times, it will be found that engine will start when required without any difficulty.

Our readers will remember that we published a paragraph a few weeks ago respecting the Three Spires non-skid tyre for motor cycles, and called attention to the fact that we should watch the progress of this tyre and report on same later. We are now in a position to state that the feeling of security from side-slipping and the immunity from ordinary punctures experienced on these tyres greatly increases the pleasure of motor cycling. The firm are also making a 1¾in. cover for lightweight machines, which should be examined when specifying tyres on a lightweight mount. The non-skid 2¼in. cover, 26in. in diameter, weighs 3½ lbs., and has a very substantial indiarubber tread, and at the price at which it is sold is excellent value.

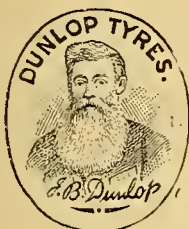
It's not only the ultra quality

of fabric and rubber, but the masterful method of "assembling," the fine workmanship, and the vast experience behind the workmanship, which are responsible for the acknowledged superiority of

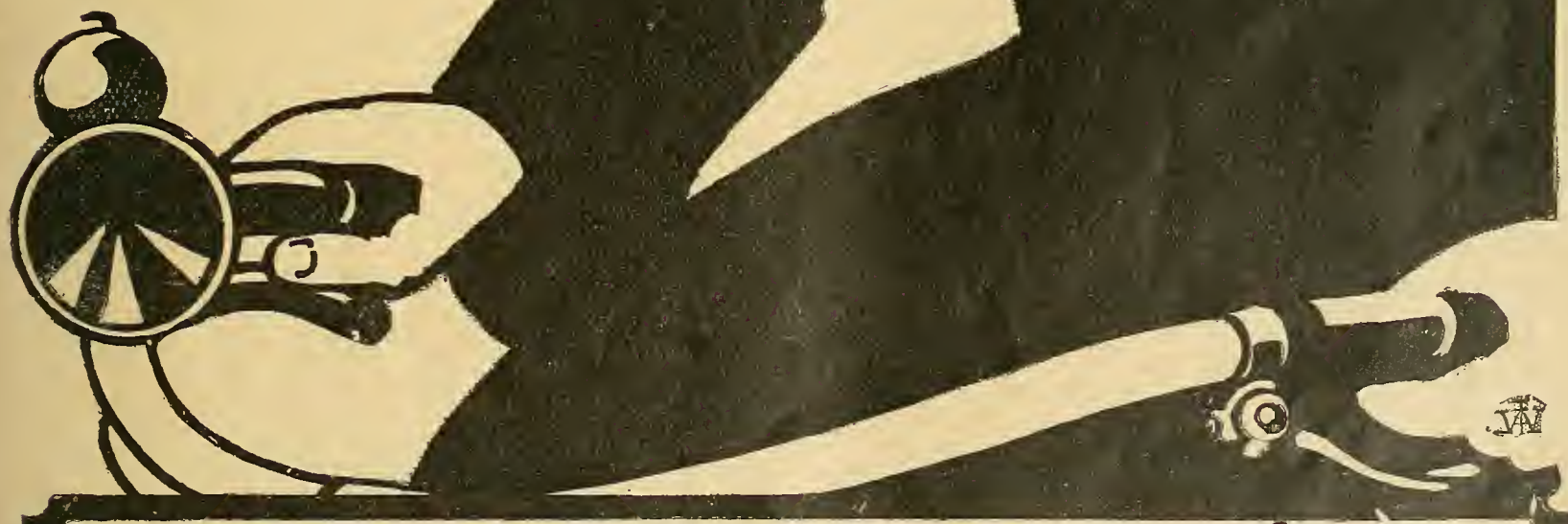
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**safety,
durability,
resiliency,
speed,
reliability.**

TRADE



MARK.



DUNLOP TYRE Co., Ltd., ASTON, BIRMINGHAM; Alma Street, Coventry.

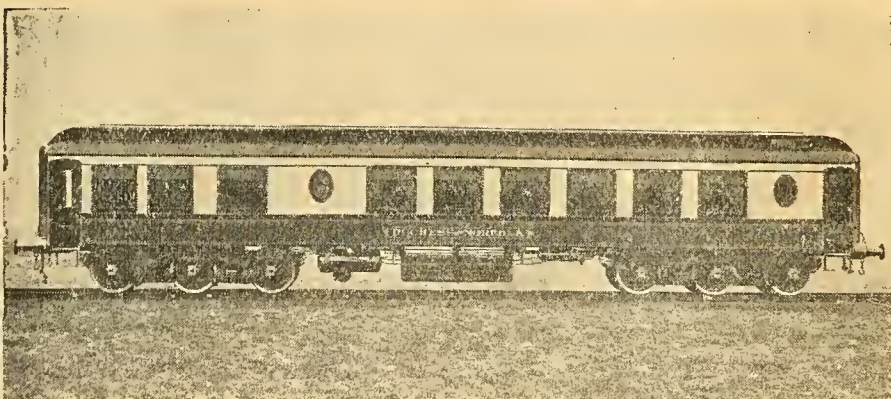
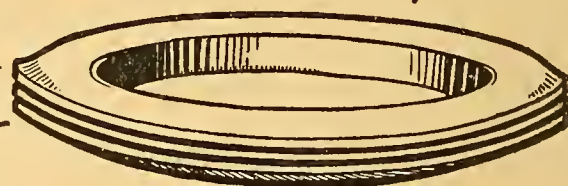
Branches—London, Nottingham, Manchester, Newcastle, Norwich. Bristol, Leeds, Glasgow, Dublin, Belfast.

In answering this advertisement it is desirable that you mention "The Motor Cycle."

PALMER TYRES

The Palmer Motor Cycle Tyres are treaded with the well-known "rib," being designed to give a better grip on greasy roads. No side-slip attachments are needed with this ribbed tyre. The Palmer Motor Cycle Tyre for the same reason has a much smaller contact area with the road, giving a firmer grip and higher speed with less slip. Send for fully descriptive Booklet to

THE PALMER TYRE LTD.,
119, 121, 123, SHAFTESBURY AVENUE, LONDON, W.C.



The Pullman Car

is to Railway Travellers
what the

Jap Engines.
Automatic Lubrica-
tion.
Rider Suspended on
Springs.

BAT

IS TO MOTOR CYCLISTS.

"The Last Word in Luxurious Locomotion."

Particulars from

THE BAT MOTOR MANFG. CO.,

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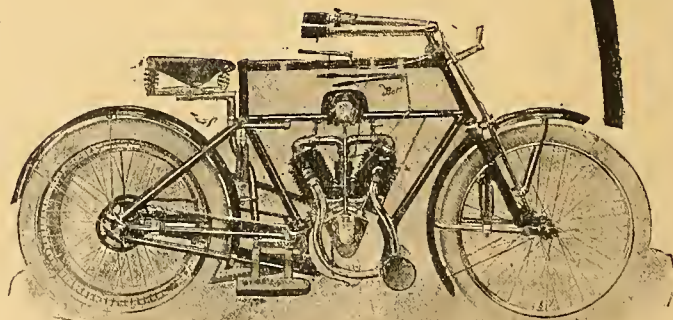
with the

**SPRING
FRAME &
FORKS**

6-7 h.p.

7-9 h.p.

Magneto Ignition,
Protected in Tank.
Running on Ball
Bearings.



In answering either of these advertisements it is desirable that you mention "The Motor Cycle."



A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, must be accompanied with a stamped addressed envelope for reply.

Irregular Running at Speed.

? I have a 4 h.p. Excelsior, single cylinder, accumulator ignition, trembler coil, Longue-mare carburetter. It runs perfectly at slow and medium speeds, but at its fastest it fires about twenty explosions and then one very weak one, which causes the bicycle to suddenly slow for a short time, and so jerks the rider forward. What would you say the cause was? Excellent spark, all wiring correct and tight, mixture all right, I think; the bicycle also uses a great amount of petrol.—C.B.

Without actually seeing the machine it is almost impossible to say what is the matter with it, but the weak explosion you mention sounds like pre-ignition, due to the deposits on cylinder head becoming incandescent. It may be that the contact breaker short circuits in one position, say when it is fully advanced. The excessive petrol consumption seems to lead one to suppose that the carburetter is not receiving sufficient air, or that the needle valve leaks, thereby causing flooding.

Cures for Sluggish Starting.

? I should be pleased if you could give me any information as to adjusting my magneto and carburetter for easy starting. The machine is a $3\frac{1}{2}$ h.p. N.S.U. with Eisemann magneto, and this is my only trouble. The machine is excellent in every way except the consumption, which is about fifty or sixty miles to the gallon. (1.) What are the points to look at to tell if an N.S.U. carburetter is in good order? (2.) What height should the petrol rise in the jet to ensure easy starting?—B.T.J.

Probably the difficulty in starting is that you get too much air at slow speeds. There is a revolving shutter on the carburetter which you could adjust to reduce the air inlet slightly. Clean all the terminals of the magneto, coil, and wiring, and make sure the handle switch is not shorting. The contact breaker should be cleaned with petrol, and the platinum points filed if they show signs of pitting. (1.) See that the carburetter takes nearly all the air when the machine is travelling fast. If not the jet may be choked, or the filter stopped up. (2.) To within about $\frac{1}{8}$ in. of the top of the jet tube.

Respecting a Sidecar Attachment.

? I am riding a $3\frac{1}{2}$ h.p. 1907 Quadrant, and wish to attach a sidecar to same; total weight of passengers nineteen stones. I have been told that owing to the Quadrant spring forks a Montgomery sidecar would best suit it. The motor is at present geared 4 to 1, and I understand that a variable pulley would be necessary. As I gather from *The Motor Cycle* that belt troubles are frequent with sidecars, I should be obliged if you would advise me as to the proper width and make of belt for sidecar work?—BO 221.

Spring forks are quite suitable for use with a flexible sidecar, and with rigid sidecars also, but some spring frames are unsuitable for sidecar work. A two-speed gear would be better than an adjustable pulley, but the latter you would find an excellent substitute. Gear the machine $4\frac{3}{4}$ to 1. The largest sized belt would be best for your purpose, say 1 $\frac{1}{2}$ in. section of reputable make.

A Mysterious Loss of Compression.

? I should be very glad if you could tell me why my engine (3 h.p. Quadrant 1905 pattern surface) has suddenly lost its power? I dismantled engine, cleaned piston head, removed rings, found a lot of burnt oil deposited in slots, ground in new inlet and exhaust valves, new springs, also new tappet fitted with correct clearance. I got excellent compression when engine was put back in frame, but after a mile's run nearly all compression was gone. Have had engine down three times since, but valves are all right and rings are not discoloured. I get good compression each time I put cylinder head on, but after a little running it goes again. The timing is correct with a machine of similar pattern. Do you think the fault lies with the rings? (Machine has always run to my satisfaction until now.) Or would you advise me to go in for a new cylinder head, piston, and rings?—H.B., S. Africa.

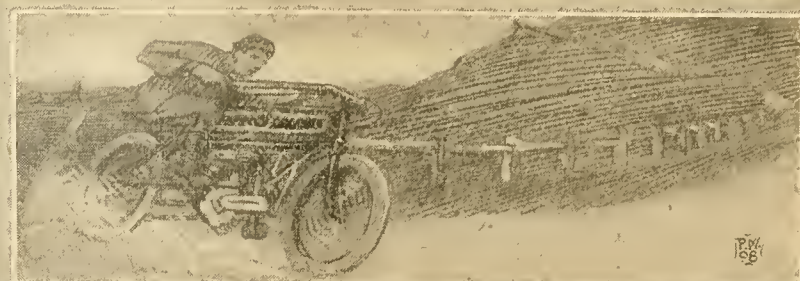
As you live so far away from England it would almost be advisable to purchase a new cylinder head, piston, and rings, but under ordinary conditions all we should think necessary would be new piston rings. It would be a good plan to fit new washers to each of the

joints to make sure there is no leakage, and also ascertain that there is sufficient clearance between the exhaust valve stem and tappet. Your trouble sounds very much as if the valve expands when the engine becomes hot, and is consequently prevented from closing fully. You do not say if the slits in the rings get into line.

A falling off in Power after 1,500 Miles.

? I ride a 1908 Triumph, have travelled about 1,500 miles, and it runs splendidly. I have never had the slightest bother, but lately it will not climb a certain steep hill about here (Offley) which when new it would fly up. I get going all out at the foot of the hill, but when threequarters of the way up the firing suddenly becomes much weaker (no misfiring), just the same effect as if I had nearly closed the throttle. The machine travels a few yards with weaker explosions, then gives a slight knock or two and stops. I have tried shutting off air and retarding spark as speed decreases. Compression good as when new, valves carefully ground. Ignition good, never had misfire, starts almost at walking pace, and will run at same. Carburetter floods, also when flooded petrol drips from jet chamber. When driving all out at the commencement of hill with the tank full or nearly full, petrol is squirted from the hole in the filler cap; in fact, a jet will rise quite 6 in. from this hole. This only happens when driving with throttle full open on steep hill before the engine fails.—W.H., Herts.

You do not mention if you have removed the cylinder as yet in order to scrape away the carbon deposits on piston head and cylinder. Absence of carbon means a considerable improvement in the climbing powers of an engine. It is just possible that the exhaust valve spring may have lost some of its temper, and a new spring may restore some lost power; in fact, both valve springs should be looked to. It may be that some foreign matter has found its way into the carburetter, and it would be a good plan to dismantle it and clean all the passages, also the feed pipe. The squirting of petrol from filler cap is probably due to the speed at which you travel when rushing a hill. Fit a helmet or other lubricator to the filler cap.

CURRENT
CHAT.Special
FeaturesTHROUGH MANY LANDS
BY MOTOR CYCLE.TUNING UP FOR THE
END-TO-END.

Scottish Speed Limits.

In practically every village in Scotland through which the End-to-end Trials competitors pass, there is a ten miles an hour speed limit which must be strictly observed. Any rider against whom there is any complaint of reckless or inconsiderate driving will be disqualified from receiving an award.

A Lady Motor Bicyclist in the End-to-end.

Miss Hind told us last week that she had been reluctantly compelled to give up the idea of driving her new tricar in the End-to-end Run, owing to difficulty in finding a suitable lady passenger. She does not, however, intend to miss the event, and has accordingly entered her motor bicycle. A lady who can ride 400 miles in twenty-two hours (witness the London-Edinburgh Run) should encounter no obstacles in a six days' jaunt.

Brice Progressing Favourably.

Readers will be glad to hear that R. M. Brice, who met with an accident during the London-Edinburgh Run, is progressing favourably. Enquiries have been received from all parts as to Mr. Brice's injuries, but it is quite impossible to reply to them all by letter.

The Demand for Motor Cycles in U.S.A.

A firm in Los Angeles, California, U.S.A., advise us that their total turnover for one year in complete motor cycles and accessories amounts to £40,000. We should think this is almost a record for a motor cycle agency business, and gives an idea of the amount of trade being done in motor cycles in the land of stars and stripes.

A Five Miles Track Race.

At Chesterton, Cambridge, on Thursday, the 9th inst., a five miles handicap for motor cycles will be held. The hon. sec. is C. E. Woods, 12, Pretoria Road, Chesterton, Cambridge.

Police Traps.

Two police traps near to Llandrinod have resulted in six motorists being fined a total of £18.

A trap was started last week between Newcastle (Staffs.) and Stone.

Between Stone and Colwich there is a four miles trap in operation.

Another Race Meeting at Birmingham.

The following events will be included in the *Sport and Play* Tournament at Aston, Birmingham, on Saturday next: Five miles tourist handicap, mile handicap for 76 by 76 mm. engines, and five miles handicap for 76 by 76 mm. engines.

Flying Kilometre at Le Mans.

On June 21st the Automobile Club de la Sarthe conducted time trials over a flying kilometre. There were three classes for motor bicycles and

The Danger of Repairing Petrol Tanks.

A gasfitter of Tondû (Wales) recently received fatal injuries caused by the explosion of a petrol tank which he was attempting to repair. The tank was emptied at eight o'clock the previous night, and all the holes in the tank left free for any gas to escape. Deceased was using a blow lamp, when suddenly the tank exploded, and the poor fellow was struck on the head and killed.

Motor Cycle Race in Rhodesia.

Evidently there are no police regulations with regard to the speed of motor cycles in Rhodesia. On May 25th a race was held in connection with the Caledonian Sports, Salisbury, Rhodesia, over a distance of about thirty miles. The surface is described as an unmade dirt road, and there were three "spruits" to cross. The course included a climb which raised the competitors and their machines a thousand feet, and in places the surface was very stony. Competitors on Bats, N.S.U.'s, Triumphs, and Vinceds rode over tracks which would have astonished English riders. To quote our correspondent, "It was bump over the lumps, wriggle through the sand, and dash through the water." The scratch man, Dr. F. E. Appleyard, whose weight is fourteen stones, mounted on a 5 h.p. twin-cylinder Vindec, completed the distance in 56m. 9s. (fastest time). Next came a rider of a 3½ h.p. Triumph, two seconds slower, and a Bat 69m. 58s. Dr. Appleyard had to give the Triumph 13m. start. the Bat 19m., a 3½ h.p. 1905 Vindec 13m., and a 4 h.p. twin N.S.U. 8m.

London-Edinburgh Run Statistics.

From the official list of gold medal winners in the M.C.C. London to Edinburgh and back run, published on page 502 last week, it will be seen that—

Nineteen Triumph riders gained gold medals on the outward journey. None returned in competition.

Twelve Vindec riders gained gold medals on the outward journey and one a silver medal. Four of these won double journey medals.

Seven Rex riders obtained gold medals and one a silver medal. Two of this number completed the return run in competition, and will receive double journey gold medals.

FUTURE EVENTS.

- July 6-7—A.C.F. Grand Prix Races for Cars and Voiturettes.
 „ 9—Five Miles Handicap at Chesterton, Cambridge.
 „ 13-18—A.C.U. LAND'S END TO JOHN-O'-GROAT'S SIX DAYS' RELIABILITY TRIAL.
 „ 14-15—M.C.U.I. (Ulster Centre) Open 400 Miles Reliability Contest.
 „ 18—London and South Western Bank Five Miles Motor Cycle Race at Herne Hill.
 „ —A.C.U. 24 Hours' Ride, London to Plymouth and back.
 Aug. 3-4—Motor Cycling Club Run to Land's End and back for Charles Jarrott Cup.
 „ 8—Essex M.C. Open Race Meeting at the Stadium.
 „ 15—Coventry M.C. Open Hill Climb for Motor Cycles.
 „ 22—A.C.U. Annual Race Meeting at the new Stadium, Shepherd's Bush.
 „ 29—Essex M.C. Open 200 Miles Non-stop Run for Motor Cycles.
 Sep. 12—Motor Cycling Club Petrol Consumption Tests.
 „ —The International Auto Cycle Tourist Trophy Race in the Isle of Man.

one for tricars, and competing machines were timed with a Mors electrical timing apparatus. The results were: Class 1, Chabal (Motosacoche), 1m. 34½s. Class 4, Boulay (Pax), 50s. Class 5, Farnaud (Réné Gillet), 50½s. Tricars—Seray, 1m. 25s.

Of Interest to Midlanders

Motor cyclists in the Midlands will probably be interested to know that the Gloucestershire Pageant commences at Cheltenham on July 6th, and will be continued until July 11th. Cheltenham is called the Garden Town, Spa, and Beauty Spot of England. Evening entertainments have been arranged for the whole of the week, and a battle of flowers and decorated motor car parade will be among the attractions.

Motor Cycle for Business Purposes.

The North Metropolitan Electric Power Supply Co. has purchased a L.M.C. motor bicycle from the Service Co. for the use of one of its inspectors in connection with his official duties.

End-to-end Run.

Four members of the Newcastle and District Motor Cycle Club have entered for the A.C.U. End-to-end Six Days' Run, July 13th to 18th. Capt. Sir R. K. Arbuthnot, Bart., R.N., Messrs. A. D. Nicholson, W. H. Outwin, and S. W. Carty.

Additional Entries for the End-to-end Run.

Further entries for the Land's End to John-o'-Groat's Run received up to the time of going to press were O. C. Godfrey (3½ h.p. Rex), A. J. Sproston (— h.p. Rex), G. Lee Evans (3½ h.p. Rex), Leofric Cutler (3½ h.p. Triumph), H. Ellison (1½ h.p. Motosacoche), J. V. Robinson (1½ h.p. Motosacoche), W. F. Merritt (3½ h.p. Triumph), J. Fwing Adam (3½ h.p. Triumph), Miss Muriel Hind (5 h.p. Rex), W. Milnes (3½ h.p. Phelon and Moore), G. L. Fletcher (2 h.p. Moto-Rève), W. Smith (2 h.p. Moto-Rève), C. A. Palmer (4 h.p. Rex), W. Newman (4 h.p. Rex), A. D. Powell (3½ h.p. B.P.), S. H. Richardson (5 h.p. F.N.), H. B. Lewis (3½ h.p. Triumph), A. M. Tatham (3½ h.p. J.A.P.), W. Weatherilt (3½ h.p. Zenette), F. W. Barnes (3½ h.p. Zenette), and J. Stuart Shaw (5½ h.p. Phänomen with sidecar).

Race Meeting at Leipzig.

A thunderstorm interfered with the meeting (June 21st) organised at the Leipzig cement track by the local branch of the German Motor Cyclists' Association, but the main events could be run off, and they afforded capital sport. Thirty-five men were down to start in the various races, eighteen having entered for the hour alone. Georg Retienne proved the hero of the occasion, placing the kilometre, the 25, and the hour to his credit. It is noteworthy that for the first time in the history of the track over ninety kilometres were covered on it in the hour, Retienne's distance for that time being 93.685 kilometres, or only a few yards short of 58 miles. The kilometre with flying start he polished off in 35½s., some 63 miles 892 yards. We append results of the three principal races, for each of which, owing to the strong entry list, preliminary heats were found to be necessary:

Twenty-five kilometres (open to all riders and motors up to 5½ h.p.)—1, Retienne (Progress), 15m. 43s.; 2, Ludwig (Magnet), two and a half laps behind; 3, Walther (Cito), three and a half laps behind.

One kilometre (flying start for all machines and riders).—1, Retienne (5½ h.p. Progress), 35½s.; 2, Wiencziers (8.7 h.p. Puch); 3, Oberländer (7.3 h.p. Mars); 4, Schmidt (7.6 h.p. N.S.U.); 5, Ludwig (5½ h.p. Magnet).

One hour (open to all machines and riders).—1, Retienne, 93.685 kilos.; 2, Wiencziers, 92.820; 3, Oberländer, 92.820; 4, Müller (5½ h.p. Magnet), 74.430. Retienne and Wiencziers struggled desperately for the lead, and furnished the spectators with numerous thrilling moments.

Another Motor Cycle Race.

The London and South-western Bank Sports Club will include a five miles motor cycle race at its annual meeting at the London County Athletic Grounds, Herne Hill, on the 18th inst. The hon. secretary is Frank White, 170, Fenchurch Street. E.C.

Reliability.

The Sunderland club held its third annual reliability trial for the Vaux Challenge Cup on Wednesday last, and for the third year in succession Mr. E. J. Tiffin, riding a 4½ h.p. twin-cylinder Minerva bicycle, finished without losing a single mark. This year's winner has not yet been declared, as three riders lost no marks.

London to Edinburgh Competitors Fined.

C. H. Crole-Rees appeared at the St. Neot's County Court last Thursday for exceeding the speed limit at Buckden on the return journey in the London-Edinburgh and back run, and was fined £3 2s. and 18s. costs. Several other competitors are due to appear at the same court within the next few days. We understand from a victim that it is best for the offending motorists to appear at the court in person.

Examine Handle-bar Stems.

A correspondent asks us in the interest of the pastime to warn riders against handle-bars with too short a stem. He says he is just recovering from a nasty accident due to the handle-bar stem coming clean out of the socket. In all probability it had been raised without verifying what amount of tube was left in the socket. There should never be less than 3½in. to 4in. of handle-bar stem in the socket, and the one tube should be a good telescopic fit into the other. Then the ball head clip is not unnecessarily strained to obtain the correct degree of tightness.

Newcastle M.C.

The second annual reliability trial of the above club was held on Thursday last to Levenhall (Edinburgh) and back for the Arthur Lucas Challenge Bowl. We are obliged to hold over the report of the run until our next issue.

M.C.U.I. Inter-centre Contest.

The Ulster centre of the Motor Cycle Union of Ireland easily won the Triumph Cup reliability trial last Saturday, twenty-two members riding against eight of the Dublin centre. The course measured 96¼ miles. Next week we shall give a report of the contest.

Team Trials Notes.

The Yarmouth team had perforce to travel many miles to reach Daventry, and this year they made a particularly good show. At the end of three sections (seventy-five miles) the team was only one rider short, and but for the loss of twenty-five marks owing to a competitor travelling too quickly, the score would have been 486¼. As it was the team finished second. All the Yarmouth competitors' machines had imitation bloaters on the front mud-guard.

The Coventry Club made a record score on Saturday with 536 marks.

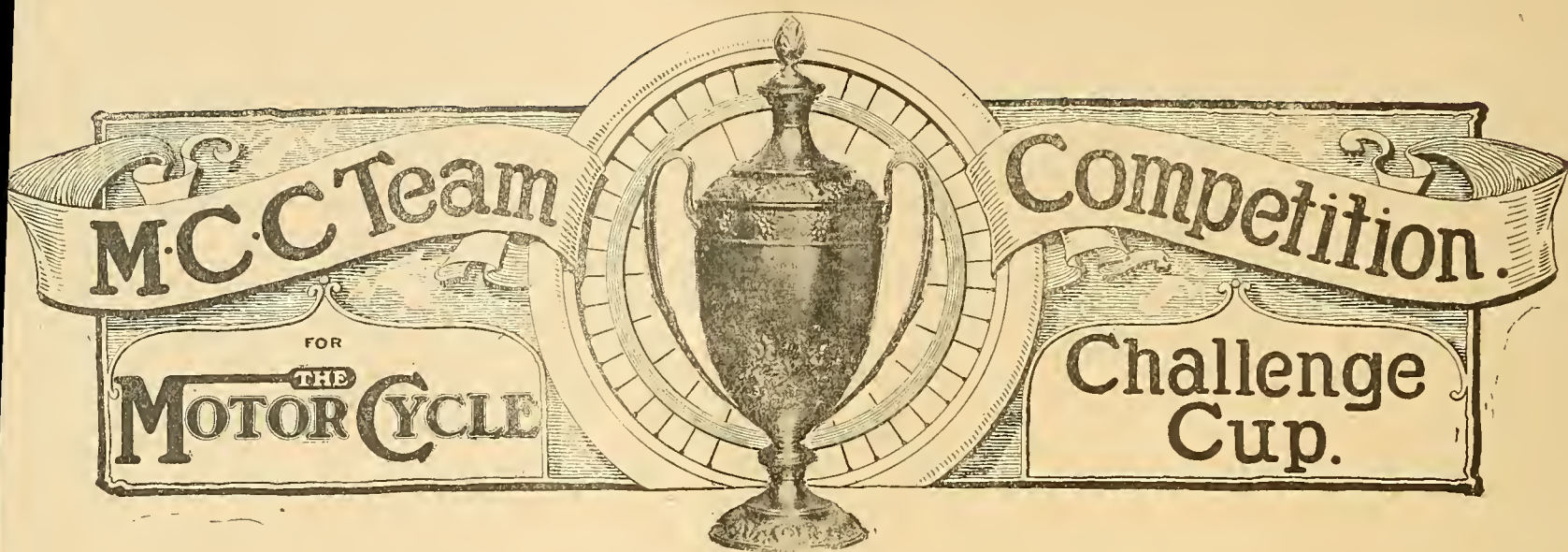
The sidecars used by the team trials competitors were of all patterns, Montgomery, Mills-Fulford castor wheel, and rigid.

It is strange that not a single team's passenger representatives covered the full course without a stop.

A number of competitors carried small petrol cans on their backs as they were none too sure their machines would complete the hundred miles on one tank full, and replenishments were not allowed.



J. W. Woolston (5 h.p. Rex), one of the Yarmouth team starting from a standstill by means of the Roc clutch.



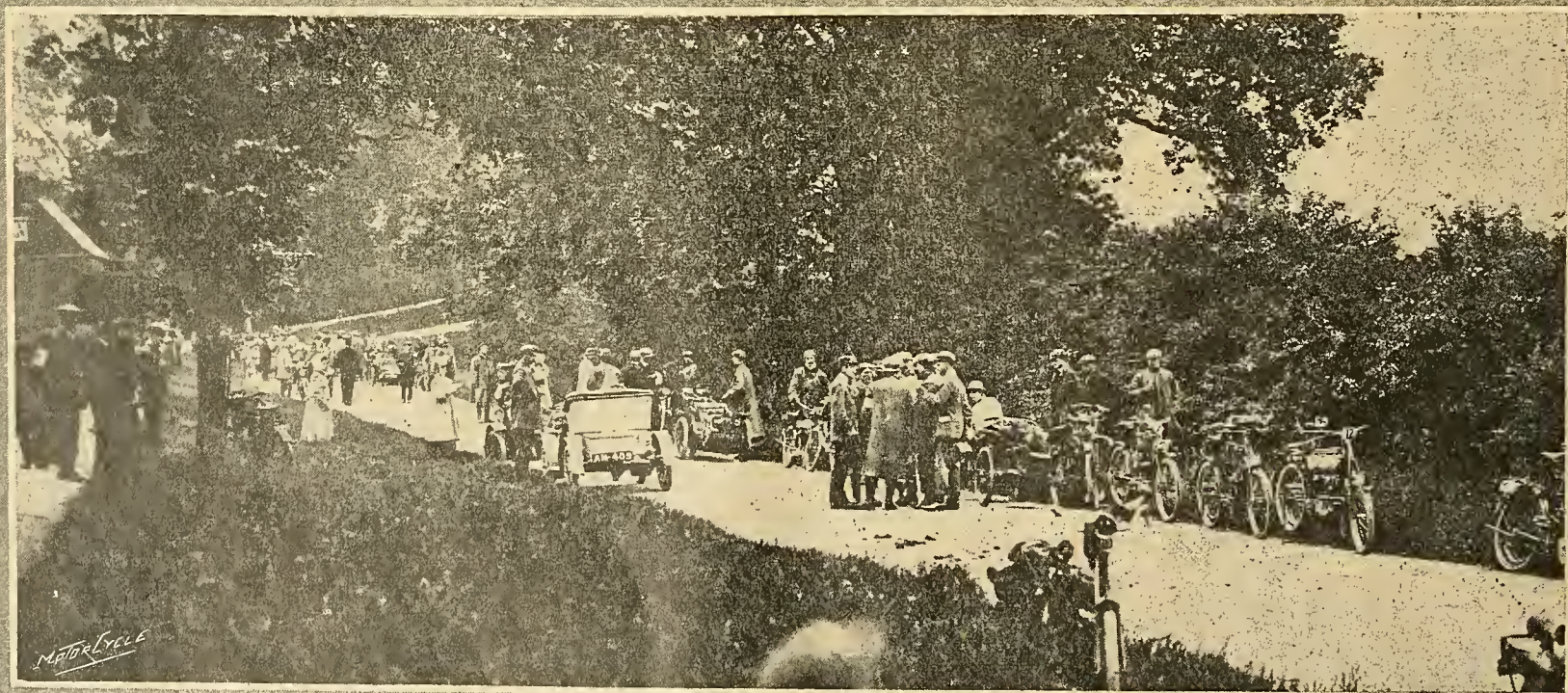
COVENTRY M.C. WINS THE CUP OUTRIGHT.

LAST Saturday's team trials were undoubtedly the most interesting yet held by the Motor Cycling Club; firstly, owing to the very representative entry of nine clubs; secondly, because the course is a sporting one, including one or two quite respectable gradients; and, thirdly, because a win for the Coventry M.C. meant that *The Motor Cycle* fifty guinea challenge cup would become that club's own property. The start was arranged to take place at ten o'clock, and one hour before that time the neighbourhood of the Peacock Hotel, Daventry, resounded with the noise of the competitors' machines. Most of the teams with the reserve men arrived in Daventry overnight, but the Sheffield "blades" are a hardy lot, and left home shortly after midnight for the scene of operations, all duly arriving at 8 a.m.

53 Starters out of 54 Entrants.

After number cards had been attached to competitors' machines, back and front, a move was made to the Banbury Road, about half a mile out of Daventry. Quite a crowd had collected here to see the start, and the line of competitors extended a considerable distance down the road.

The weather was dull, but fine, when punctually at 10 a.m. Mr. F. T. Bidlake, the timekeeper, gave the first competitor the word to go, and at half-minute intervals the remainder were despatched. Four motor bicyclists and two passenger motor cyclists represented each team, but one of the Birmingham Club's tricarists failed to put in an appearance, so this club's chances of a win were remote from the first. At every mile or so along the twelve and a half miles course (which, by the way, is one of the prettiest roads in Northamptonshire) a marshal was stationed to note stoppages should any occur, and, in addition, there were several travelling marshals who rode up and down the course. A stop for any cause, except exigencies of traffic, was not permitted. The road was in splendid condition, albeit very dusty. Some of the riders who had not indulged in a practice spin over the course were glad they had pedals before completing the outward stage. The weeding out process commenced early. At eleven miles F. W. Barnes (Yarmouth) stopped, a pin operating the change speed gear coming adrift. V. F. Gray (Manchester) also stopped at this distance, the contact breaker blade of his tricar having shifted. At the turning point (four miles from Banbury), G. F. Cooper



Lining up for the start of the M.C.C. Team Trials at Daventry last Saturday.

M.C.C. Team Competition.—

(Oxford) retired with a punctured tyre, and at fifteen and a half miles R. W. Duke (Birmingham) suffered the same fate.

After leaving Chipping Warden on the return journey there is a long rise to negotiate, and we should estimate that the gradient is steeper than 1 in 12. It proved too difficult for J. W. B. Durant's machine (Sheffield), which was single geared and pulling a trailer. Several other riders only climbed the hill by dint of hard pedalling. Durant told us it was steeper than any hill he had encountered on the journey from Sheffield. J. E. Tytler (Manchester) had almost completed one stage when the pedal chain of his machine came off and wrapped round the back wheel. At this point other minor troubles befell W. H. Wells (M.C.C.), W. Portwine (Southern M.C.), and F. Thomas (N.W. London). Only the Coventry team finished the first stage of the 100 miles run complete, and thus early they were looked upon as the likely winners. It should be mentioned that the Coventry representatives had left nothing to chance; they had prepared for the competition systematically, and were pretty confident of their ultimate success.

The next twenty-five miles saw the retirement of W. Heaton (Southern M.C.); G. Lee Evans (Coventry), belt pulled through; F. Organ (Oxford), failed on hill; G. H. Hollis (N.W. London); and at this stage an adjournment was made for lunch, during which time the machines were locked up by the officials.

The Second 50 Miles.

On the way down to the starting point for the second "fifty" the M.C.C. lost another representative, a valve of Dr. Brewerton's engine giving trouble.

On the restart the three clubs appearing to have the best chance of the cup were Coventry, Sheffield, and Yarmouth. The Southern M.C. lost the third rider in A. W. Holt, who retired with a seized engine. One of the passenger machines belonging to the Sheffield club failed on a hill four miles out, leaving the Coventry and Yarmouth clubs with five of their team going strongly. After three circuits the positions of the two clubs remained unchanged, but immediately on turning one of the Yarmouth motor bicyclists punctured, and the Coventry team, continuing to run like clockwork, eventually proved easy winners, scoring 536 out of a possible 600 marks. Last year the same club won the cup with 534 marks, and, having won in 1904 also, they became the absolute owners of it. The names of the teams, the machines ridden, and marks scored by the riders (subject to verification by the M.C.C. committee) were:

COVENTRY MOTOR CLUB.		Miles non-stop.
G. E. Roberts (3½ h.p. Triumph)	...	100
F. C. Mustard (3½ h.p. Triumph)	...	100
W. Williamson (3½ h.p. Rex)	...	100
I. B. Hart-Davies (3½ h.p. Triumph)	...	100
A. M. Startin (5 h.p. Riley tricar)	...	100
G. Lee-Evans (6 h.p. Rex Litette)	...	36
Total	...	536

GREAT YARMOUTH AND DISTRICT MOTOR CYCLE CLUB.		
A. Wyatt (5 h.p. Roc)	...	100
J. W. Woolston (5 h.p. Rex)	...	75½
S. Allen (3½ h.p. Triumph)	...	100
F. C. North (3½ h.p. Roc)	...	100
Dr. H. R. Mayo (5 h.p. Vindec and sidecar)	...	100*
F. W. Barnes (3½ h.p. Zenith and sidecar)	...	11
Total	...	461½

BOCARD (OXFORD) MOTOR CYCLE CLUB.

T. F. Salter (2¾ h.p. Morris)	...	90½
H. G. Hill (5 h.p. Vindec)	...	100
H. Hague (2¾ h.p. Hague)	...	100
C. T. Brain (3½ h.p. Quadrant)	...	100
G. F. Cooper (Humber and trailer)	...	12½
F. Organ (5 h.p. N.S.U. tricar)	...	37½
Total	...	440½

MOTOR CYCLING CLUB.

Stanley Webb (3½ h.p. Triumph)	...	100
W. H. Wells (3½ h.p. Vindec)	...	27¾
S. G. Frost (4½ h.p. Minerva)	...	100
H. G. R. Slingo (5 h.p. Griffon)	...	100
Dr. E. W. Brewerton (10 h.p. Lagonda)	...	50
F. Cozens (10 h.p. Lagonda)	...	66
Total	...	439¾

MANCHESTER MOTOR CLUB.

J. E. Tytler (3½ h.p. Triumph)	...	23¾
C. E. Kettle (3½ h.p. Triumph)	...	100
P. H. Trotman (3½ h.p. Triumph)	...	100
A. J. Moorhouse (3½ h.p. Triumph)	...	100
O. H. Gross (6 h.p. Eagle tricar)	...	100
V. F. Gray (5 h.p. Phoenix Trimco)	...	11
Total	...	434¾

BIRMINGHAM MOTOR CYCLE CLUB.

R. W. Duke (3½ h.p. Triumph)	...	15½
H. E. Dean (2½ h.p. Norton)	...	100
F. G. Sandison (3½ h.p. Triumph)	...	100
F. H. Southam (5 h.p. Vindec)	...	61½
E. C. F. Evans (5 h.p. Rex and sidecar)	...	100
C. A. Winwood, non-starter.	...	
Total	...	377

SHEFFIELD AND HALLAMSHIRE M.C.C.

S. Sawyer (3 h.p. Kelecom)	...	100*
A. H. Bisby (7 h.p. Minerva)	...	100*
J. F. Turner (3½ h.p. Jap)	...	100*
J. Haslam (3½ h.p. Rex)	...	100
J. W. B. Durant (3½ h.p. J.A.P. and trailer)	...	17
R. Kay (3½ h.p. Phelon and Moore and sidecar)	...	54*
Total	...	371

SOUTHERN MOTOR CLUB.

J. E. Goodley (3½ h.p. Triumph)	...	100*
W. J. Jones (5 h.p. Antoine)	...	100*
J. Beck (2½ h.p. Fairy)	...	16¼
G. Connor (2½ h.p. Fairy)	...	64½*
W. Portwine (Weller tricar)	...	23¾
W. Heaton (5 h.p. Riley tricar)	...	32¼
Total	...	261¾

NORTH-WEST LONDON M.C.C.

H. G. Cove (4 h.p. Jap)	...	100
G. H. Hollis (3½ h.p. Triumph)	...	43½
A. S. Phillips (3½ h.p. Bat)	...	20
F. Thomas (5 h.p. Vindec)	...	23¾
C. G. Myer (9 h.p. Bat and trailer)	...	50†
C. J. Burton (3½ h.p. Vindec and sidecar)	...	40½
Total	...	227¾

* Lost 25 marks. † Lost 50 too quick.

The judges were Dr. J. C. O. Rafferty, Prof. Archibald Sharp, and Mr. J. Urry. Starter, Mr. S. H. Fry. Chief marshal, Mr. Victor Abraham. Marshal in charge of garage, Mr. R. C. Davis. Clerks of the course, Messrs. V. A. Holroyd and R. H. Head. Stewards, Mrs. C. C. Cooke, Messrs. Hubert Reynolds, W. Fletcher, Dr. C. Gibbons, C. S. Burney, H. W. Duret, W. Grew, A. V. Baxter, A. Riley, A. Wright, H. Williamson, E. J. Hardy, A. P. Smith, E. W. Walford, M. J. Schulte, Geof. Smith, C. F. Haywood, R. M. Brice, and H. P. Lee.

It must be mentioned that the success of this year's trial was due in a great measure to the untiring efforts of the trials hon. sec., Mr. J. Van Hooydonk.

CLUB NEWS.

Leeds M.C.C.

The results of this club's hill-climb at Sutton Bank last week-end were: Class 1.—Standard single-cylinder machine, none finished. Class 2.—Special and two-cylinders, winner, P. H. Cockcroft (3½ h.p. Triumph). Class 3.—Twins, Jack Scriven (5 h.p. T.T. Rex). Final.—Winner, Jack Scriven. The starter and scrutineer was Mr H. S. Atkinson; time-keeper, Mr. H. Wheeler; and judge, Mr. F. O. Langton.

Stockport and District M.C.C.

This club still continues to prosper. It was decided at the meeting on Friday last to hold a midnight run on July 11th and 12th to Leicester, returning home on the Sunday. The start will be from the Mersey Hotel, Saturday midnight. On July 25th and 26th a week-end run will be held to Llangollen and Llandudno. The night will be spent at Llandudno, returning Sunday, July 26th, start 2.30. Any motor cyclists who wish to join the club in any of the runs are cordially invited.

Lincolnshire M.C.C.

A very successful hill-climbing competition was held at Miles-cross Hill, Alford, on Thursday, by the Louth Centre of the Lincs. M.C.C. The distance was a mile, and some very good performances were made. Mr. Clarke, hon. sec. of the Louth Centre, conducted the arrangements. The results were:

2¾ H.P. CLASS.	Time.	Figure of merit.
J. E. Stones (2½ h.p. Ariel) ...	2 13 ² / ₅	7.8
J. E. Stones (2½ h.p. Olympic) ...	2 26 ² / ₅	

3½ H.P. CLASS.

J. Smith (3 h.p. Rothwell) ...	2 3 ² / ₅	8.5
L. A. Smith (3½ h.p. Triumph) ...	1 57 ² / ₅	7.9
A. Mettham (3½ h.p. Minerva) ...	2 32 ² / ₅	6.9

Six others competed.

TWIN-CYLINDER CLASS.

G. Cusworth (5 h.p. Peugeot) ...	1 33 ³ / ₅	5.3
C. Moore (5 h.p. Rex) ...	1 34 ² / ₅	4.9
W. J. Clarke (5 h.p. Rex) ...	1 30	4.7
J. W. Willson (5 h.p. Vindee) ...	2 6 ³ / ₅	4.0

Sheffield and Hallamshire M.C.C.

The annual reliability trial was held on the 20th ult., from Sheffield to Bridlington and back, a distance of 170 miles. Sixteen started, and it was wonderful with what clocklike regularity they turned up at the controls, of which there were ten, and it was amusing to see how the competitors' watches were compared as each one lost one mark for every half minute early or late at controls. The winner proved to be W. Hill (5 h.p. Rex), who lost three marks, and won Mr. J.

H. Hall's five guinea cup. Second, S. Sawyer, lost five marks, won Mr. F. Dover's £2 2s. prize. Third, J. Arden, lost seven marks, won Mr. A. H. Bisby's case of razors, and the following qualified for the club's bronze medal: Messrs. Durant, Haslam, Donovan, Wanklyn, Turner, Kay, Allen, Saynor, Dover, Farrar, Swann, and Bisby.

Walthamstow M.C.

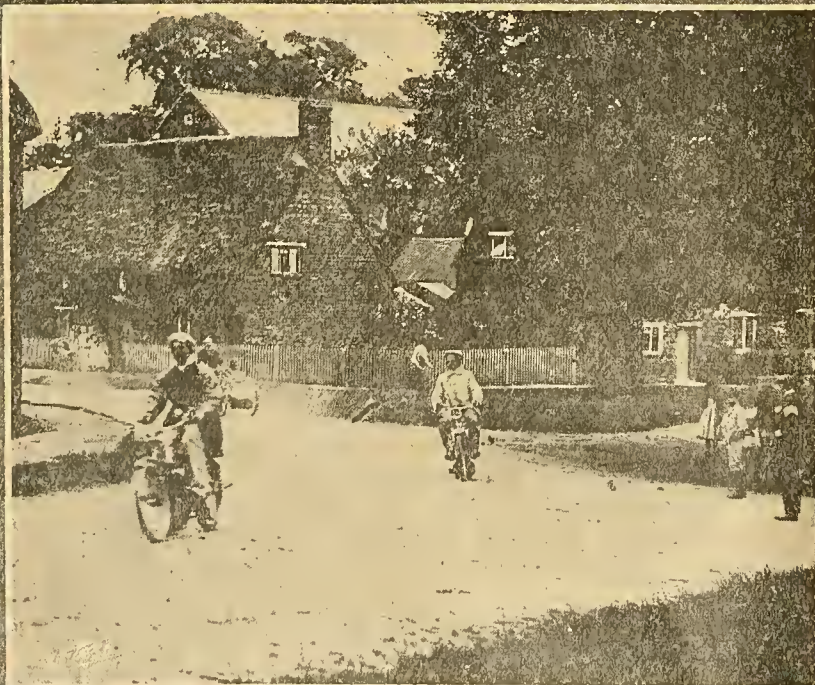
The hundred miles non-stop competition for the Annual Dinner Cup was held on Saturday last, when thirteen members started on a circular course running from North Weald to Ongar, returning *via* Grinstead, Blake Hall, and Epping Common. The competitors were required to cover the course six times, giving a total of 101 miles. The course was well marked, and the police kindly kept the course as clear as possible. Seven members qualified for the hundred miles medal, but a further run will be necessary to find the winner of the silver cup and gold medal. The results were: J. W. Percival (6-8 h.p. Fafnir tricar), non-stop; L. Beckers (5 h.p. twin Kerry tricar), non-stop; G. West (5 h.p. twin Singer tricar), non-stop; A. H. White (8 h.p. car), non-stop; F. A. Applebee (5 h.p. twin Rex), non-stop; O. C. Godfrey (5 h.p. twin Rex), non-stop; J. Meads (3 h.p. Fafnir), non-stop; F. W. Applebee (3½ h.p. Rex), punctured; A. G. Peppercorn (2¾ h.p. Anglian), punctured; W. S. Low (5 h.p. twin Rex), belt came off; R. J. Lisle (5 h.p. tricar), punctured; J. D. Lacey (4-5 h.p. tricar), oil on contact; and E. H. Page (6 h.p. Rex Litette), stone jammed wheel.

Sunderland and District M.C.C.

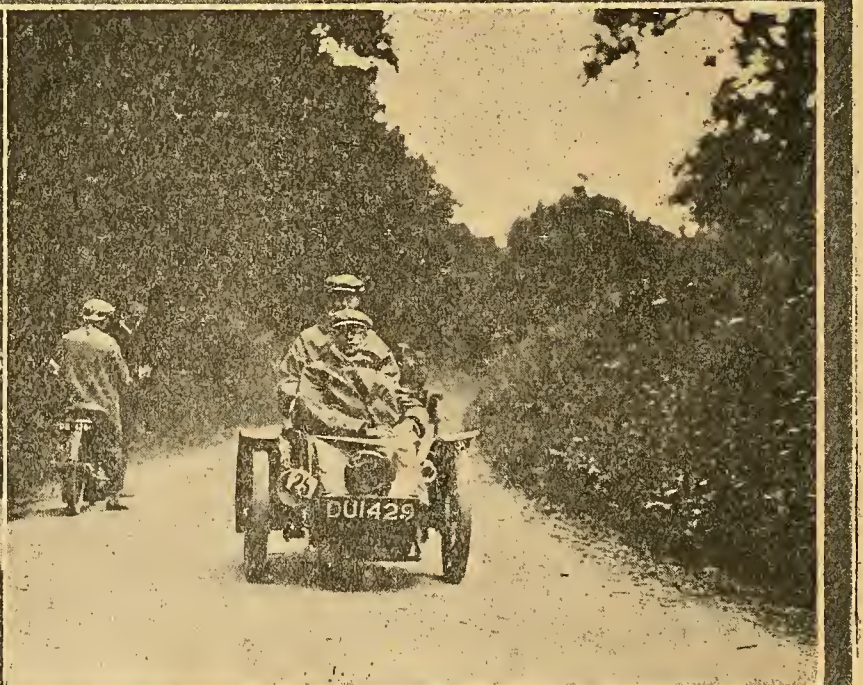
The third annual reliability trial for a challenge cup presented by Major E. Vaux, of Sunderland, took place on June 25th. The course was from Sunderland to Doncaster and back, *via* Stockton, Thirsk, Topcliffe, Boroughbridge, and Wetherby, a distance of 220 miles. In addition to the cup, a silver medal, given by the North-Eastern Automobile Association, whose members were eligible to compete, was allocated as first prize, and a medal, given by the club, was to be awarded as second prize.

The following competed: S. Wilson (4 h.p. N.S.U.), Russell Jackson (5 h.p. Rex), E. J. Tiffin (4½ h.p. Minerva), F. Turvey, jun. (3½ h.p. Triumph), M. Scott (2¾ h.p. Minerva), and — Lambert (5 h.p. Rex).

Messrs. Wilson, Jackson, and E. Tiffin finished without losing any marks—a good performance. Mr. Turvey went into the control a minute before time. The times of start and finish were 5 a.m. and 6 p.m. respectively. Both medals were to become the property of the winners. As there was a dead heat between three competitors, it has yet to be decided how the trophies shall be apportioned.



Three Team Trials competitors passing through a typical Northamptonshire village on the outward journey of the 12½ miles course.



One of the successful team's passenger motor cycles, a 5 h.p. Riley. The driver is A. M. Startin and he is seen climbing the longest hill on the course.

Club News.—



G. W. Raper (6 h.p. N.S.U.) and A. D. Nicholson (3½ h.p. Triumph), two riders of the Newcastle and District M.C.C., who completed a Twelve Hours Run to Edinburgh and back inside schedule time. The trial proved a very arduous one on account of the very adverse weather conditions. The same pair won gold medals in the M.C.C. London-Edinburgh 24 Hours' Run, and Mr. Nicholson will compete in the A.C.U. End-to-end Trials this month.

York County M.C.C.

Next Saturday is the date fixed for the second quarterly trial for gold, silver, and bronze medals; and on the 18th inst. the twenty-four hours' run from Leeds to Edinburgh and back will be held. Readers willing to check the competitors on the outward and return journey at Alnwick, Berwick, and Dunbar are asked to communicate with H. Wilkinson, trials hon. sec., Garforth House, The Drive, Roundhay, Leeds.

Coventry M.C.

An open hill-climbing competition will be held on Saturday, August 15th, for motor bicycles and tricars. Particulars and entry forms will be available in a week or so.

Nottingham and District M.C.C.

On Saturday next, the 4th inst., the run is to Sir Peter Walker's, Osmaston Manor, near Ashbourne, where the grounds will be open for inspection. Members meet at the Welbeck Hotel at 2.15 p.m.

Basingstoke and District M.C.

A petrol consumption trial held by the above club on the 20th ult. resulted as follows:

$$\text{Formulae: Class 1—Single-cylinder motor bicycles, } \frac{C}{W \times 20} = \text{F.M.}$$

$$\text{Multi-cylinders (over 4 h.p.), } \frac{C}{W \times 30} = \text{F.M.}$$

$$\text{Class 2—Cars, } \frac{C}{W \times 20} = \text{F.M.}$$

CLASS 1.

Entrant and machine.	Carburetter.	m.p.g.	Fig. of merit.
K. Jones (4½ h.p. Minerva) ...	Minerva	88.20	.00335
C. Truscott (4 h.p. Antoine) ...	Antoine	86.10	.00483
G. E. Fitch-Jones (3 h.p. Kerry) ...	F.N.	94.00	.00513
J. E. Pool (3¼ h.p. Rex) ...	Longuemare	98.40	.00515
R. K. Hubbard (3¼ h.p. Rex) ...	Surface	92.75	.00530
H. Carpenter (3¼ h.p. Rex) ...	Longuemare	81.01	.00602
G. Andrews (2 h.p. Moto-Rêve) ...	Moto-Rêve	86.5	.00748

CLASS 2.

W. Webber (10-12 h.p. Gladiator) ...	W. & P.	19.3	.00306
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Officials: Messrs. R. J. Joice, F. May, and T. Jackson.

We have received one of the latest Stanley belt fasteners specially made for use with adjustable pulleys. It is an ordinary Stanley fastener provided with three hooks of different lengths—¾ in., ¾ in., and 1 in. When raising or lowering the gear all that is necessary is to unhook the fastener and insert or remove one of the extra hooks. This fastener is also handy for riders who own motor cycles with fixed pulleys, as they can start out with the longest hook in position, and remove a hook as the belt stretches.

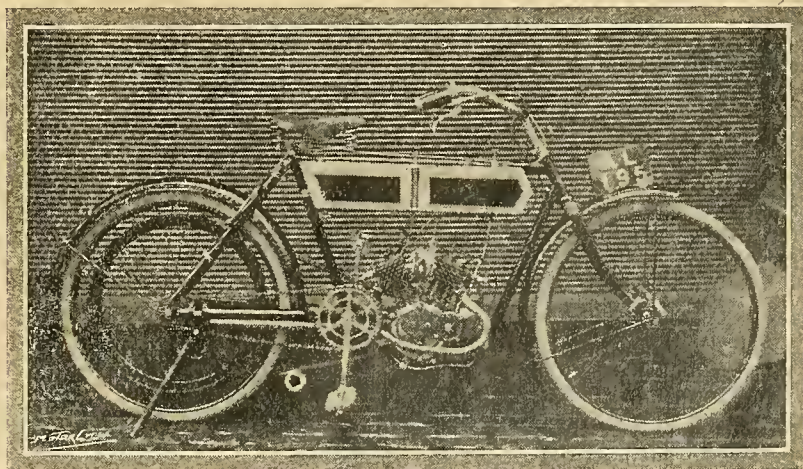


Worcestershire M.C. members at Rose Hill, Rednal, on the occasion of the hill-climbing competition described on page 503 last week.

A PROMISING LIGHTWEIGHT.

A 2½ H.P. twin-cylinder motor bicycle possessing many novel features is one built by Mr. E. G. Young, of Trent Bridge Garage, Nottingham, and illustrated herewith. The weight of the machine, we are told, is 90 lbs. The frame is a Chater-Lea, tyres special Continental, and belt 7/8 in. V. Bowden control is used, and the machine is built low with the engine situated low down in the frame. The tanks are brass, the petrol tank holding one and a quarter gallons and the oil compartment three pints. It will be noticed that a gauge is fitted. The mechanically operated inlet valves are not the least important point about the little engine. The ignition is by Bosch magneto. By unscrewing two bolts, the engine can be taken completely out of the frame. In other respects the machine is quite up to date, the spring forks and long handle-bars conducing to comfort in riding over uneven roads. We hear the machine is a good hill-climber and speedy on the level. We

may be able to say more about the machine's capabilities after a practical test, which we are expecting to make in a few weeks time.



A neat twin-cylinder lightweight, built by E. G. Young, Nottingham.

LETTERS TO THE EDITOR.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address

Lamps.

[3378.]—Might I suggest that new lamps should have the water compartment of generator washed out with shot or a few bearing balls, so as to remove incrustation?

Gas pressure should be introduced above water in generator, and so increase pressure at burner.

R. GRIMWOOD.

Fresh Fields to Conquer.

[3379.]—I have been much interested in reading about the Sutton Bank hill-climb in *The Motor Cycle*, and desire to inform you that, although I am a native and a motor cyclist, I have never heard of a motor cycle having been ridden up Clay Bank. A $3\frac{1}{2}$ h.p. Triumph I supplied to an old motor cyclist has got up the Ingleby Greenhow side of this hill, which is a trifle compared with Clay Bank. The latter is three miles from Stokesley on the main road through Great Broughton to Chop Gate and Helmsley. Motor cyclists, there is still a hill to conquer.

ALLAN BARKER.

New Use for an Electric Headlight.

[3380.]—Reverting to Mr. Cox's letter [No. 3362], "New Use for an Electric Headlight," it may be still further interesting to know that it is not at all necessary to make use of the lamp, or insert any resistance whatever between the two accumulators undergoing charging. Provided the voltage has not fallen below 3 volts, both cells may with safety be coupled up in parallel, when the internal resistance of the weaker cell is sufficient to regulate the current until both have attained their equilibrium. This I have done repeatedly without detriment to either accumulator.

A. ERNEST OLD.

Belt Fasteners.

[3381.]—With reference to the letters 3357 and 3361. during the shield competition held in Edinburgh on June 13th, I was much taken with a fastener, which I will try to describe. The ends were steel stampings with a steel liner inside, the belt ends being connected with a steel wire having a pivot on each end, and by a simple movement of pivot the belt can be instantly removed. I should be pleased if any one can furnish me with the name of maker, etc.

S 747.

[We think a sample of this has been in "Ixion's" hands for a few days. Doubtless he will describe his experience in due course.—Ed.]

Air Cooling.

[3382.]—As American cars are running very successfully with air-cooled four-cylinder engines up to 60 h.p., it appears to me that if this system of air-cooling were adopted on motor cycle engines we should probably hear less of overheating. If they can make a success of them on cars, surely something more can be done in this direction on cycles.

On the American vehicles (one of which I recently inspected), the combustion heads and valve chambers are surrounded by a jacket which has a tubular connection, with a powerful blast fan made on the ordinary forge blower principle. The result is that a strong current of air is directed just where required, and in a perfectly uniform manner to each cylinder. The arrangement appears to me to be the obviously correct one.

D 1617.

Police Traps.

[3383.]—Regarding your article, "Police Traps," in *The Motor Cycle* of June 17th, I am sorry to say the police exceed their duty, and when they meet off duty they tell of the brave deeds they have done in stopping motorists. For no apparent cause there is a trap set between Llanfairfechan and Penmaenmawr, on the Bangor and Conway road, and another from Capel Curig and Bettws-y-coed. These are working Saturdays and Sundays, and are worked by means of a flag, which is not always in the same place. The roads at these points are wide and practically devoid of traffic.

CC 230.

The Practical Touring Machine.

[3384.]—In answer to "ES 186's" letter in *The Motor Cycle* of the 17th ult., I would like to point out, for the sake of the reputation of the Perth and District Motor Cycle Club, that only two machines turned out on the last holiday when the run was round by Fettercairn, viz., one Phelon and Moore and one $3\frac{1}{2}$ h.p. geared much too high. One would think from his letter that the whole club (which is over fifty strong) had tried the climb, and he was the only one who got up. At the same time, I would like to point out to "ES 186" that there is more than one machine in the club which could climb the Cairn o' Mount. If some of our English friends would like to see some real hills when in Scotland after the End-to-end run, I would recommend them to the following: Tornapness to Applecross (Inverness-shire); Mam Ratachan, near Shiel Inn (Inverness-shire); on the hill out of Ullapool, in Ross-shire. Any of these are much worse than any hill in England, and you can strike them all by coming back from Wick to Laing, and going down the West coast to Fort William. Any of the competitors, or, in fact, any tourist who can spare the time, will be more than repaid by the magnificent scenery.

A MEMBER OF THE P. AND D. M.C.C.

How a Hill-climb was Spoilt.

[3385.]—May I be allowed the use of your columns for a triple purpose—of apology, excuse, and protest. I wish in the name of the Barnsley Victoria C.C. motor section to apologise to members of the public and competitors for the trouble to which they were put at our hill-climb on June 20th, and which they took with such splendid good nature. I wish to excuse the officials of the club and myself. That our climb on Stainborough Lowe was stopped was no fault of ours. I had received from the local superintendent of police this statement: "You shall have no active opposition from us." At the last moment a trap was instituted on the hill, and two competitors were threatened with summonses for exceeding the legal limit. There was nothing for it but to go elsewhere, and this we did, not without regret at parting from our pet hill.

And now for the protest. The police had nothing to gain from this interference, unless it may be money. It is entirely their fault that time and money have been wasted, an afternoon's sport has been missed by the general public who came to the hill in large numbers, and feelings between police and motorists have once more been embittered.

Had it not been for the fact that the mobility of the modern motor cycle is greater than that of the village constable, we should have been left with a valuable trophy on our hands and no possibility of holding a competition for it.

BERNARD SIFFKEN,

Hon. Sec. Barnsley Victoria C.C. Motor Section.

The Behaviour of Rubber and Canvas Belts.

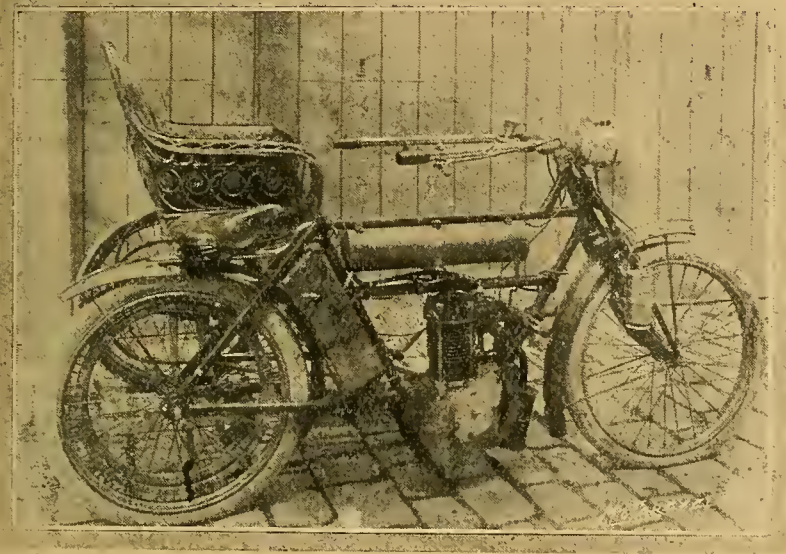
[3386.]—Whilst there is so much discussion and so many opinions on various classes of belts, I should like to give mine of the Camel rubber and canvas. Its qualities are not yet universally known, or I am sure it would be more used. Previous to trying the Camel, I used a similar pattern belt of a well-known make. This, after running about four hundred miles, shed the rubber from its side, thereby causing it to slip unless very tight. Seeing the Camel advertised in your paper, I decided to give it a trial, not expecting a great deal, as the price is much less than that of other makes. I ran it three hundred miles, taking out one block (1in.) only. It behaved so splendidly that I decided to take it through the London-Edinburgh run. This I did without experiencing any trouble, and after returning home by road I have since taken another block out. After running nearly 1,000 miles there is no sign of wear whatever. It never slips, and its elasticity is very good; therefore no undue stretch.

My advice to anyone who has trouble with other makes is to give the Camel a trial. The price is about half that of some makes, and I am certain, as in my case, it will be money well spent. I have no interest in the belt other than that of a very well satisfied user.

J. L. BARRATT.

Assembled from Miscellaneous Parts.

[3387.]—I am sending two photographs of a motor bicycle and sidecar made by a friend and myself completely from parts bought through the miscellaneous columns of your



excellent paper, *The Motor Cycle*. The engine is a $3\frac{1}{2}$ h.p. M.M.C., on a Chater Lea No. 6 frame. The tank is only a temporary one while the proper one is made. The sidecar is a Montgomery rigid pattern.

R. A. BONHAM CHRISTIE.

Tyre Troubles.

[3388.]—It is little wonder that such a large proportion of motor cyclists of to-day stick to foreign productions. The way in which some English manufacturers treat them is quite enough to warrant them going in for foreign goods.

About six weeks ago I bought an extra heavy tyre, and after about 200 miles wear I found the tyre had cracked right round close to the beading. On mentioning the matter to several of my friends, I found that four of their tyres were going in the same way. One of my friends sent his back through an agent (this tyre had only been in use a fortnight). The makers wrote back saying that the tyre had been ill-used, and had been ridden under inflated. I then sent my tyre to them, and received a reply that the rim must have been faulty, although it was a standard rim. A week ago I had a new machine delivered to me, and on looking at the tyres I found that the tyre on the rear wheel is going in the same way.

Surely all rims are not faulty, and all tyres ill-used and badly fitted. I consider that the makers are entitled to replace these covers free of charge, and by their not doing so they are only putting a noose round their own neck.

I know of a foreign made tyre in this town (West Hartlepool) used by a rider, which went wrong after being in use

for three months, and on him writing to the firm they willingly replaced it.

There is no need for any motor cyclists to be bothered with the ways of the English manufacturers when they can get better satisfaction from the foreign, and I think it is high time that tyre makers and other people in England were opening their eyes to this fact.

I hope you will find space in your valuable paper to insert this letter.

W. T. WALTON, JUN.

A Severe Hill.

[3389.]—While rambling about some Surrey lanes recently I came across a hill of such extreme severity that I am anxious to know if any of your hill-climbing readers have ever tackled it. It is not given in Gall and Inglis's *Contour Road Book*, but is on the regular by-road from Abinger to Effingham, in the triangle between Guildford, Leatherhead, and Dorking.

It runs from nine and a quarter miles on Route 564 to twenty-three and a quarter miles on Route 510. To get to it, leave Dorking by the Guildford Road. In two miles comes Wooton and the famous Coast Hill—gradient, 1 in 12. Rather more than a mile from the top of this is a cross road, where the right branch rises about 100ft. to a bridge over the S.E.R. Then comes a bit of about 1 in 20, an "S" bend of 1 in 10 and a simply wicked "Devil's Elbow" on what cannot possibly be less than 1 in 5 or 6.

The hill, locally known as White Downs, goes on for quite another half-mile with gradients of about 1 in 10-15. The road is quite a decent one, and wonderfully pretty, but the surface, of course, on the hill itself is terrible, though I rode safely down it!

I should dearly like to see a hill-climbing contest here, and am quite willing to help organise one and give one of the prizes.

I had supper afterwards with some keen motor cyclists at Leatherhead who take on all the local "climbs," but have never faced this one. Come on, ye Sutton Bankers!

WILLIAM PERCY.

Hills and Hill-climbing.

[3390.]—I read with interest your account of the Sutton Bank hill-climb. Now, this particular hill I have ascended myself on a $3\frac{1}{4}$ Rex (1905), and I need not say I was ready for a rest after the exertion of the climb. I am sure it will be of interest to your readers to know that I can find hills hereabouts (Kirkby Stephen) much steeper than Sutton Bank. Quite recently I saw a 20 h.p. — try to negotiate one of the hills in question, and it failed even to get up on its reverse, with the result that the driver lit his lamps, left the car on the hill overnight, and returned next morning, only to be again beaten. I have lived in close proximity to this hill, and have never seen any single geared motor cycle yet go up it, having attempted it myself several times on various machines, including one with a two-speed gear, and then I had to dismount. I am sure it would be good training for motor cyclists to try some of the hills around this pretty part, and even if they do fail to negotiate them, I am sure the scenery will repay them for their trouble. All the hills I allude to are within four miles of ample accommodation.

It is rather amusing to read of "hill-climbs" in places where it bothers me to find what I call a rise, but even from geographical knowledge it is unquestionable that we find hills in the Lake District and the Pennines. As the place where I reside is practically unknown to thousands of the motor cycling community I trust you will allow this to circulate in your valuable pennyworth (worth a shilling a week for wrinkles alone) in the hope that a meet may take place at an early date in order to test the severity of the hills.

Should any of your numerous readers choose to "try conclusions" I shall be only too pleased to supply them with the names and locality of the hills near Kirkby Stephen, and I have also mapped out what I consider an ideal route for a reliability trial. I shall be happy to see as many attempts upon these hills as can be arranged in order that my statements may be tested.

NELSON HODGSON.

N.B.—Riders in the End-to-end should be careful of the police traps about Lancaster, Garstang, Kendal, Hackthorpe (two to three miles north of Shap), two to four miles north of Penrith, and one mile each side of Carlisle. Is there a checker required at Penrith for the A.C.U. trial?

Motor Cycle Racing at Brooklands.

[3391.]-Is there any hope that a motor cycle race will be held in the near future on the Brooklands Track? We may mention that we have just received from our works a specially built 8 h.p. path racer, which we are rather anxious to try on the Brooklands Track, and, therefore, you will understand that we are rather keen to do so on the occasion of the next race for motor cycles.

N.S.U. MOTOR CO., LTD.

[In consequence of a legal decision against the proprietor of the track, the officials are desirous of preventing all unnecessary noise. They consider racing motor cycles make more noise than racing motor cars, and for the present they have stopped all motor cycle races on Brooklands.—Ed.]

A Problem to be Solved.

[3392.]-As a rider of a 4½ h.p. four-cylinder F.N., I was much interested to read Mr. Ovington's letter in the issue of June 17th. I have myself experienced exactly the phenomenon described by your correspondent, and am completely at a loss to understand it.

I cannot altogether agree with Mr. Ovington that the expansion of the piston combined with excessive lubrication is responsible for the greater power, as I think it is improbable that the piston expands very much more than the cylinder.

Last week-end I rode over to breakfast with some friends fifty-four miles away, and at that hour of the day the air was very chilly. Notwithstanding the coldness of the air, I managed to get my engine running in this abnormal way several times, so that I did the journey in two hours. Coming back in the late afternoon, when it was very hot, I was completely unable to produce this condition at all, though the engine must have been much hotter. This does not agree with Mr. Ovington's theory, which is founded on the heating of the engine.

I should be glad to see any solution of this puzzle which may occur to any of your readers. N. RAMSAY.

[3393.]-I was very interested when reading Mr. E. L. Ovington's letter [No. 3364] concerning his four-cylinder F.N., as I have had precisely the same experience with mine. I was very surprised to see that he had experienced this "abnormal" state only some six or eight times in three years' running. Personally, I can get into the abnormal state whenever I like, after going some five miles. I attribute this to a very accurate adjustment of the carburetter. I noticed the abnormal state first after some 1,500 miles running, and then had the carburetter adjusted. Then I noticed that I could get into the abnormal state without having the throttle full open, as was necessary at first. And now, after some 3,500 miles running, I can get the abnormal state with the throttle only three notches open; consequently, I can get some 95 to 100 miles out of a gallon of petrol. I differ from Mr. Ovington as regards lubrication, for I give a pumpful every ten miles, and that is very often more than sufficient. I think if Mr. Ovington had his needle valve adjusted very accurately he would get the same results as I have. I should like to know whether any other riders of the four-cylinder F.N. have ever had this experience. H. HILL.

[3394.]-The interesting letter of Mr. E. L. Ovington presents a problem which at first sight seems very surprising. It admits, however, of a very simple explanation.

It will, I think, be granted that, provided an engine is in sound condition, and, even when freely lubricated, the oil does not get past the piston rings, free lubrication produces a better compression—e.g., a cylinder which has a complete film of oil between its wall and the piston will give a better compression than one in which the film is intermittent or incomplete.

Now it is possible that the case Mr. Ovington presents is the same as the above for the following reasons. The data of his formula are as follows:

1. F.N. four-cylinder.
2. Copious lubrication.
3. A slight down grade, taken at high speed.
4. An increase of speed above a normal maximum, continuing for a few miles only.

Now, the crank case of the four-cylinder F.N. is, I believe, divided into two compartments, one behind the other, and has a separate oil duct to each.

The F.N. engine, when both wheels are on the ground, inclines rearwards. This inclination causes the oil to be

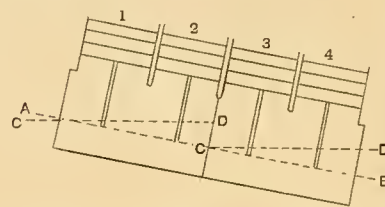


Fig. 1.—When machine is on level ground or pointing up hill.
A B, line of lowest point of stroke.
C D, oil levels.

deeper just forward of the centre partition and at the rear end of the crank case, and therefore the cylinders which get most lubricated are the second from the front and the rear one, since the connecting rods of these cylinders plunge further into the oil. I think the drawings will explain. The inclination is, of course, exaggerated.

When Mr. Ovington starts lubricating very freely, provided that none of that lubricant gets above the piston, he must improve the compression of his engine; but he does not improve it uniformly until he begins to go down a slight incline, when the oil rises higher in the forward ends of the crank case partitions than the rearward ends, and consequently the cylinders 1 and 3,

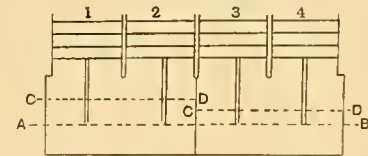


Fig. 2.—When machine is pointing down hill.

which were less lubricated than 2 and 4, now become equally lubricated with them, solely owing to the altered level of the oil in relation to the crank case. The nett result is that the compression in cylinders 1 and 3 is improved, and thus the firing

efficiency of the engine is increased, the high speed naturally improving the lubrication.

This explanation tallies with the sequel. After a few miles the speed falls off—i.e., after the oil has sunk to its original level, and the film in cylinders 1 and 3 has become imperfect, the compression in those cylinders deteriorates, and the engine returns to its lower efficiency.

Probably the result is not noticeable in the following cases for the annexed reasons:

1. Down a slight descent followed by a rise. Because the oil film has not had time to form before the position of the crank case is reversed; or because, if the oil film has formed, the strengthened compression does not suit the engine on a rise, where a lower compression is (by theory and convention) more beneficial.

2. Down a steep grade. Because then the crank case gets tilted forward so as to rob cylinders 2 and 4 of their film and compression.

Lastly, the high temperature at which Mr. Ovington's engine was working, if it had any effect, would merely accentuate the effect of the higher compression.

Only those who have shed metaphorical tears and metaphorical language by deserted roadsides over the lapses of lubricant can ever truly realise the extraordinary sensitiveness of a well-made engine to deficiency or excess of lubricant. The F.N. advice is, "Graissez peu, mais souvent," and it is the best of all except one, and that is, "have automatic lubrication," and if you have more than one cylinder, see they are all lubricated equally. It makes all the difference between a "first and fastest time" and an "also ran."

The above explanation may seem too slender and subtle to produce such a marked effect, but I am by no means alone in believing it to be the true solution of the problem; at any rate, it is a very simple one. I am sure we all welcome Mr. Ovington's letter, and look forward to more from his side of the water. JOHN F. H. TEMPLER.

EXPERIENCES WANTED.

"J. A. G." would like best route from Plymouth to Rhayader.

"B. G." (Sheffield) would like readers' experiences of the 3½ h.p. Raleighette tricar. How many miles an hour will it accomplish? what gradients will it climb? is it reliable?

"A. R. R." (Mayford) would like readers' experiences of Elastes filled motor cycle tyres, particularly with regard to resiliency, weight, and whether it is possible to employ a smaller section cover with Elastes than with air.

(Several letters are held over.)



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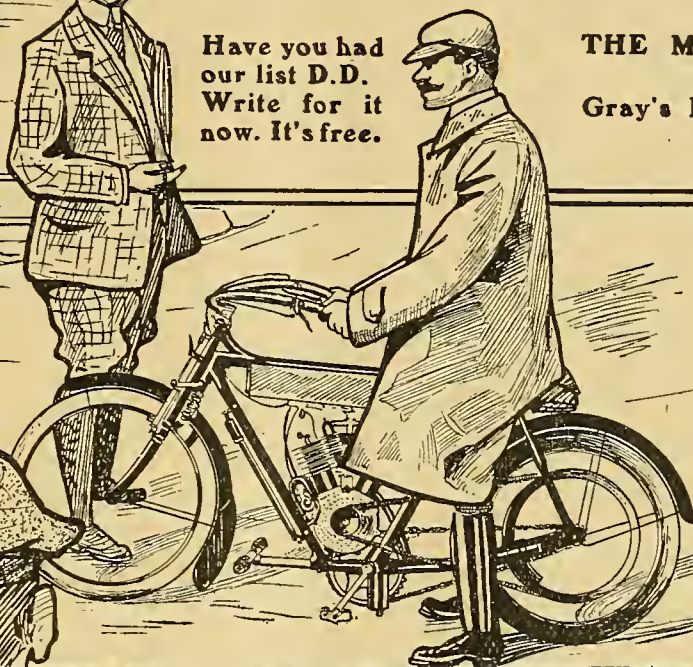
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but it laid up a man
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The Elastes Smile.

A tyre filled with Elastes is empty of trouble. You get the same resiliency, the same speed, but not the same worry as with air. Think what this means.

It started business in
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ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London, by the Thursday afternoon previous to the date of publication.

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For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

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Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Liffie and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

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MOTOR BICYCLES FOR SALE.

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HALIFAX.—Twin-cylinder Onaway, spray, specially low, suit short rider; £22 10s.; spring forks.

HALIFAX.—4 h.p. Alcyon, fine 26 by 2½ tyres, twin, spring forks, N.S.U., two-speed gear, light and low; £23 10s.

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HALIFAX.—2½ h.p. Phelon and Moore two-speeds, 26 wheels, carry heavyweight; £27 10s.; any trial.

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ZENITH Bicar, 4 h.p., Whittle belt, free engine	22 0
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ROC, magneto, Roc clutch, spring fork, good condition	22 0
REX, Twin, 5 h.p., fine condition	17 10
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KERRY, 4½ h.p., Twin, two-speed	19 0
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Hand-starting, ball bearing 4 h.p. engine, Bosch magneto, spring forks, Roc (licensed) clutch, epicyclic two-speed gear, started and driven like a car, several seasons in advance of ordinary motor cycle design. Price 45 guineas.

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CYCLE, Atelier's engine, 4 h.p., good condition; £11.—Guy, Church Walk, Eastwood, Notts.

3 h.p. Triumph, magneto, spring forks, new tyre and belt; £24.—Cross, Jeweller, Rotherham.

2 h.p. Minerva, in good running order; £8.—Newham, 223, Hammersmith Road, London, W.

KERRY, 2½ h.p., splendid condition; full particulars, photo.—B., 25, Ossian Road, Stroud Green, N.

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1½ h.p. F.N., lightweight, 1908, magneto, very little used; accept £24; new condition.—Groves, 1, Church Street, Edmon-ton.

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MAUDE'S.—All the undermentioned motor cycles are in guaranteed good running and can be seen on the road at the address.

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MAUDE'S.—Zenith Bicar, 4 h.p., free engine, new rear tyre; £21.

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MAUDE'S.—Quadrant, 3 h.p., spring forks, spray; £12.

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MAUDE'S.—Another Bayliss, 3½ h.p., special price £8, good running order.

MAUDE'S.—Humber, 2 h.p., trembler coil, chain drive, good running order; £7.

MAUDE'S.—Singer, 2 h.p., magneto, Singer carburetter; £7.

MAUDE'S.—45s. down and twenty-four weekly payments of 7s. 6d. secures 3½ h.p. Excelsior, 3 h.p. Rex, 2 h.p. Humber, 2½ h.p. Humber, 2½ h.p. Jap, or 2 h.p. magneto Singer. Delivery upon first payment.

MAUDE'S Motor Mart, Powell Street, Halifax (behind the Victoria Hall), offer without doubt the very best bargains in motor cycles, all of which are guaranteed in good running order before despatch. Write us and let us have your requirements, and we will quote you best terms for exchange or cash.—Nat. tel., 433.

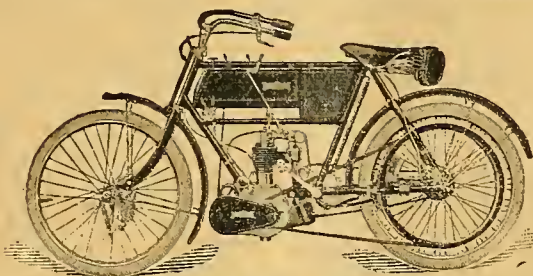
OFFERS WANTED

for the following:

3½ h.p. EXCELSIOR	£9 0 0
3 h.p. CUNARD	8 0 0
3 h.p. QUADRANT	10 0 0
2½ h.p. STANDARD	7 0 0
2½ h.p. HUMBER	8 0 0
2 h.p. HUMBER	7 0 0
2 h.p. ORMONDE	7 0 0
2 h.p. SINGER	7 0 0
2 h.p. QUADRANT	8 0 0
2 h.p. WERNER	8 0 0
3½ h.p. REX	12 0 0

Further particulars upon request.

Deferred payments arranged



ARIEL 2½ h.p. LIGHTWEIGHT.

Coil and accumulator ignition	32 Guineas.
Magneto	37 "
3½ h.p. VINDEC	£48 10 0
5 h.p. VINDEC	53 0 0
5 h.p. TOURIST	52 0 0
2½ h.p. MINERVA	29 0 0
3½ h.p. MINERVA	32 0 0
4½ h.p. MINERVA	39 0 0
7-8 h.p. MINERVA	45 0 0
1½ h.p. F.N.	35 0 0
4½ h.p. F.N.	50 0 0
3½ h.p. TRIUMPH	48 0 0
3½ h.p. SILVER	39 0 0
3½ h.p. BROWN	37 0 0

Let us quote you for Exchange for any of the above.

Prices rock bottom. Cash or Exchange.

Any other make gladly quoted upon request.

TRICARS.

REX Triette, 6 h.p., non-skid	£25 0 0
HUMBER Tricar, chain drive	12 0 0
REXETTE, 8 h.p., twin tyre, two speeds and reverse, water-cooled, wheel steering.	60 0 0
HUBBARD, water-cooled, two speeds	20 0 0

CARS.

HUMBERETTE, beautiful order and condition, bucket seats	£38 0 0
---	---------

FORECARS, etc.

Nice Forecar, with front brakes	£5 0 0
BAT Sidecar, good condition	4 10 0

SIDECARS.

Let us quote you for Cash or Exchange for a new 1908 Montgomery Sidecar. Catalogue and terms free.

MAGNETOS.**GENUINE BOSCH.**

DA 1	£4 5 0
DA 2	4 15 0
DA V	6 0 0

Good allowance for your coil and acc. in part payment.

BOSCH PATTERN.

Singles	£2 19 6
Twins	3 19 6

Write for particulars.

TUBES.**FULLY GUARANTEED.**

26 x 2in. 6/-	28 x 2in. 7/-
26 x 2½in. 7/-	28 x 2½in. 7/6
26 x 3in. 8/-	28 x 3in. 8/-

Immediate Delivery. Approval.

COVERS.

26 x 2in. 16/-	28 x 2in. 17/-
26 x 2½in. 17/6	28 x 2½in. 18/-
26 x 3in. 21/6	28 x 3in. 22/-

"ALBANY" BELTING.

½in. 7d., ¾in. 8d., 1in. 9d., 1¼in. 10d. per foot.

Maude's Motor Mart,
POWELL ST., HALIFAX.

National Telephone 433.

MOTOR BICYCLES FOR SALE.

REX London Agency, Store Street, Tottenham Court Road, having received special concessions from the Rex Motor Mfg. Co., Coventry, can give exceptional exchange and cash terms.

REX, London.—Exchanges are a special feature with us; write for quotations; send particulars of present machine.

REX London Agency have a complete stock of Rex machines from 25 guineas; gradual payments.

REX London Agency alone can offer you the fullest advantages of the Rex exchange terms.

REX, London.—Fill up coupon on full-page advertisement; send to us for quotation.—Store Street, W.C.

REX, London.—'Phone, 13456 Central, your requirements and appointments; our representative will call.

REX, London.—Exchange terms are unapproachable; send particulars of old machine.—Store Street.

REX London Agency have for immediate clearance motor cycles from £5.—Horner's, Store Street, W.C.

BARGAINS.—2½ h.p. Werner, £6 15s.; 3 h.p. Scout, £7 10s.; 3½ h.p. Minerva, £14 10s.—313, Coldharbour Lane, S.W.

3½ h.p. Minerva, Chater-Lea, climb anything, £12; good sidecar, £3.—6, Campshourne Road, Hornsey.

WANTED, 2 or 2½ h.p. Cycle and cash for 3½ h.p. Ariel, or sell £18.—Boyce, 23, Grand Parade, Archway Road, Highgate.

3½ h.p. M.M.C., nearly new condition, climb anything; cost £40, sacrifice 15 guineas for quick sale.—45, Parade, Leamington.

3 h.p. Kerry de Luxe, with sidecar left. Mabou clutch, all spares, tools, new tyres, only wants seeing, thorough order.—Clark, 5, Eastcote Terrace, Stockwell.

NEW 3½ h.p. White and Poppe, 2½ Palmer front, studded non-skid on back, free engine, foot clutch, crawl or climb a mountain; £16 cash.—33, Killyon Road, Clapham.

3½ h.p. Quadrant, 1907, new condition, with all spares, cheap; also 2½ h.p. Ariel-Minerva, good condition, cheap; trial given of either machine.—Osborne Bros., Stechford.

2 h.p. Minerva, £5; 2½ h.p. Buchet, £10; 2 h.p. F.N. £11; 1½ h.p. Minerva, £6 10s.; 2½ h.p. Minerva, £16; 3½ h.p. Minerva (magneto), £20.—Full particulars, Bannisters', Essen Street, Dublin.

3½ h.p. White and Poppe, Chater-Lea, perfect order, cylinder just new, Palmers perfect. Prested accumulator, Longuemare; £12 10s.; push bike part exchange.—Barrett, Ripley, Woking.

3½ h.p. Rex, brass edged rubber footboards, good Palmer and Continental tyres, with spares; £10 10s., would exchange for twin with cash balance.—8, Ravensworth Road, College Park, N.W.

1908 Triumph, ridden few miles only, scarcely soiled, perfect condition, all accessories; £40; consider good water-cooled coach-built tricar and cash exchange.—51, Statham Street, Derby.

3½ h.p. Coventry Humber, splendid condition, magnificent hill-climber, easily take sidecar; £13 to quick buyer; seen by appointment.—Motorist, 5, New Norfolk Street, Shoreditch, London.

MOTOSACOCHE, 1½ h.p., quite new, and complete with stand, horn, etc., ridden only 15 miles; satisfactory reason for selling; any fair offer accepted.—Harte, 192, Ditchling Road, Brighton.

2½ h.p. Motor Cycle, Jap engine, low frame, long handles, Guenet coil, tyres good, Watawata, good running order, minus accumulator; £8, or nearest offer.—Fry, Wilts Bank, Lower Weston, Bath.

3½ h.p. Coventry Eagle, Minerva engine, perfect condition, very little used, Clincher tyres, new 25 amp. battery; giving up motoring; genuine bargain, £18 10s.—Thomas, Trevoze, Wrexham.

1907 Triumph, magneto, absolutely reliable, condition like new, acetylene lamp and spares; £30; seen after seven, or by appointment.—Stevens, St. Gwithian, Southwood Road, New Eltham, Kent.

MOTOR BICYCLES FOR SALE.

23 h.p. F.N., good going order; £12.—443, Green Lanes, Harringay Park.

£26—4½ h.p. F.N., good as new.—Can be seen at 49, Bassett Road, N. Kensington.

23 h.p. Kerry, in perfect condition, new belt and accumulator; must sell; £8 10s.—31, Fishers Lane, Chiswick.

1906 3½ h.p. Rex, long low frame, spring forks, guaranteed in running order; £15; cash, credit, or exchange.—16, Westgate, Halifax.

31 h.p. Minerva, spring forks, stand and carrier, footrests, lamp, and generator, tools, splendid goer; bargain, £15. Phone, 157, East Ham.—Reynolds, 240, High Street N., East Ham.

3 h.p. Rover, belt driven, in magnificent condition, 2½ tyres, all Rover specialities, price £17, honestly worth £25; also two-speed Clement-Garrard lightweight, £9.—S. Harris, 41, Albert Road, Stratford, E.

31 h.p. Genuine Angus Motor Cycle, built for myself; only run three hundred miles; reason bought car; long and low, grand model; photo sent; sacrifice £26.—H.S., 13, Angus Street, New Cross, S.E.

23 h.p. Minerva, spray, girder forks, B.S.A. frame, long handles, low seat, Clincher A Won, good condition, new belt, Price's stand, horn, engine perfect, just overhauled; £11 10s.—King, 4, Jervis Road, Fulham, W.

NOW or Never—£3 down secures either 3 h.p. Noble, 3 h.p. Rex, 3½ h.p. Rex, 2½ h.p. Hummer, 2½ h.p. Singer, 3 h.p. Excelsior, 3½ h.p. Dux (M.O.V.), 2½ h.p. Clarendon; balance 5s. per week.—Farrar, Square Road, Halifax.

ALLDAYS and Onions, 2½ h.p. as new; trial invited; Brown-Barlow carburetter, Acetyphote lamp, £3 worth of spares; sacrifice £12, or exchange "Encyclopædia Britannica" and shelves.—122, Wellmeadow Road, Catford.

51 h.p. Twin Sarolea, in genuine Chater No. 6 frame, with two-speed, and all latest improvements, and adjustable sidecar, all in new and perfect condition.—For particulars apply, 1, Tunstall Road, Addiscombe, Croydon.

31 h.p. Ariel, nearly new, M.O.I.V., Dunlops, Continental, stand, girders, two brakes, horn, lamp and spares; a bargain, £18 10s.; on view 9 to 6, Saturday 9 to 1 o'clock.—E. and P. Titley, 288, Borough High Street, London, S.E.

EDINBURGH—Scottish readers be sure not to miss our grand show of motor cycles, Stands 126 and 127, Industrial Hall, Scottish National Exhibition; 16 different makes shown by Alexander's Motor Exchange, 110, Lothian Road, Edinburgh.

EDINBURGH Exhibition, Industrial Hall. Stands 126 and 127; finest exhibition of motor cycles ever shown on any one stand, from May till October.—Alexander's Motor Exchange, Lothian Road.

EDINBURGH—Vindecs, Quadrants, Rexes, Adlers, Moto Reves, Ariels, Zeniths, Minervas, Griffons, Nortons, N.S.U., Advances, Rocs, etc., in stock, and to be seen at Alexander's Motor Exchange, Edinburgh.

6 h.p. N.S.U., two-speed gear, magneto, spring forks, lamp, horn, tools, etc., hardly used, like new; expert examination; £38, or nearest offer.—Roberts, seen at Chapman's Garage, Finchley Road, Child's Hill, N.W.

23 h.p. F.N., splendid condition, very powerful, and wonderful hill-climber, long, low, and smart, with Liberty light sidecarriage; £17, or sell separately; reasonable offers wanted.—A.T.S., 86, Colvestone Crescent, Dalston, London.

41 h.p. Minerva Motor Cycle, spring forks, Advance pulley, Whittle belt, very low, footboards, spare tyre, 26in. by 2½in. tyres, stand, and Lucas lamp; bargain, £22 10s., or nearest offer.—J. Chapman, Greyhound, Sun Street, Waltham Abbey.

23 h.p. Minerva, excellent condition, adjustable pulley, Longuemare, air lever, handle-bar control, two new accumulators, Clincher A Won, covers (nearly new), carrier-stand, horn, two spare valves, spare tube, portable foot pump, etc.; £15; guaranteed.—Seen at 375, Edgware Road, W., till July 11th.

TWIN REX for £4

and '07 Single Rex, or level exchange for '07 3½ h.p. Magneto Rex.

SPECIFICATION.—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

2½ h.p. REX (new)	1908	£26	5
3½ h.p. REX Tourist (new) ..	1908	36	15
3½ h.p. REX DE LUXE (new) ..	1908	47	5
5 h.p. REX Tourist (new) ..	1908	42	0
5 h.p. REX DE LUXE (new) ..	1908	52	10
3½ h.p. N.S.U., magneto (new) ..	1908	42	0
5½ h.p. N.S.U., magneto (new) ..	1908	52	0
N.S.U. Lightweight (new) ..	1908	34	10
5 h.p. Twin VINDEC, magneto ..		35	0
6 h.p. 1906 Twin REX, nearly new		18	18
5½ h.p. Twin REX, black finish ..		18	13
5½ h.p. REX DE LUXE, magneto		27	10
Twin REX, black finish, as new ..		13	18
6 h.p. Twin REX, non-skids		18	18
5½ h.p. Twin REX, 2½ Peter Unions		22	0
3½ h.p. REX, 1906, 2½ tyres		16	5
3½ h.p. 1906 REX, spring forks		15	0
3½ h.p. Magneto REX		18	10
3½ h.p. REX, spray, 21½ frame		11	10
3½ h.p. 1906 REX, spring forks		15	0
3½ h.p. REX, spray, fine climber		11	10
5 h.p. Twin ONAWAY, very low		22	10
3½ h.p. MINERVA, 1907		16	10
3 h.p. GIVAUDAN, nearly new		16	0
3 h.p. ROVER, 26 × 2½ Palmers		13	10
3 h.p. LLOYD'S, 26 × 2½ Palmers		13	10
4 h.p. ANTOINE, spring forks ..		16	0
3½ h.p. MINERVA, spring forks		17	10
4-5 h.p. Twin ALCYON, two speeds		23	10
4 h.p. Twin WERNER, fine machine		19	19
5 h.p. Twin SAROLEA, long frame		18	18
2½ h.p. CLYDE, magneto		15	0
4 h.p. ANTOINE, 26 × 2½ tyres ..		16	10
2½ h.p. PHELON AND MOORE		27	10
3½ h.p. SIMMS, mag., 2½ Palmers		17	10
3½ h.p. QUADRANT, 1906		18	10
6 h.p. Twin ANTOINE, R.O.M. ..		22	0
5 h.p. Twin SAROLEA		19	10
2½ p.p. SINGER, magneto		8	10
2½ h.p. F.N., special frame		11	10
3½ h.p. REX, 22 frame		11	10
2½ h.p. MINERVA, 26 × 2		11	10
1½ h.p. EXCELSIOR		5	10
3 h.p. BROWN		12	10
2½ h.p. CLEMENT, very low		11	0
1½ h.p. SIMMS		7	0
1½ h.p. SIMMS, magneto		7	0
1½ h.p. MINERVA		5	15
2 h.p. RALEIGH, spray		8	0
2 h.p. PRINCEPS		6	0
1½ h.p. QUADRANT		5	15
2 h.p. UNIVERSAL, spray		6	15

MISCELLANEOUS.

Osborne Four-Speed, fit Rex ..	£2	15	0
N.S.U. Two Speed	3	0	0
40-hour Dinin Acc. (new)	1	0	0
" " Singer " (new)	1	0	0
New Calmon Tyres	0	15	9
XI'all Spring Forks	0	12	0
Brooks B.100 Saddle	0	11	0

SNIPS.—45s. deposit and six monthly payments of 29s. 6d. secures 2½ h.p. Excelsior, 3 h.p. Hummer, 2½ h.p. Minerva, 2½ h.p. F.N., 2½ h.p. Hobart, 3 h.p. Lloyds, 2½ h.p. Minerva, 3½ h.p. Rex, 2½ h.p. Aurora, 2½ h.p. Kerry, 3 h.p. M.M.C.; all guaranteed running order.

"PERFECTION" Leather V Belting—½in. 9d., ½in. 10½d., ½in. 1/-, ½in. 1/1.

"SERRATRIX" Rubber Canvas Belting, Best on test—½in. 9d., ½in. 1/-, ½in. 1/4, ½in. 1/8 per foot.

THE HALIFAX MOTOR EXCHANGE,

13, WESTGATE, HALIFAX.

Telephone 766. Telegrams, "Perfection."

High-class Machines wanted for spot cash.

MOTOR BICYCLES FOR SALE

HAMPSTEAD.—5½ h.p. Twin Peugeot, Truf fault spring forks, good tyres, non skid on back, almost new; £25.

HAMPSTEAD.—3½ h.p. White and Poppe Chater-Lea frame, very low, grand condition; £16.

HAMPSTEAD.—3½ h.p. Minerva, new November, 1907, magnificent condition; £23 with all spares.

HAMPSTEAD.—3½ h.p. Minerva, late 1906 spring forks, splendid condition, new tyres; £17.

HAMPSTEAD.—1½ h.p. F.N. lightweight only run few miles, grand condition; £20, bargain.

HAMPSTEAD.—3½ h.p. 1908 brand new Triumph, magneto, and spring forks; £38, bargain.

HAMPSTEAD.—F.N., 1½ h.p., 1908, brand new, lightweight, magneto, and spring forks; £30.

HAMPSTEAD.—3 h.p. Triumph, genuine £16; good tyres and condition; great bargain.

HAMPSTEAD.—Twin Griffon, late 1907, magneto, and spring forks, almost new; £25.

HAMPSTEAD.—3½ h.p. Griffon, with spring forks; £15, great bargain; guaranteed.

HAMPSTEAD.—Brand new 1½ h.p. lightweight, Griffon, with spring forks; £22, bargain.

HAMPSTEAD.—3 h.p. Rover, vertical M.O.V., splendid condition and going order; bargain, £12.

HAMPSTEAD for Bargains.—Sole agent for Griffons, Minervas, F.N.'s, Triumphs, etc.; liberal allowances on exchanges.—Rey, 5, Heath Street Motor Works, Tel. 2678, P.O. Hampstead.

TRIUMPH.—We Allow £30 for 1907, and £20 for 1906, in part payment for new machines.—5, Heath Street Motor Works, Hampstead. Tel. 2678, P.O.

31 h.p. Ormonde, Kelecom engine, large fly, 32 wheels, long handles, new Dunlop back, handle-bar control, splendid order; £15; 2½ h.p. motor cycle, Austral engine, Palmers, excellent condition; seen any time £12.—Bakewell, Alfreton, Derbyshire.

VINDEC Special 1908 5 h.p. Twin, Simm magneto, two-speed gear hub, Truf fault forks, adjustable pulley, Peter-Unions back studded, all spares, lamp, tools, Montgomery sidecar; £50 the lot.—Vauxhall Motor Works, Coronation Road, Bristol.

31 h.p. N.S.U., in fine condition, grand hill climber, footboards, and pedals, XI spring forks, two ignitions, all accessories just been thoroughly overhauled; owner going abroad; bargain, £22; seen after p.m.—Lilley, 29, Malvern Road, Dalston, London.

31 h.p. Chater, B.M., P. and R., F.N., Continental, two belts, acetylene lamp stand-carrier, three Bowdens, leather and dust coats, a complete machine, low and long base; ride 100 miles to prospective purchaser; £15, lowest.—53, Greek Street, Soho, W.

VINDEC 1908 5 h.p. Twin Tourist Motor Cycle, never ridden, free engine, and second speed gear, magneto cover, carrier and stand combined, and Lucas acetylene lamp and spanners; cost £65, price £50.—Motorist, Mrs. Fell, Norman Avenue, Filey, Yorkshire.

21 h.p. Scout, inclined, Chater frame spring forks, Peter-Unions (unpunctured), cylinder re-bored and new piston, new coil and accumulator, two stands, enamel and plated last season, excellent condition; cash, 9 guineas.—Millburn, Cambridge Street, Aylesbury.

N.S.U., 1907, late, 6 h.p., two speeds and free engine, spring forks, with N.S.U. forecar attachment, Chapman's fan, and numerous spares; will give any intending purchaser a trial run of 50 miles, or will ride same distance; £40.—Gus, 209, Westbourn Grove, Bayswater, London.

5 h.p. Twin-cylinder Kerry Forecar, in splendid condition, coach-built seat, Giant Watawata belt, also a spare belt, on spare wheel, two accumulators, one spare inner tube, two spare outer covers, two good lamps, luggage carrier; £40.—Hodson, Barroway Drive, Downham, Norfolk.

MOTOR BICYCLES FOR SALE.

3 h.p. Kerry, Palmer tyres, Whittle's belt; bargain, £9 10s.—137, High Street, Eton.

906 3½ h.p. Rex, long low frame, spring forks, guaranteed in running order; £15; cash, credit, or exchange.—16, Westgate, Halifax.

FOR Sale, 1907 5 h.p. Vindec Special, two-speed, Whittle and Rawido belts, spare inlet and exhaust valves, complete, new Palmer cord tyre (unused), machine absolutely faultless; £35, or nearest offer.—T. R. Hugh, Railway Hotel, Blaenavon.

LIVERPOOL (Rex Agency).—Before buying your new mount come and have a look at our machines. The largest stock of new and second-hand machines for 50 miles round; anything taken in part payment.—C. Jones and Co., 3, Redcross Street, Liverpool.

1 h.p. Phoenix Cob, open frame, pan seat, magneto ignition, two-speed gear, accessories, etc.; £35; as new.—Garaged at Wauchope's, where machine can be seen and tried; price £35; gears and parts are covered, and would suit lady or gent.—9, Shoe Lane, Fleet Street, London.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chester Road, Old Trafford.

SPECIAL Bargains.—2 h.p. Minerva, M.O.V., £7 10s.; 2 h.p. Raleigh lightweight, £7 10s.; 1½ h.p. Minerva, £5 15s.; 1½ h.p. Werner, £5 15s.; 2½ h.p. Jap, £5 15s.; 2½ h.p. Ormonde, £5; 3 h.p. Aster, £8 10s.; 2 h.p. Enfield, £5 15s.; and others; first cheque secured.—Wauchope's, 9, Shoe Lane, London.

3 h.p. F.N., magneto (November, 1907), variable pulley and fastener, three inch tubes, Wright's footrests, large XI' all saddle, specially silent silencer, stand and carrier, handle-bar exhaust lifter, all spares, extraordinarily economical machine to run, perfect, better than new; £20.—Radermacher, Hoarwithy, Hereford.

GENUINE Bargains.—3½ h.p. Crypto, genuine M.M.C. engine, long handle-bars, footboards, low position, re-enamelled French grey, and good plate, new tyres, £20, offers; also 3½ h.p. Brown, M.O.V., very best, £16; and Model de Luxe 11 guinea trailer, condition as new, £6, plated rims, etc.—Apply, Russel Bros., West Street, Dorchester.

3 h.p. Chater-Lea-Minerva, fitted Longue-mare, £11; 2½ h.p. highly finished lightweight, torpedo copper tank, low built, sloping head, first-class, £9 10s.; Montgomery sidecar, practically new, flexible, £5 10s.; 3 h.p. Mabon, Longuemare, long handle-bars, girders, first-class running order, £12.—336, Gray's Inn Road, King's Cross.

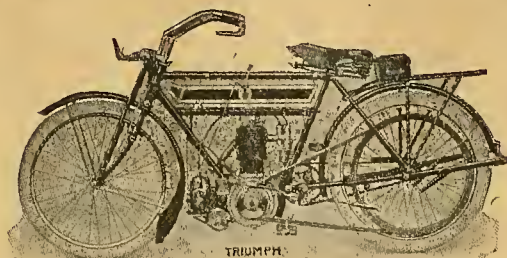
1 h.p. Minerva, 1908, spring forks, practically new, only ridden a few miles, unsoiled, latest pattern, Osborne four-speed gear and free engine, starting handle, tyres continental, not punctured, Lucas acetylene lamp, horn, spare pulley, inlet and exhaust valves, complete, tools, etc.; cash £35; can be seen at any time.—W.J.C., Gas Works, Southend-on-Sea.

VINDEC Special, twin, with magneto, converted to three wheels (two in front), large mudguards, all three tyres perfect, with Anglian two-speed gear, also perfect condition, chain drive, 10in. leather clutch, brakes on all three wheels, only wants basket seat in front to make perfect tricar; reason for selling, am going abroad; cash £35. Telephone, North, 59.—Clarence Oakley, 65, Park Street, Regent's Park.

908 5½ h.p. Twin N.S.U. motor cycle (absolutely new, not run a yard), magneto, in. Continental tyres, 26in. wheels, 21in. frame, not soiled or scratched, absolutely perfect, fitted with stand, Matchless spring forks, tool case and tools, horn, lamp; cost price with extras £55, sell for £43, packed crate, and despatched same day as cash received. You needn't look further than this; no better bargain in the book.—W. Harrison, 5, Lincoln Street, Haslingden.

HOTELS AND APARTMENTS.

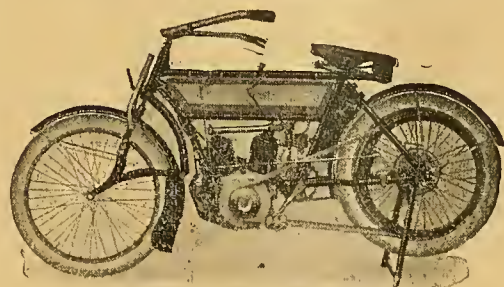
WHEN Visiting London stay at Waverley Temperance Hotel, 17, Euston Square. Bed. breakfast, attendance from 3s.



1907 TRIUMPHS £41 0
1908 TRIUMPHS £48 0

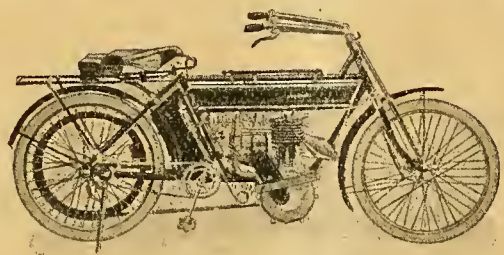
YOU CAN GET THEM AT WAUCHOPE'S.

EXCHANGES ARRANGED.



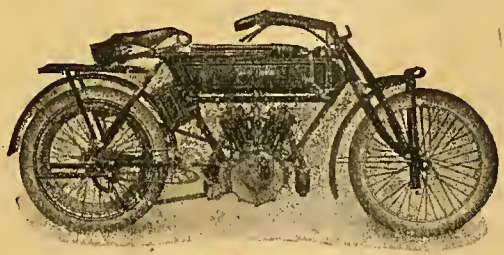
1908 VINDEC SPECIALS.

YOU CAN GET THEM AT WAUCHOPE'S.
Second-hand machines of any leading make taken in part exchange.



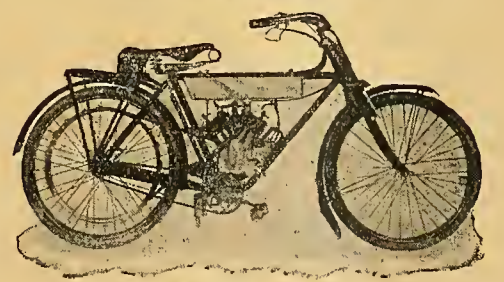
1908 QUADRANTS.

Delivery from Stock. A liberal allowance for second-hand machines. There are two models, £45, A.V., and £47 10s., M.O.V., to select from.



MINERVAS.

2½ h.p., £29; 3½ h.p., £32; 4½ h.p., £39; 7-8 h.p., £45
YOU CAN GET THEM AT WAUCHOPE'S.
Send particulars of your second-hand machine, and we will submit price of allowance unseen, subject to machine tallying at sight.



MOTO REVES.

YOU CAN GET THEM AT WAUCHOPE'S.

200 MOTOR CYCLES
TO SELECT
FROM.

WAUCHOPE'S

THE WORLD'S
LARGEST DEALER

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OPIFICER, LONDON. 5777, HOLBORN.

ONLY ADDRESS
9 SHOE LANE.
FLEET STREET, LONDON E.C.

TRICARS FOR SALE.

HALIFAX.—5½ h.p. Quadrant Carette, open frame, two speeds, good tyres, running order; £35.

HALIFAX.—5 h.p. Aster, open frame, water cooled, two speeds, car tyres; £26 10s.

HALIFAX.—3½ h.p. Rex, Mills-Fulford fore-carriage, with 26 wheels, very reliable; £16 10s.

HALIFAX.—Twin-cylinder 8-10 h.p. Rexette, special car, two speeds, carry three anywhere; £47 10s.

HALIFAX.—4½ h.p. air-cooled Stevens tricar, 26 wheels, very low, tyres almost new; £19 10s.—Halifax Motor Exchange, Westgate, Halifax.

N.S.U. Tricar, 3½ h.p., new back tyre, spares; £26.—16, Alpe Street, Ipswich.

£20.—6-8 h.p. Twin Tricar, three speeds, wants adjusting.—66, Grand Parade, Harringay.

C.I.E., 5-6 h.p., twin-cylinder Phelon and Moore, speed gear, excellent; £32.—Wilton Lodge, Halifax.

5-6 h.p. Humber, two speeds, free engine, water-cooled, coach-built.—479, Green Lanes, Harringay.

QUADRANT Carette, 6 h.p., two-cylinder, splendid order; £35, cost £100.—Spensley, Chertsey, Surrey.

5½ h.p. Rex Triette, perfect condition, ideal two-seater; £25, or offer.—Banbury, Photographer, Swindon.

TRICAR, 4½ h.p., water-cooled, two-speed gear, good condition; cheap.—Faire, Elms Road, Leicester.

REXETTE 6 h.p. Tricar, special model, absolutely as new; price £40.—Braddick, 9, Gough Square, E.C.

FOR Sale, or exchange, 3½ h.p. Humber tricar, good condition, powerful bicycle.—110, Pages Walk, S.E.

5 h.p. Auto Motor Tricar, long bars, perfect running order; £16.—Hoyle, 12, Crossley Street, Halifax.

3½ h.p. Minerva, Kent two-speed, new Grose non-skid, bucket seat, perfect; £22 10s.—44, High Street, Wells, Somerset.

5½ h.p. Rex Triette Tricar, in good running order, very powerful; £19 19s.—Wauchope's, 9, Shoe Lane, Fleet Street.

BARGAIN.—3½ h.p. Tricar, in good condition and running order; £13.—Oakley Lodge, Christchurch Road, Hampstead.

CENTURY Tandem Tricar, 5 h.p. Aster engine, good condition, many spares, four lamps; what offers?—1, Castlebar Road, Ealing.

RILEY 9 h.p. Tricar, new last year, in excellent order; £70; trial by appointment.—Elwell, 52, Frederick Street, Edinburgh.

BARGAIN.—Ormonde light tricar, 3½ h.p., new condition, three new tyres, fast and reliable; £19.—1, Stanhope Gardens, Ilford, Essex.

RALEIGHETTE, 3½ h.p., water-cooled radiator, two speeds, brass tanks, excellent condition; £35.—Mortlock, 122, Leadenhall Street, London.

3½ h.p. Humber Tricar, just overhauled, free engine clutch, lamps, in splendid condition; £18.—Griffith, Chatham Row, Walcot Street, Bath.

4½ h.p. Phoenix Trimo, coach-built, two speeds, fan, footboards, Palmers; exchange good motor cycle, or sell £27.—38, Waterloo Road, Southampton.

4 h.p. Light Twin Elswick, like new, Palmers, unscratched, gold lined, Elswick green, 1907; any offer; exchange Triumph.—1a, Lyall Mews, Eaton Square.

4½ h.p. Phoenix Tricar, two speeds, free, climb any hill, fast, reliable, grand condition; trial; £35, or near offer.—Stringer, chemist, Kingston-on-Thames.

QUADRANT Tricar, 5½ h.p., several improvements on standard, being thoroughly overhauled; seen Lloyds Works, Birmingham.—Bray, Ecclesfield, Sheffield.

6 h.p. W.C. Stevens, Dunlops, 3½ back, sprung, wheel steering, can be driven by lady, three speeds and reverse, Chater-Lea; £50.—113, East Street, Walworth.

TRICARS FOR SALE.

£20.—4 h.p. tricar, very powerful, Bowden control, electric light, smart machine; bargain.—East Ham Garage, High Street South, East Ham.

1907 Tricar, 6-8 h.p. Stevens engine, two-cylinder, water-cooled; £50, or offer; cost £120; privately owned.—Apply, Box 205, *The Motor Cycle Offices*, Coventry.

6 h.p. Rexette, king of little cars, double front seat, open frame, wheel steering, two speeds, water-cooled, in new condition; £30.—46, Albion Road, Dalston, N.E.

TRICAR, 3½ h.p., splendid condition, wicker forecarriage, new Continentals. Longuemare carburetter; £14; bought car; photo.—16, Prospect Place, Hastings.

TRICAR, Chater-Lea, 3½ h.p. Fafnir engine, two speeds, large clutch, foot brakes, Dunlops, handle starting, fast, and reliable; £22.—145, Clarence Road, Clapton, N.E.

9 h.p. Riley Tricar, wheel steering, two-cylinder, three speeds, reverse, perfect condition, 3 to 35 miles per hour, climb anything; a bargain.—175, Entwisle Road, Rochdale.

QUADRANT Carette, 5½ h.p., two speeds; trial by appointment; sell or exchange for good motor cycle, 3 to 4 h.p. Fafnir preferred.—Harris, 61, St. Mary's Road, Southampton.

LAGONDA Tricar, 10-12 h.p., water-cooled engine, three speeds, very fast on hills, excellent condition, all accessories; any trial; price £65.—The Western Motor Agency, Sidcup, S.E.

WHAT Offers for 4½-6 h.p. Avon tricar, wheel steering, three speeds, w.c. engine, coach-built, fast, reliable; cash or exchange.—W. A. Coles, 38a, Gold Street, Tiverton, Devon.

PHENIX Trimco, 4½ h.p., free engine, coach-built body, two speeds, lamps, generators; must sell; room wanted; £20, take good motor cycle and cash.—Ingram, Holderness Road, Hull.

8-10 h.p. Twin Rexette Tricar, water-cooled, coach-built, open frame, to carry three, in splendid order; sacrifice £40, or exchange motor cycle and cash.—Wm. Else, Leawood, Matlock.

1907 9 h.p. Riley Tricar, in splendid condition, lamps, horn, and tools, studded cover back, Dunlops front, like new; £70.—No. L2, 713, *The Motor Cycle Offices*, 20, Tudor Street, E.C.

6½ h.p. Humberette, three speeds and reverse, recently done up and overhauled, guaranteed sound, and in perfect running order, tyres as new; £43.—Browne, 10a, Thames Street, Windsor.

BAT Tricar, identical 4 h.p. M.M.C. engine used by G. A. Barnes in English hour record, 35 an hour guaranteed with passenger; owner bought car; £23.—A. J. Slatter, 59, Cranfield Road, Brockley, S.E.

6½ h.p. W.C. Special Aster Tricar, 28 by 3½ Dunlop car grooved, Elastex in back tyre, wheel, bucket seat, two speeds, new, silent chains, perfect; trial; £37.—Hague, 24, Old Street, Ashton-under-Lyne.

4½ h.p., De Dion engine, Chater-Lea frame and two-speed gear, wheel steering, Brooks bucket seat, Grose non-skid, four lamps, horn, and spares; price 30 guineas.—Gowland, Auctioneer, Spennymoor.

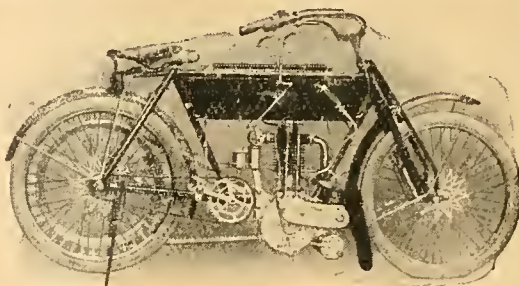
ANGLIAN Tricar, complete, less De Dion engine, gear, coil, carburetter, accumulator, perfect, £6; Rex new spring forks, without stem or girder extensions, 10s.—W. Ascott, 107, The Grove, Stratford, Essex.

4½ h.p. Twin Givaudan-Crownfield, new 42 Whitsuntide, 1907, Clinchers (unpunctured), Longuemare, Stanley belt, Fuller coil, upholstered basket, powerful, fast; £26.—"Electra," 10, Harold Road, Leytonstone.

TRICAR, 4½ h.p. Jap w.c. engine, Chater open frame, two-speed gear and clutch, overhauled and painted; must sell; nearest offer £35.—Photo and details from C. G. Harris, Town Hall Chambers, Feltham, Middlesex.

6 h.p. Water-cooled Tricar, Jap twin engine, Chater-Lea frame, non-skid back, open frame, wheel steering, three speeds and reverse, capital condition throughout; £49 10s.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

MATCHLESS MOTORS!!



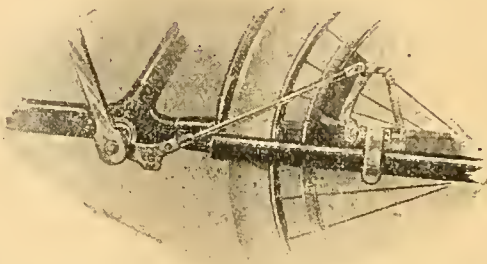
LONDON TO EDINBURGH:

3 STARTED.

3 FINISHED.

No Trade riders—ridden by private owners only

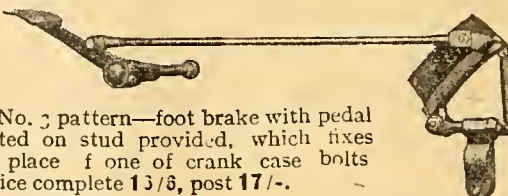
"CHASE" DRIVING RIM BRAKE.



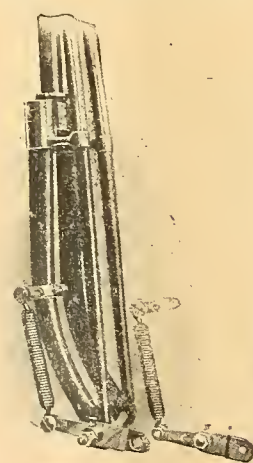
No. 1 pattern—back pedalling brake. Machine can be wheeled backwards. Extremely powerful. Price, 16/6, post 17/-.



No. 2 pattern—footrest brake complete. Price £1 6s. Footrests only. Price 12/- With either 1½ in. or 1¼ in. clip, post 12/6.



No. 3 pattern—foot brake with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete 15/6, post 17/-.



MATCHLESS PETROL FILTER.

No choked carburetters. 4/6, post 4/8.

MATCHLESS SPRING FORK ATTACHMENTS.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction!!

15/6, post 16/-.

THE MATCHLESS SILENCER.

3½ h.p., 10/-; from 3½ to 5 h.p., 12/- Cut-out 5/- extra. Two connections for twins with separate exhaust pipes, 4/- extra.

Catalogues of "Matchless" Motor Cycles and Accessories on application to

H. COLLIER & SONS, Ltd.,

Motor Experts and General Engineers.

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TRICARS FOR SALE.

TRICAR, open frame, 3½ h.p. Miner splendid order; £23, or near offer; a motor cycle trailer, in good condition, 10s.; reason for selling, buying more powerful tricar.—Fallick, Aldingbourne, Chichester.

7-9 h.p. Fafnir, water-cooled, coach-built sprung Bowden wheel control, 10 speed, Palmers, 2½-in., splendid climb worth £50, take 42 guineas, exchange 7000 mph cycle part.—1a, Lyall Mews, East Square.

SINGER Tricar, 6 h.p. (1907), three speeds forward and reverse, double front seat, large luggage carrier, lamps, and horn, perfect running order; £58.—2, Grove Garden, Spring Grove, Isleworth. Telephone, 1000 London Wall.

3½ h.p. Light Tricar, two speeds and forward starting handle, spring frame, M.M.C. engine, Grose studded tyre back, everything good, new piston, etc.; trial; £24, or near offer 7.—Dewhurst, 63, Oaklands Road, Cricklewood.

QUADRANT Tricar, 6½ h.p., 1907 model, perfect condition; cost £95 cash, without extras; scarcely ever used, owing to illness; reasonable offer entertained; a trial and examination.—No. 201, *The Motor Cycle Offices*, Coventry.

STOCKPORT.—8 h.p. three-cylinder dual car, Palmer cord front tyre, Grose back, all perfect, automatic lubrication, roller worm drive, two speeds, socially comfortable, and reliable, splendid climb what offers? going cheap.

STOCKPORT.—Runabout, 5 h.p., 1907, bucket seat, only 20 inches from the ground, very rakishly built, winner tricar class Manchester Motor Club hill-climb, fast, easily controlled, tyres perfect; 40 guineas.—Lund and Davies, Heaton Lane.

HUMBER, 1907, practically new, 6½ h.p. water-cooled, wheel steering, motor car tyres, open frame, bucket seats; cost £140, sacrifice 55 guineas, exceptional bargain; only wants seeing; photo.—St. Marks, artist, Leamington Spa.

ADVERTISER, through unforeseen circumstances, has no use for tricar; photo and reason; 3½ h.p. M.M.C., water-cooled, chain drive, two-speed gear, starting handle; £25, or near offer to save storage.—Goodchild, 3, Park View, Beeston Hill, Leeds.

RILEY Tricar, 4½ h.p., water-cooled, three speeds, clutch, chain drive, excellent condition, both seats coach-built, tyres good, new grooved Dunlop car tyre bar accessories, spares, new acetylene lamp; £27.—Gidden, Moat Road, Langley, Birmingham.

TRICAR Sale.—We are clearing out 9 h.p. Riley, three speeds and reverse, 5 h.p. Excelsior, three speeds, 4½ h.p. Phoenix, 10 speeds, 4 h.p. Kelecom, 5 h.p. twin Kelecoms; take any reasonable offer, cash, exchange; all bargains.—123, High Road, Tottenham.

3½ h.p. Genuine Rover Tricar, free engine, just thoroughly overhauled and plated, condition of engine and all parts absolutely equal to new, genuine hill-climb, genuine bargain, £28, or good motor cycle and cash.—Tricar, 86, Colvestone Crescent, Dalston, London.

3½ h.p. Open Frame Tricar, Jap engine, Chater-Lea, two speeds and fitting Mabon clutch, cane forecar, bucket seat, splendid condition, and perfect throughout, climb any hill; going cheap, £26, or motor cycle and cash.—Stanton, Colvestone Crescent, Dalston, London.

QUADRANT Carette Tricar, 6 h.p., wheel steering, excellent condition, good spares, tools, side lamps, horn, rubber mat, driving apron, etc., strong and fast; a cash, or would take first-class motor cycle (Triumph magneto preferred) payment.—Dr. McNeil, Garstang, Lancashire.

MAGNIFICENT Chater-Lea Sprung Open Frame Wheel Steering Tricar, 4½ h.p. White and Poppe w.c. engine, chain drive, 9 in. clutch, two speeds, gear box, expanding brakes on front, coach-built body, 3 in. non-skid on back, tyres as new, spares, three lamps; bargain, £35, near offer, or exchange motor cycle and cash; trial given.—Stanley, 47, Bride Street, Barnsbury, London.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

ACCUMULATORS.

ACCUMULATORS.—8s. and your old accumulator secures a brand new Premier accumulator, fully guaranteed, not German. —Farrar, Square Road, Halifax.

THE Famous Ajax Accumulator, absolutely the finest it is possible to make (see previous Nos. *The Motor Cycle*); 20 amp. size, by 2½ by 4½ 17s. 6d.; any size to order in hours; send for lists.—The Ajax Electrical Engineering Co., 291, High Road, Ilford, E.

ACCUMULATORS Repaired promptly, any make; reasonable charges, best workmanship given; full value for your old accumulator in exchange for our new "Mayr" accumulators; special 15 amp., 10s.; 20 amp., 15s.; guaranteed one year.—Lows, 49, Hertford Street, Mayfair.

COUPLINGS.

UNITO Cycle Couplings, for connecting any ordinary pedal cycle to motor cycle.

THE Unito connects the steering and ensures faultless alignment.

THE Unito is so constructed that side strain and lean of machines is entirely avoided.

THE Unito is adjustable to accommodate differences in wheelbase and wheel and frame dimensions.

DON'T Buy a Sidecar before you know the advantage of having a

UNITO Coupling. It only costs one guinea.—Write, Dept. B., Unito Coupling Co., Ystrad, Glam.

ENGINES.

h.p. Givaudan Engine; £4; as new. —Varney, 40, Angel Lane, Stratford, E.

1 h.p. Rover Engine, clutch, carburetter, 2 coil; £12.—W., Meadow Croft, Western Hill.

h.p. Zedel Engine, in good order; £1.—Whittingham, 18, Belsize Avenue, North Lane, Ealing.

5 h.p. Simms Engine, M.O.V., water-cooled, quite new, and fitted high tension magneto; £11.—Farrar.

1 h.p. Quadrant Engine Sets, cylinder, 2 piston, connecting rod, crank cases, wheels, exhaust valve, 37s. 6d. per set; 3 p. Quadrant sets, as above, 45s. set.—Farrar.

3 h.p. King Engine, vertical, fitted contact breaker, driving pulley, good roller; £3.—Farrar.

1 h.p. De Dion Pattern Engine, fine condition, £3 10s.; 2½ h.p. ditto, 50s.—Farrar.

1 h.p. Standard Engine, vertical, win take trailer up most hills; £3 15s.—Farrar.

h.p. Quadrant, just overhauled, £3 10s.; 1½ h.p. Minerva set, engine, carburetter, tank, etc., £3 10s.—Farrar.

h.p. Minerva Engine, M.O.V., £3; 3 h.p. N.S.U., crank case, complete, perfect, 10s.—Farrar, Square Road, Halifax.

h.p. Aster Engine, water-cooled, perfect running order; £8 10s., lowest.—Wauchope, 9, Shoe Lane, London.

ION Engine, 2½ h.p., with Longuemare carburetter, good working condition; sacrifice 53s.—J. Kerry, Downham Market.

3 h.p. F.N. Engine, complete, with coil, 4 carburetter, and silencer; £5.—Badley, 50, Wellington Street, Glasgow.

1 h.p. N.S.U. Engine, water-cooled, including carburetter and speed gear; £6 s.—Wauchope's, 9, Shoe Lane, London.

LIGHTWEIGHT Werner Engine, with carburetter, etc., £2 18s.; also Castle twin cylinder coil, £1 1s.—H. Halse, 66, Paradise Road, Stockwell.

ENGINES.—Zedel, 2½ h.p., £7 13s.; 3½ h.p., £9 0s. 10d.; 3½ h.p. twin, £10 0s. 7d.; 5½ p., £13 12s.—Rey, 5, Heath Street Motor Works, Hampstead.

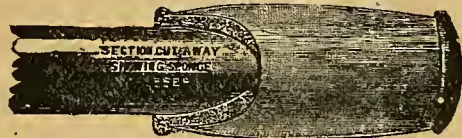
LIGHT Motor Engine, with patent three-bladed (bronze) propeller and shafting, 70 tanks, coil, N.S.U. carburetter, boat accumulator, everything complete, ready for boat; offers wanted; death cause for selling.—34, Cromer Road, Liverpool.

PLEASE NOTE

We can supply all parts for 2½ and 3½ h.p. F.N. Engines.

"VINDEC" Adjustable Pulleys for 2½ h.p. F.N. Engines, 10/- each.

"VINDEC" Adjustable Pulleys for 3½ h.p. F.N. and 3½ or 5 h.p. Peugeot Engines, 15/- each.



"KUMFO" Sponge Rubber Grips, ¾ in. or 1 in. bars, 2/6 per pair.

South British Trading Co., Ltd., 13-15, Wilson St., London, E.C.

Hebden's Dependable Bargains**LATEST LIST,**

SHOWING SPLENDID SELECTION OF REALLY RELIABLE MOTOR CYCLES AT BARGAIN PRICES SENT POST FREE ANYWHERE.

CASH OR EASY TERMS.**EXCHANGES ENTERTAINED.**

5/6 h.p. Rexette, first class condition, price	£30
5 h.p. Twin Kerry with side-car, good order, price	£25
3½ h.p. Centaur, free engine and side-car, price	£23
5½ N.S.U. Twin magneto and side-car, price	£28
3 h.p. N.S.U., magneto, a Prize Winner, price	£22

HEBDENS MOTOR CYCLE AGENCY,
Bridge Garage, Leeds.

TREMENDOUS SAVING

of Worry, Money,
Trouble, and Expense,
BY USING THE

VOLTOO
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For MOTOR CYCLES and CARS.

Write to the Sole Manufacturers:

The CITY IGNITION CO.,
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or 'Phone 7822 Central,

FOR ALL PARTICULARS.

ADVERTISERS — Please note that **Friday** is the latest day we can receive advertisement copy for this following week's issue.

ENGINES.

BOOTH.—Twin Antoine, new, £8 5s.; 5 h.p. water-cooled Antoine, new, £8 5s.; 6 h.p. Avon, water-cooled, M.O.V., £6 5s.

BOOTH.—2½ h.p. Noble, £3 5s.; 2½ h.p. Jap, £3 5s.; 2½ h.p. Noble, £2 2s. 6d.; 3 h.p. Rex, £3 5s.; 1½ h.p. Minerva set, tank, etc.; £3.

BOOTH.—Other engines taken in exchange. —Booth's Motor Exchange, Wade Street, Halifax.

4-5 h.p. W.C. Head, very powerful; £4 10s., or 2½ h.p. and cash.—50, Victoria Road, Stroud Green.

5-6 h.p. Twin Antoine Engine, condition like new, complete, with silencer and spares; £5 10s.—18, Wellington Road, Smethwick.

DE DION (genuine) 3½ h.p. water-cooled engine, with carburetter, etc.; £7 12s.; suitable for driving a dynamo.—H. Pouncer, 169, Mayall Road, Brixton.

MANCHESTER.—5 h.p. engine, complete, with Longuemare carburetter, suit tri-car, £5, bargain; also four accumulators at 6s. 6d. each.—A. Burton, 158, Chorlton Road, Manchester.

TYRES.

PAIR Continental Covers, wired, 26 by 2½, as new; 15s. the pair.—Varney, 40, Angel Lane, Stratford.

MOTOR Cycle Covers, re-treaded, like new; 11s. 6d.—Ardea Company, 331a, King Street, Hammersmith.

DUNLOP Covers, 28 by 2½, beaded, new; 18s.; cash with order.—Smith, 16, Summerhill Terrace, Birmingham.

PAIR New 26 by 2 Continental Covers, beaded; 13s. 11d. each.—Robson, 30, St. John's Road, New Sheldon, Durham.

EXTRA Heavy Clincher and Tube, 26 by 2, beaded, unused; cost 35s., sell 21s.—M., Kingslea, Weston Park, Thames Ditton.

MAUDE'S—Fully guaranteed tubes, 26 by 2, 2in., 6s.; 2½in., 7s.; 2½in., 8s.; 28 by 2, 7s.; 2½, 7s. 6d.; 2½in., 8s.; approval willingly.

MAUDE'S—Covers, 26 by 2in., 16s.; 2½, 17s. 6d.; 28 by 2in., 17s.; 2½in., 18s.—Maude's, Powell Street, Halifax.

CLINCHER A Won Brand New Covers, 26 by 2, 19s. 6d.; 26 by 2½, 21s.; also extra heavy 26 by 2 ditto, 21s.; order at once; only a limited quantity; prices are below usual trade prices; approval.—Lomax Tyre Co., Great Charles Street, Birmingham.

50 Per Cent. off usual prices.—Clincher A Won brand new covers, 26 by 2, 18s. 6d.; 26 by 2½, £1; 28 by 2½, heavy tri-car, 23s.; 26 by 2, extra heavy, 21s.; 26 by 2½, extra heavy, 22s.; all ribbed non-skid treads.—Farrar.

CLINCHERS.—Special 2½in. covers, to fit 2in. or 2½in. rims, 25s. each; don't be under-tyred. It's false economy.—Farrar.

SPECIAL Line.—Clincher tubes, 26 by 2, and 28 by 2, complete with valves; 5s. each, post free.—Farrar.

10s. allowed for old covers in exchange for Goodrich, Palmers, Shamrocks.—Farrar, Square Road, Halifax.

28 by 2 Light Dunlop, nearly new, 8s.; 26 by 2½ Palmer, 8s.; 26 by 2½ Dunlop, 6s.; pair 26 by 2, with rims, 10s.—50, Victoria Road, Stroud Green.

TWO Motor Cycle Covers, 26 by 2 (brand new), never used, beaded edge; accept half usual cost, 12s. each.—Motorist, 26, Offerton Lane, Stockport.

26 by 2½ Peter-Union studded tyre, unused since re-treaded, one Rich and Peter-Union butt-ended tube; cheap for immediate sale.—Apply, Bradstock, Harpford, Ottery St. Mary, Devon.

MOTOR Cycle Covers at wholesale prices.—Heavy quality, 26 by 2, 2½, and 2½, 11s. 6d. each; 28 by 2, 2½, and 2½, 12s. 6d. each; beaded edge 1s. 6d. extra.—Universal Motor Tyre Co., 35 and 37, Chestergate, Stockport.

HALIFAX.—Brand new inner tubes, best make, 26 by 2, 6s. 6d.; 26 by 2½, 7s.; 28 by 2, 7s.; 28 by 2½, 7s. 6d.; 28 by 2½, 8s. 6d.; genuine Calmon covers, fit Palmer rims, with non-slipping tread, 26 by 2½, 15s. 9d.; 28 by 2, 15s. 9d.; 28 by 2½, 16s. 9d.; 28 by 2½, 20s. 6d.; all beaded edge.—Halifax Motor Exchange, Westgate, Halifax.

TYRES.

BOOTH.—New rubber studded cover, 26 by 2, 25s.; ditto, 26 by 2½, 27s. 6d.

BOOTH.—Peter-Unions, 24 by 2½, 28 by 2½, 15s. 6d.; Royalty covers, 26 by 2, 12s. 6d.; 2½, 13s. 6d.

BOOTH.—Ten shillings allowed for old cover in exchange for Shamrocks, Palmers, Goodrich's.

BOOTH.—Tyres, best make, 26 by 2, 16s.; 2½, 17s. 6d.; 2½, 21s.; 28 by 2, 16s. 6d.

BOOTH.—Best tubes, 26 by 2, 7s.; 2½, 7s. 6d.; 2½in., 8s. 6d.; 28 by 2, 7s. 6d.

BOOTH.—All tyres sent on approval.—Booth's Motor Exchange, Wade Street, Halifax.

COVERS.—Strong beaded, ribbed tread, 26 by 2, 17s.; 26 by 2½, 18s.; 26 by 2½, 19s. 6d.; 28 by 2, 18s. 6d.; carriage paid.—Below.

S. Allowed for your old cover in exchange for genuine Continentals.—Para Rubber Co., 93, John Bright Street, Birmingham.

CLINCHER A Won, new and perfect, 26 by 2½, 18s.; extra heavy, 22s.; 28 by 2½, 21s.; 28 by 2½, 18s.; 26 by 2½, 23s.; inner tubes, valved, 28 by 2, 4s. 6d.; 2½, 6s.; 26 by 2½, 6s. 6d.; all guaranteed Clinchers.—Oakleys, Aston Street, Birmingham.

REPAIRERS.

£5 any motor cycle we cannot repair.—Whites, 22, Brookes Street, Church Street, Liverpool.

£5 any motor cycle we cannot repair.—Whites, 22, Brook's Alley, Church Street, Liverpool.

WERNERS, Werners.—Beard Bros., Cricklewood, undertake all repairs and replacements. Sole concessionnaires.

BEARD Bros., specialists in Werner motors. Sole concessionnaires. Repairs undertaken.—Cricklewood Broadway.

CRACKED Water Jackets of motors successfully repaired by Lea's metallurgical process.—Lea and Son, engineers, Runcorn.

GRIFFIN and Sleat, Eastbourne.—Cylinders re-bored and new pistons fitted, or engine completely overhauled; let us quote you.

BIRMINGHAM.—Repairs and overhauling: accumulators charged and repaired; prompt attention; moderate charges.—Priest and Williams, 66, Bishop Street.

LEICESTER and County Riders should look up the Central Motor Co., Langton Street, Belgrave Gate, Leicester, for repairs, tyres, accessories, and accumulator charging.

CCCCCCCC Compression means power.—Cylinders re-bored and new pistons fitted; guaranteed fit 4-1,000in.; bears 13 stone on pedal; write for list.—Gradior Machine Co., Compression Specialists, Stafford.

TO West of England Motorists.—Car and motor cycle repairs, prompt and reliable; cylinders re-bored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Works, Bridgwater.

CHEAP and Practical Repairs to motor cycles, cylinders re-bored, new pistons fitted, accumulators charged and repaired, vulcanising of every description.—Campbell, 156, Wirtemberg Street, Clapham, S.W.

10 Years' Experience means efficiency and economy for customers; De Dion, M.M.C., Excelsior, and motor cycle experts; large stock of renewals; repairs prompt; power increased by larger cylinder bore.—The Record Motor Co., Coventry.

REPAIRS and Overhauling.—We have the finest repair works in London for motor cycles, with up-to-date machinery estimates free; new cylinders for any make of engine, pulleys, valves, gears, and all replacements; send for our new booklets, with prices.—Laystall Motor Engineering Works, 27 and 29, Laystall Street, Rosebery Avenue, E.C.

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Compression means Power.

Please send for our booklet, which gives prices for this work and other repairs.

Repairs and alterations to all makes of motor cycles.

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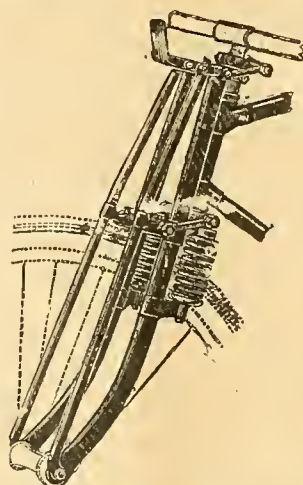
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Many men would ride motor cycles but for the excessive vibration.

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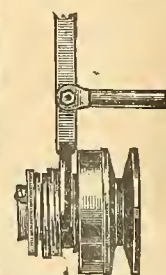
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are practically free from vibration. They are, in fact, luxurious mounts. Read about them in the new Booklet.

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74, Conybere Street, Birmingham.

The "MABON" FREE ENGINE PULLEY AND CLUTCH.



No alterations required to fit.

Operated from handle-bar.

PRICE FROM 55/-.

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NORTH FINCHLEY, N.

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Genuine Birmingham "QUADRANTS."

A large stock of parts, still to be cleared. Write for latest list.

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EXCHANGE.

19⁰⁶ Twin Rex, grand order, for 3½ h.p. good make, and cash.—Below.

2 h.p. Peugeot, new covers, long bar, low seat, for 3½in. Drummond lathe.

19⁰⁶ Twin Rex, fitted Osborne gear and sidecar, takes two and a boy anywhere, cash.

12 h.p. Engine Set and Cycle, only wanted fitting up, for good phonograph and records.

SMITH'S Bellows, two air guns, for second-hand sewing machines, for anything useful.—Daborn, Windsor Road, Chobham, Woking.

GIVE Lady-back Tandem and cash for h.p. cheap motor bicycle.—114, Rutland Street, Stepney.

MILLS-FULFORD Motor Trailer, for lady or gent's cycle.—11, High Baxter Street, Bury St. Edmunds.

CAMERA, half-plate, folding, good, for two speed gear, or speed pulley.—58, Trenham Street, Wandsworth.

4 h.p. Water-cooled Cylinder and Piston for Simms-Bosch magneto.—24, Heathfield Road, Handsworth, Staffs.

EXCHANGE 5 h.p. Auto Motor Tricar, running order, for single and cash.—Hoyles, 12, Crossley Street, Halifax.

12 GUINEAS.—Rex, surface, clock-like regularity; wanted, typewriter.—Briggs, Milton Avenue, Bath.

EXCHANGE, Tricar, 3½ h.p. De Dion engine, for motor cycle and cash.—Tollands, Oakleigh Park, London, N.

5-6 h.p. Antoine Twin, grand condition, exchange for 2½ h.p. (or cycle) and cash. See Siddall, sales column.

EXCHANGE 2½ h.p. F.N., good condition, and cash for light, low, magneto cycle.—443, Green Lanes, Harringay Park.

BROOKS Bucket Seat, for H.F. vulcaniser or buy for cash, also 750 by 80 tubes. Death, Beach Road W. Felixstowe.

GEAR Box, new, three speeds, reverse, cost £25; exchange up-to-date cycle, h.p.—42, Pershore Street, Birmingham.

TWO Motor Cycles, 3½ h.p. Rex, 3½ h.p. Ixion, both perfect and complete, for tricar.—30, London Road, Blackburn.

EXCHANGE, Lady's Cycle (Singer's Challenge), for good sidecar.—Shepherd, Helmsley Terrace, London Fields, N.E.

WANTED, Your Present Mount in payment of any 1908 make; keen quotations.—Farrar, Square Road, Halifax.

EXCHANGE Motor Cycle, Fafnir motor, Chater-Lea frame, for motor, suitable for boat.—10, Lindrum Road, Hampton Wick.

FINE Twin Rex for £4 and 1907 3½ h.p. Rex or level exchange for 1907 3½ h.p. magneto Rex.—Motor Exchange, Westgate, Halifax.

MOTO-REVES, 1908 models, immediate delivery; second-hand motor cycle taken part exchange.—Crisswell's Garage, Newmarket.

51-6 h.p. Beeston Humberette, in splendid condition, for good make motor cycle with two speeds and cash.—J. Baker, H. well, Beaworthy.

EXCHANGE Pair Tyres, 870 by 90, pair by 2 wheels, pair 28 by 2½ air tube wanted, motor bike.—Gamble, 111, Humberstone Road, Leicester.

MOTOSACOCES, 1908 models; second-hand motor cycles, foreign and British stamps taken in part exchange.—Motors, Green Street, Cambridge.

EXCHANGE, splendid 10-12 h.p. two-cylinder two-seated Cottareau car for triumph or other good make cycle, or tricar and cash.—9, Newbould Road, Cheadle.

GIVING Up.—3½ h.p. Fafnir, Chater-Lea Longuemare, two accumulators, studded back tyre, lamp, horn, stand, too registered, three tubes; £18, or three-speed push cycle and cash.—Fielding, St. George's Square, Hebden Bridge.

303 Sporting Lee-Metford Magazine Rifle, cost £10, perfectly new condition and 300 rook rifle, for Montgomery sidecar or sell £6; approval; also Goodlad's speedometer for separate generator.—Marksmen, 2, The Parade, Camberley.



THE MOTOR CYCLE



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Agents for the Colonies: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

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The End-to-End Trial.

BY the time this issue is in the hands of most of our readers the End-to-end trial—the most important of all motor cycle competitions—will be very close at hand. This year the entries fall about twenty short of the number taking part in the trial of two years ago, but the falling off is not quite so serious as it seems to be. Nearly all the entries this year are from motor bicyclists, while the number of passenger carrying machines is exceedingly small. Two years ago, however, the last mentioned type of motor cycle was much better represented.

The entries received this year amount to rather over sixty in number, and there seems to be no doubt that all enter with the intention of making a good fight to reach the finish. Last week Mr. B. H. Davies told intending competitors how to tune up their machines for the ordeal: the men, on the other hand, have doubtless been getting themselves into training by taking long rides and getting themselves fit. Not a few have been over the route before, so that everyone appears to have a chance of reaching the house that John founded, but did not build. There is, however, one small but important item to be considered, and that is the element of luck, which competitors and officials all strive hard to eliminate, and that it can be eliminated to a very large extent we are quite confident. By careful overhauling, defective parts in a machine can be discovered and replaced, by careful training the evil effects of over-exertion and fatigue can be overcome, but bad luck or, as Horace of old called it, "atra cura" sits behind the motor cyclist even as it did behind the horseman of olden times. Of the presence of this ill-omened demon no one who has religiously followed and studied six consecutive

A.C.U. trials can fail to be aware. One has only to refer to the reports of these competitions and see the number of good men and true who have been thrown out of a trial through an accident.

Accidents are really not all due to bad luck; generally speaking, someone is to blame, and this leads one to infer that carelessness plays no small part in the numerous mishaps which the writer is so reluctant to have to relate in writing his reports. With himself fit and his machine in good fettle a man has every chance of getting through, but his work does not cease there. He must all the time strive to maintain the machine and himself in that good condition in which both started, and the way to do this is to drive carefully. The A.C.U. officials are taking every possible step to cause competitors to drive with due consideration through towns and to keep their speed down in populous places, as by doing so they save the riders unnecessary fatigue, they save their machines, and endeavour to protect the public and save them from receiving anything but a good impression of the trials. The driving clause was primarily drawn up with the object of pleasing the public and the police, but above we have endeavoured to show that it is to the competitor's own interests to obey the rule. John-o'-Groat's is well worth reaching. Few people will ever see the place, so that those who have the opportunity should appropriate as their motto, "Take no risks." Tearing round blind corners, rushing down steep hills, and driving fast through towns are signs of bad form, and if indulged in, greatly lessen a competitor's chance of getting through. In conclusion we trust that these few hints will be observed, and, having expressed our views, we wish the best of luck to all those taking part in the contest.

Through Many Lands by Motor Cycle.

By E. M. BAXTER.

(Continued from page 515.)

Gaining Confidence.

About a fortnight was given to the gaining of experience in the driving of the new machine, and in studying its peculiarities and limitations. To this end daily excursions up to three or four score miles were made on all the chief

roads north and west of London. A very close watch was kept on every part of the engine and magneto, and the belt was tested under different degrees of tension. Various classes of both engine oil and petrol were experimented with for the purpose of trying to determine which would give the best results under the writer's driving. Paraffin and several alcoholic mixtures (not beverages) were also tried as fuel, so that there would be some personal experimental knowledge available in case a time should come when no customary fuel could be procured.

A sooted sparking plug and a visible surplus of oil in the engine at the end of two or three days was evidence that a full charge of oil every twenty or twenty-two miles is too much in the writer's case on an average speed of no more than *twelve* miles an hour. Ultimately the tests seemed to indicate that the greater the work required of the engine the more oil it is advisable to inject. When the rate is ten or twelve miles an hour on easy roads the quantity of oil used is a full charge every thirty miles, but when the average speed lies between twenty and twenty-five miles an hour, the road being smooth and not very hilly, the best results are obtained with a full charge of oil every twenty-five miles. Running at high speed on hilly and otherwise hard roads requires a charge of oil every twenty-two miles, and just before taking a severe hill it is found advantageous to give about a fifth of a charge of oil, unless a full fresh charge has been injected within a few minutes. One brand of petrol was thought to give rather more power than any of the others tried, but even this did not seem to be quite uniform in its results. It was found possible to use, at a pinch, lamp petrol or any one of several strong spirits in place of the usual fuel, but the effects of these on the engine by use for a number of hours or days could not, of course, be determined.

Another deduction from the experimental fortnight was that for such a tour as that in prospect a considerably larger tank would be advisable. Moreover, it was thought best to provide additional luggage space for the purpose of carrying a fair supply of "spares," a photographic outfit, and the small personal kit of the rider.

With the conclusion of the experimental study of the machine, and the change of tank, all was ready

for the definite start on the tour which seemed likely to extend through the greater part of the year, and lead into many delightful nooks in many strange lands. "Weighing in," it was found that the gross load to be propelled by the sturdy little $3\frac{1}{2}$ h.p. engine was some four hundred and fifteen pounds, or about thirty stones. Thus heavily loaded the discovery was soon made that the centre of gravity of the machine is raised several inches higher than it is on the machine which carries only a lightweight rider. On good roads in good weather this difference is hardly noticeable, but when roads are rough or muddy the raising of the centre of gravity increases very materially the liability to side-slip.

A Discovery.

Shortly after learning that the high heavy load lessens the ease of maintaining the equilibrium of the motor cycle on bad roads a counter discovery was accidentally made. By swinging the feet just clear of the ground one is readily able to check any tendency to fall, and thus keep going on instead of falling down. This "trick," undoubtedly known to all experienced motor cyclists, has saved the writer from a number of falls, let him down gently in several cases, and enabled him to run on very bad sections of road, whereas he would otherwise have had to dismount and push. Some Continental motor cyclists apparently did not know this "dodge." At any rate, several expressed surprise and admiration at its simple effectiveness.

A number of days were spent touring in the southern English counties before the Channel was crossed. Hardly a yard of the route traversed was dry, although in some places the "grease" was becoming stiff from the action of the wind, and thus was more annoying than when in a softer state. On several occasions the rider was caught in pelting rains, and once in a very severe but short hailstorm. At these times no external part of the cycle was free from the beating waters, and the thin mud of the road picked up by the quickly turning wheels continuously trickled off the machine. But the engine sang away sweetly, the magneto was unconscious of the raging elements, and the cycle splashed steadily on. Neither the weather nor the roads offered any obstacle to my mount. Up the heaviest grades—and there are some "stiff" hills in this part of the country—the speed fell off, but there was never a failure. On, on we kept going, sometimes with Boreas battling bravely to stop our advance, yet recovering speed easily after the more difficult parts of the steepest rises were surmounted. Occasionally the sun glanced slyly at the humid earth, and along the coast chill mists rolled in dense and dark from the murmuring waters of the deep.

Not a touring motor cyclist was seen with the exception of some few men on business bent at Bristol, Southampton, Brighton, and other large towns.

Through Many Lands by Motor Cycle.—

Hostelries in general in midland and southern England "love" motor cyclists much as the farmer loves the lamb—for the prospective fleece. With scarce an exception they look upon the motor cycle as a badge of affluence. Let this be accompanied by the American accent, so-called, which, by the way, seems to be the twin sister of cultured English speech. This reminds us of the New York lady who said when discussing a university graduate that he was a nice boy, but spoke with such a terrible English accent.—ED.], and "mine host" plainly lets it be seen that he anticipates liberal commands, for which a suitable price will be charged on the forthcoming bill. If the motor cyclist is modestly economical he is efficiently given to understand that he is hardly a credit to the reputation and traditions of the worthy house, which may be reputed to have entertained in the past a prince, a pretender, or even a monarch. To-day capital is made of the glorious personages and follies of bygone centuries, the innocent traveller being required to pay out good coin of the realm on account of the ghostly forms which legend's ever truthful tongue says are looking with kindly eyes on his presence. Whispering awe and genuflecting reverence are chattels of some value.

But not every English innkeeper wears the livery pictured above. Some there are whose accommodations and charges are fair, and independent of any

venerable shades that may haunt their abodes. In any case, however, English hotel charges are high, possibly on account of the huge national debt and the inordinate cost of producing the necessities of living. At any rate, these or other causes are very apparent in the bills of the tourist who travels by motor cycle. This is the experience of a foreigner. It is quite likely that an Englishman can travel more economically and with more satisfaction than the alien, because he is conversant with the customs of the country.

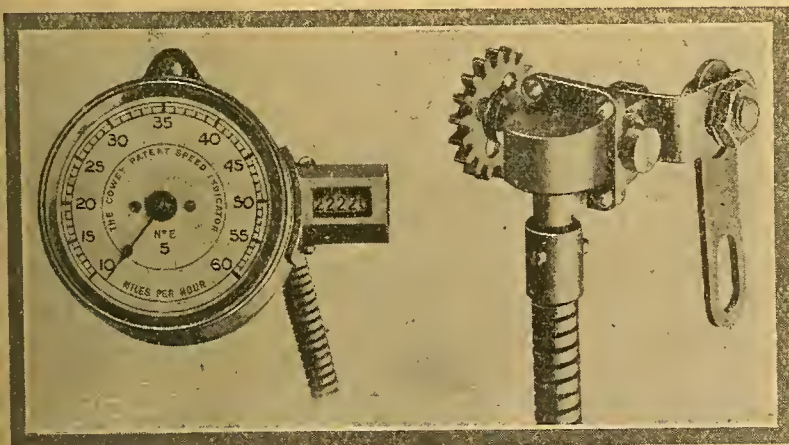
Modest cottage and noble hall, mead and wold, hill and valley, have ever enduring charms which give interest to the constantly varying pictures of nature that are passed in review by the motor cyclist. Even vile weather and grasping hosts cannot take away the delights of the English countryside—the countryside as seen by him who looks not for the relation between it and those who dwell therein. Even at a season when the prevailing tones are greys and browns and purples no country in the world is quite so attractive in its combined sylvan and pastoral scenes as England. What pleasing mutations of form and combinations of colour! But even these must not detain the tourist too long.

Folkestone was set in banks of mist, the Channel was veiled in fleecy vapours, and Boulogne was bathed in the tears of the weeping skies, as we prepared to embark for other shores.

(To be continued. See announcement last week, page 514.)

THE COWEY SPEED INDICATOR.

YET another firm which is seriously taking up the question of catering for motor cyclists as far as speed indicators are concerned is the Cowey Engineering Co., Ltd., 1, Albemarle Street, Piccadilly, W. The speed indicator has its dial fixed on the handle-bar, the transmission being effected by



On the left the dial showing the Odometer, and on the right the driving pinion bracket and flexible shafting.

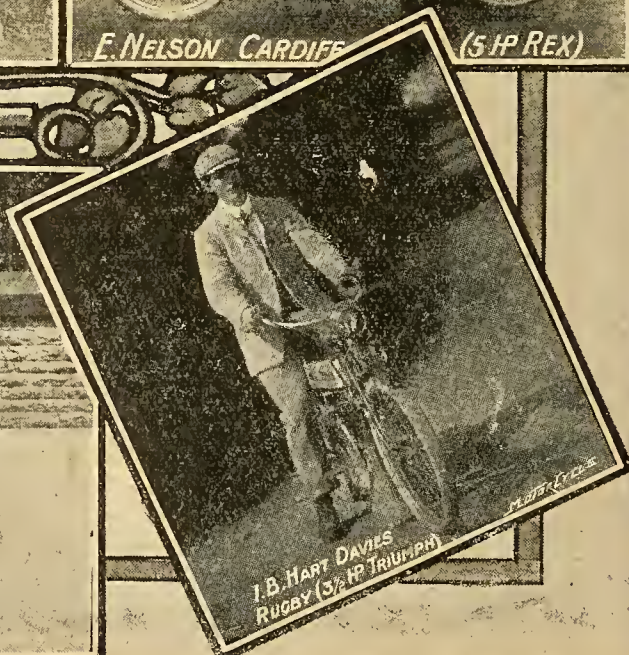
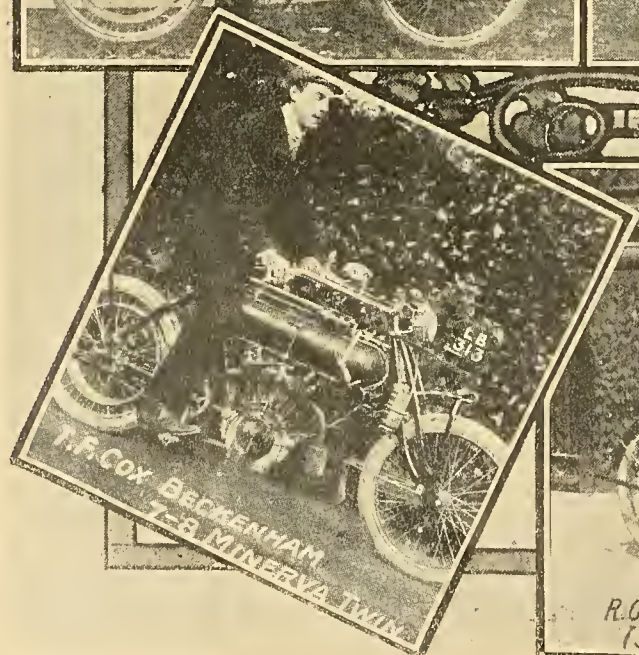
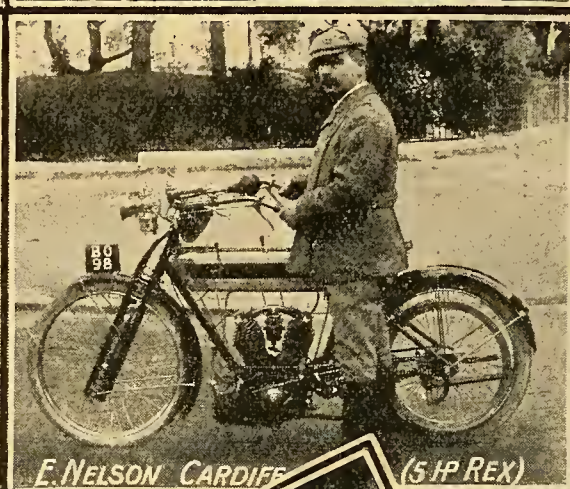
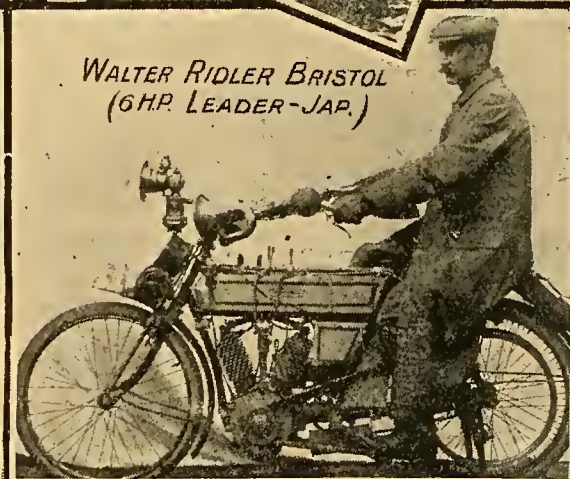
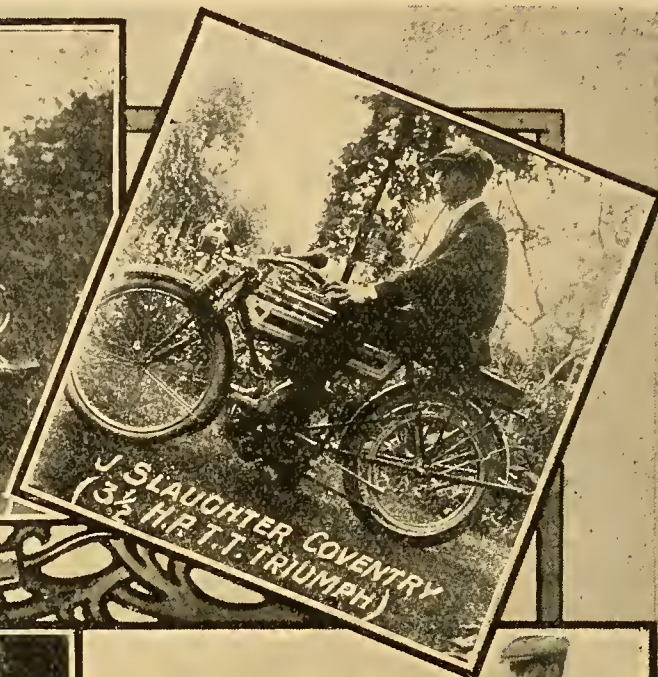
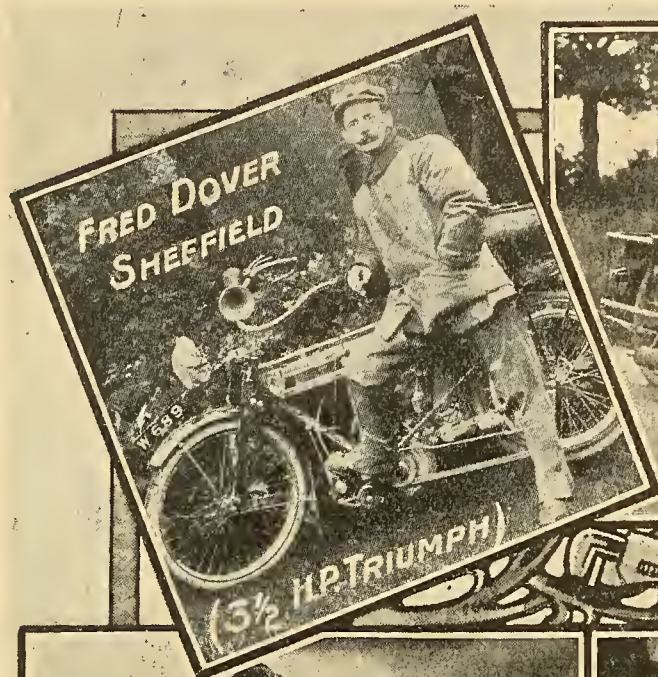
means of spur wheels. The driving spur wheel is attached to a bracket designed to clip on the front wheel spindle, while the transmission is conveyed to the mechanism by means of a protected flexible shaft. The principle employed in the instrument mainly consists of three fundamental parts—a heavy balance wheel, a spring, and a propelling device. The spring is connected up to the balance wheel by means of a small chain in such a manner that it tends to draw the balance wheel continuously in one direction (the direction of zero on the indicator), while the propelling device gives a series of intermittent impulses to the

wheel which tends to draw it in the opposite direction. The faster the machine travels the more numerous will be the impulses given to the balance wheel by the propelling device, and the spring, having more work to do in overcoming the effect of these impulses, will be deflected and allow the balance wheel to be displaced angularly to a greater or less extent. The balance wheel in its turn operates the indicator hand, and moves it into a position which represents the speed at which the motor cycle is travelling. One of the greatest features of the indicator is the steadiness of the hand under any conditions. The flexible shaft, instead of being a coiled wire, is a special form of chain. Every machine sold by the Cowey Engineering Co. is guaranteed to keep in perfect working order for twelve months, irrespective of the distance the machine has travelled. The dial is 2 3/4 in. in diameter, and the figures are clearly marked. An Odometer is also attached, which registers up to 10,000 miles.

Reference has been made in these columns to petrol spraying out of the vent hole in the filler cap of motor cycle tanks, especially when the tank is full. A reader reminds us of an old cure, *i.e.*, put a pin in the hole and bend the point upwards to prevent the pin getting lost.

The Bosch Magneto Co., Ltd., 23, Store Street, Tottenham Court Road, W.C., advise us that they are now in a position to furnish booklets descriptive of the D.A.V. magneto for twin-cylinder V engines for motor cycles. There has been a slight delay in completing these booklets, but any reader can have one now on application to the company at the above address.

Some of the Entrants for next week's End-to-end Trial.



LETTERS TO THE EDITOR.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20 Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Delay in Supplying Accessories.

[3395.]—The letter of Mr. Alexander Roger in your issue of June 3rd is very much to the point. I have myself been kept waiting respectively two weeks and three weeks for an acetylene headlight and generator, also ten days for side lamps and tail ditto. The headlight and generator were paid for cash in advance. The lamps mentioned were for a small car—8 h.p. Phoenix. LB4558.

Suggested Meet of Motor Cyclists near London.

[3396.]—I have often thought, with the influence of your journal, a meet of motor cyclists could be arranged in or near London. A similar thing has been very successful in the Northern district, and I do not see why it could not be arranged with London and district clubs, say a point twelve to twenty miles from London—Hampton Court, Virginia Water, or any other appropriate place which could easily be arranged.

I should be very pleased to hear from other London and district clubs, with a view of carrying this into operation.

H. VOWLER,

Captain Western District Motor Club.

Leaking Batteries.

[3397.]—Along with hundreds of other motor cyclists, I experience much trouble from spilt acid. In almost every instance the leakage occurs past the terminal plugs—a fault which, to the lay mind, appears most easy to remedy by fixing a bridge at the top of the plates to stop all upward movement when running, and preventing the case from cutting the rubber stops at terminals.

Some makers put on the market a non-spilling battery, which the lucky possessors appreciate, but it is after a few months' use the trouble begins, and not everyone cares to scrap an accumulator which is in every other way perfect.

My object in writing is the hope that this wail may catch the eye of some of the makers, and induce them to adopt a means in future of preventing the prevailing grievance.

Not all manufacturers are motorists; if they were, the fact would soon become apparent that the jolting of a motor necessitates quite secure fixing of plates, whereas the general run of batteries are only good for stationary work.

R. N. MORLEY.

Sidecars and 3½ h.p. Machines.

[3398.]—Referring to your article on the above in your issue of the 24th ult., I wish to endorse the statements made as to the utility of a sidecar attached to a reliable 3½ h.p. machine. I purchased last month a 1908 Triumph 84 mm. x 86 mm. and a Milford castor wheel sidecar. I have covered about 600 miles without a hitch (except a puncture), and while I do not wish to enter into a discussion as to the merits and demerits of the different makes of sidecar, I have yet to find out the demerits of the castor wheel. I can thoroughly recommend this combination to anyone thinking of taking up motor cycling. The initial cost is much less, and the cost of upkeep only a fraction of that of a small car.

A recent week-end I invited a friend to go with me round the Antrim Coast. He was amused at the confident way in which I mapped out the route (160 miles), and looked on the prospective journey as a serious undertaking, but after the comfort of a well-sprung seat, the consistent running of the engine, and the average speed of eighteen miles per hour (our only involuntary stop being to repair a puncture), he is now enthusiastic over the trip and will soon be in possession of a similar machine.

J. W. C. COULTER.

Rubber v. Leather Belts.

[3399.]—The drawback *re* rubber belts of slipping when wet is certainly existent. The question is, does the slipping occur on the engine or the rim pulley?

The real drawback, of course, with all belts of this type is that they suddenly cease work without the slightest warning. The fastener pulls through, and no matter if run tight or slack the thing occurs with exasperating frequency.

Why do not the Lincona or some other firm turn their attention to a leather and rubber belt; that is, a leather built-up belt with a rubber covering?

Short of this I have found nothing to touch the new Lincona four-ply belt with improved flat rivets. The life of this belt is surprising, and I am surprised that such an excellent belt is not advertised and more heard of.

DISTRIBUTER.

Glen Finnart Climbed by Two Motor Cyclists.

[3400.]—Some few months back you published a very interesting article entitled "By Mountain, Glen, and Loch," written by Mr. T. C. Maitland, which led to some correspondence in your columns between that gentleman, "Argyllshire," and Mr. Hugh Gibson, of Southport. This resulted in Mr. Gibson promising to attempt to climb Glen Finnart. This hill Mr. Maitland describes—and rightly, too—as most severe and dangerous; in fact, I must say, after seeing the hill, his description is a very true one.

On June 27th I accompanied Mr. Gibson to witness his promised attempt. After studying the hill, and walking up to examine the hairpin bends (four), we both came to the conclusion that it was an almost impossible hill in the course of a tour; in fact, quite so, without a two-speed gear, owing to the dangerous bends, terribly rough, broken surface, and severe gradients on the bends—quite one in four, I should say, although the average gradient is given as one in eight in the Contour Book. At the first attempt, Mr. Gibson succeeded in reaching the last bend almost at the summit, when he came to grief through skidding badly on the broken surface, rolling over into the gutter and bank on the roadside.



Otto H. Gross (Manchester M.C.), who completed the 100 miles run in "The Motor Cycle" Cup Competition without an involuntary stop.

Attempt No. 2 was similarly unsuccessful, and once more the twin Vindec and its rider skidded off the road (a misnomer—track would be a better description), and again came to grief. Both these falls shook Mr. Gibson badly, as he is a light rider, and, as you know, a twin Vindec is not a lightweight to handle. At the third attempt he succeeded in making a clean ascent, but with the low speed in on the last bend. His performance was most plucky and skilful, as many riders, I am sure, would have been disheartened.

Mr. Maitland and "Argyllshire," I think, will be interested to hear that I succeeded in climbing the hill on a 1908 $3\frac{1}{2}$ h.p. standard Triumph at first attempt. I attribute my success where Mr. Gibson failed on two occasions to the lighter weight and the easier control of my machine at the bends.

I am afraid I shall be accused of self-aggrandisement for mentioning my climb, but I have done so with the desire to show what a flexible engine is capable of in the hands of one who understands and can handle it successfully. At the same time, I certainly think a two-speed gear necessary, as I should describe this hill as unclimbable in the course of an ordinary tour. I believe Mr. Gibson's gears were $4\frac{1}{2}$ to 1 and 9 to 1, his weight 9 stones 3 lbs. My gear was $5\frac{1}{4}$ to 1, weight normal 11 stones. I cannot say what my weight was whilst riding the hill, as I discarded almost every possible article of clothing before making the attempt, knowing it would be necessary to pedal at the bends where I had to slow the engine.

J. H. BRERETON.

Piston Rings.

[3401.]—Possibly some of your readers who use small high speed engines and have had piston ring trouble may find the following of some interest.

I have a theory, based on experience, that engines of that type are more severe on their rings than those of a bigger slow speed pattern. Anyhow, I had much trouble with my rings till within a comparatively recent date. Breakages, loss of compression due to rapid wearing of rings, and ditto due to the slots getting into line when running, were constant worries. I tried various rings, including three different samples made by the firm responsible for the engine (a foreign house—one of the best known in the motor cycling world). All of these gave more or less indifferent results. In a happy hour I tried the Gradior piston rings. Since then my troubles have vanished. These seem to have so much "substance" and "spring" in them as to offer probabilities of very prolonged wear and small chance of breakage. In addition to that, the makers have adopted the very simple and sensible plan of cutting the slot of the centrally placed ring in a direction the reverse of that in the upper and lower rings. This greatly lessens the risk of the slots getting into line—a trouble which was continually occurring with the rings originally fitted in my engine, and, of course, meant a falling off in compression. This falling off in compression was apparently most apt to show itself just at the time when it would be most felt, i.e., when tackling a steep up grade.

I have no financial interest, direct or indirect, in recommending the rings made by the Gradior Co., but would like to let fellow motor cyclists know of the good thing I have discovered.

Other riders may be experiencing worries similar to mine. To them I would suggest the cure I have found so successful.

EXPERIENTIA DOCET.

Belt Fasteners.

[3402.]—Do "Ixion" and "O 693" ever read the advertisement columns of *The Motor Cycle*? Let them use their eyesight and save their money and tempers; a fastener to their own specification and better has been advertised there for about a year, made by S. T. Robson, of Birmingham. I have had one of his Star Patent on a $3\frac{1}{2}$ h.p. single for over 3,000 miles, and just lately examined it out of curiosity for the first time. It is practically as new, and should last out several belts (leather belts I mean, not 1,000 mile rubber things for the kid-gloved brigade). A friend of mine has had the same experience, and we agree that the maker deserves a testimonial and free advertisement, as he will not have many repeat orders.

JUPITER.

Mechanical Valves on Twin-cylinder Engines.

[3403.]—Why is it that nearly all manufacturers persist in using the old-fashioned automatic inlet valve in their twin motor cycles? Surely the superiority of the mechanical valve has been proved often enough to justify universal adoption. I happen to know several twin owners, and all complain of the continual tinkering with the inlet valve springs that is necessary. Again, there is the question of leaky domes, which I believe is a persistent form of worry in many twin engines. As far as I can see, there is absolutely no reason for retaining a.o.v. in twins. People seem to have agreed to abolish it in single-cylinders, therefore why not in twins? where it is really more necessary to have m.o.i.v., since it is so difficult to get the two automatic valve springs of equal strength. Is it possible that manufacturers are loth to lay aside their old patterns? Really, there seems to have been no improvement in two-cylinder engines during the last year or two. I hope some of the advocates of the antiquated notion of a.o.i.v. will set forth what they consider to be the advantages of the system, as I can see none at present.

As regards exhaust valves getting loose and breaking pistons, I may add another case, absolutely true. A friend of mine, when riding a $2\frac{1}{2}$ h.p. Clément-Garrard, had his piston smashed by the exhaust valve head while riding. There was certainly no doubt about it, as he had to make another piston! Fortunately, being a good mechanic, he did not have to buy another piston, as the average rider would have to do.

M.O.I.V.

Touring Machines. The Weight Question.

[3404.]—With reference to letter 3358 on the above subject from the Motor Rêve Co., it would appear from their



Competitors congregating at Tolka Bridge, Dublin, for the M.C.U.I. inter-centre contest for the Triumph Cup. (See page 541.)

remarks that they are under the impression I had never examined or tried one of their machines. As a matter of fact, the Motor Rêve was one of the machines I had in mind when the above article was written. I have no intention of decrying the lightweight machine at all, but the difference from the point of view of comfort and absence of vibration of my own heavy twin with the lightweight was very marked, and my machine is fitted with girder forks.

It appears to me that the whole question is based on the following points:

(1.) Tyres. The larger tyres of the heavier machine absorb road vibration to a greater extent than the smaller tyres of the lightweight.

(2.) A light machine is naturally banged and bumped about more than a heavy machine over rough roads, in the same way that a small single-cylinder car when compared with its big four or six-cylinder brother.

With regard to their remarks as to ease of control, I do not use an abnormally low gear, as they appear to think, and I had no word of complaint as to the ease of control of the lightweight, but simply drew attention to the fact that a heavy machine is not necessarily unmanageable in traffic as many appear to think.

I may add that the wheelbase of my machine is about 70in., very long handle-bars, footboards, and extra large saddle.

C. E. T.

A Problem to be Solved.

[3405.]—Referring to Mr. Templar's letter in your last issue *re* four-cylinder F.N., I should like to point out to him that my F.N. crank case is divided into four compartments. I do not know whether he has one or not, but his solution of the puzzle certainly fails so far as a four separate crank case engine is concerned. JOSEPH H. BROOKES.

[All four-cylinder F.N. engines have the crank case divided into four compartments.—Ed.]

[3406.]—*Re* letter 3364, I have also noticed the same phenomenon on more than one motor cycle, though I cannot say that I have ridden more than a few yards with the engine in this condition; then it has suddenly lapsed into the normal state. No doubt it has occurred with others, but their belts may have slipped, causing their engines to race, and this they have attributed to the slipping of their belt, and thought no more about it. It is certain that belts will slip at the moment the engine takes such a powerful hold.

As regards the cause, I am of the same opinion as your correspondent; that is, that at a high temperature and speed there is a continuous film of oil between the expanded piston and cylinder on the upper side of each ring, and as it were riding on the rings. It is clear that when this is the case the compression will be the highest obtainable, as far as the piston is concerned; also the sides of the cylinder will be constantly and well lubricated, and thereby the highest efficiency obtained.

Trusting we shall have more information on the subject, as I consider it well worth ventilation,

FRED WHITTAKER.

[3407.]—Concerning our New York friend's unexplainable phenomenon, I believe that the lubricating oil acts as the fuel in a Diesel oil engine does, *i.e.*, it is squirted into the cylinder



Some competitors in the Leeds M.C.C. Hill Climb at Sutton Bank for the Grange Trophy, won by J. Scriven (5 h.p. Rex).

which is full of "red hot" air, and it burns and expands, forcing the piston down. In a Diesel engine the temperature of the cylinder is much above that of the ordinary cycle, so this I think explains it. This, though, leads me on to something else. Why should not Diesel engines be used for cycles? The advantages are: (1.) Oil burnt, not exploded; no silencer and even motion. (2.) Oil burnt in cylinder; no carburetter. (3.) It will burn any oil, and the temperature is so high that no deposit is left. The only disadvantage I can see is the fact that an air chamber for 750 lbs. of air is wanted and a small pump. SEMI-YANK, R.N.

[3408.]—I was extremely interested in the letter headed "A Problem to be Solved," by Earle L. Ovington, of New York, in *The Motor Cycle*.

I have now ridden a four-cylinder F.N. for three months, and have covered about 2,000 miles. My machine exhibits exactly the same phenomenon as Mr. Ovington so aptly described, only to a greater extent.

It will generally get into the "abnormal state" if the road is not uphill and the wind is also favourable.

I do not think it depends upon the heat of the engine so much as upon the warmth of the carburetter, which does not

get warm for a mile or two. Also I do not think that oil has much to do with it, as long as there is sufficient. I give one pumpful every twenty-five miles! If more is given, the inlet valves get "sticky," which I believe detrimental to the "abnormal state."

I consider my machine will go not more than thirty-five miles per hour normally, but will reach forty-five if not fifty miles per hour in the "abnormal state." When driving, I first get the machine into the "abnormal state," and then partly close the throttle, when it will still continue in this state, but at a reduced speed. I believe the secret of success partly lies in having the level of petrol very near the top of spray nozzle.

In conclusion, I must say that I have nothing but praise for the four-cylinder F.N. It is absolutely reliable, and will start at a walking pace. I have never had a single stop on the road as yet. It is a perfect boon to have no belt, and its consequent troubles. Its smooth running alone puts it streets ahead of all other makes. I shall always ride a four-cylinder F.N. if I can.

The prevalent idea that four cylinders make it complicated is a perfect fallacy. Any one cylinder can be removed in five minutes. I have never broken an exhaust valve!

B. H. BAYLISS.

Standard Machines in Competition.

[3409.]—With reference to the use of standard machines by the trade competitors in trials and hill-climbs, it may interest some of your readers to know that the 3½ h.p. Phelon and Moore, ridden by Mr. Moore in the A.C.U. Sutton Bank Hill-climb, was not only an absolutely standard machine, but also a very hard worked one. It competed with sidcar clips attached, and when the competition was over it was straightway connected up and set off for a week-end tour with passenger and sidcar. This is what I consider an all-round machine. How many machines that I saw at Sutton Bank could do the same?

T. P. CROSLAND, JUN.

[3410.]—Your leading article in *The Motor Cycle* of June 10th dealing with the above subject lays very necessary emphasis on a fact which the majority of your readers who have never witnessed an open hill-climb can hardly be expected to realise. For, despite occasional statements to the opposite effect, the trade man, with one or two notable exceptions, does most certainly ride a machine differing in all essential points from the standard model on which the prospective purchaser hopes to equal his feats.

Let me quote an instance with which I am personally acquainted, and which is typical of many others. A friend, who lives some two hundred miles from town, bought a 3½ h.p. machine of a well-known make emanating from the Continent, largely on the strength of the very remarkable performances made by a trade rider in charge of what he supposed to be an identical machine. Now, though by no means a "dud," this standard model was very far from being capable of the advertised powers of its supposed sister machine, and though sturdy and reliable for the most part, yet by no amount of care could the professional "tuner" have secured equal results therefrom, tune he never so wisely.

There are, of course (and I have frequently seen them), many more flagrant and deceptive examples of special construction than the one I have just referred to; still, it is no exaggeration to describe the difference in the present instance as lying between a frame fitted with an engine and an engine fitted with a frame—and a very slim one, too.

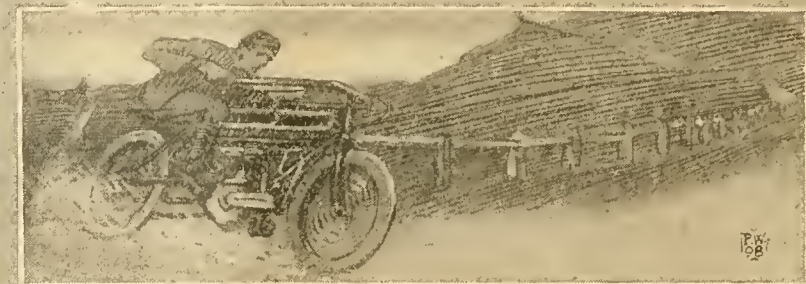
It must also be borne in mind that this use of one "advertising" machine cuts both ways, inasmuch as, while the purchaser does not get what he is led to expect, neither do the manufacturers gain that invaluable experience which accrues to those who enter their standard model, and who generally ride, not train, their bicycles to the scene of action, and display their powers perhaps on the very morning on which they have ridden down.

I will conclude by suggesting that not only should the machine itself be standard in all respects, even to tyres, but that ballast should always be employed to equalise riders' weights; and, further, that the rule relating to the use of effective silencers should be rigorously enforced.

H. LISTER COOPER.

EXPERIENCES WANTED.

"J. A. G." would like a reader to inform him of the best route from Plymouth to Rhayader, in Radnorshire.

CURRENT
CHAT.Special
FeaturesEND-TO-END ROUTE
MAP.List of Competitors and
their
Identification Numbers.

Gymkhana at Birmingham.

On Saturday, July 18th, the 13th annual gymkhana will be held at Birmingham in aid of the funds of the Moseley Hall Convalescent Hospital. Two open events for motor cycles will be included, viz., a slow race and a to and fro race.

Private Riders on Sutton Bank.

In the Leeds M.C.C. Sutton Bank Hill-climb at the end of last month we note in a letter from Fred C. Bagshaw that only five machines succeeded in reaching the summit of the hill, viz., three twin Rexes, a 9 h.p. Buchet racer, and a 3½ h.p. Triumph.

Addresses Wanted.

Will Miss F. M. Crombie kindly communicate with us, as we have received a letter intended for her?

Will the correspondent who sent us particulars of the Laviassa Autocicletta, or the makers of this machine, kindly communicate with us, as we are anxious to know the exact address of the manufacturers?

More Unreliable Timing Methods.

Two Coventry motorists were summoned at Corwen last week for travelling at over twenty miles an hour. The solicitor who represented them succeeded in getting the case dismissed, as the four policemen who worked the trap admitted that they did not compare their watches either before or after trapping the motorists. The constables refused to estimate the speed at which the machines were travelling.

An American Competitor in the End-to-end.]

On Saturday last T. K. Hastings sailed from New York on the ss. St. Paul in order to ride in the Land's End to John-o'-Groat's trial next week. He will arrive at Plymouth and go direct to Penzance. The machine Mr. Hastings is bringing with him is a 5 h.p. twin-cylinder Indian, chain driven, and with magneto ignition.

Motor Cycle Race on the Continent.

The Motor Cycle Club of Rheims held last week the annual Grand Prix for motor bicycles of all classes over a circuit of eighteen miles, which was covered seven times. Eighteen competitors were started at one minute intervals, and the results were as follows: (1.) Dieudonne (Griffon), Michelin tyres, 3h. 20m. 45s.; (2.) Triquenot (René Gillet), 3h. 42m. 41s.; (3.) Noel (René Gillet), 3h. 47m. 50s.; Souplet (René Gillet), 3h. 59m. 52s.; and Lechanguette (Griffon), 4h. 16m. Bucquet had a fall in the fifth round, and unfortunately broke his right leg.

For the American Market.

Inventors of motor cycle specialities who are anxious to have these goods made on royalty in the United States should communicate with the Editor, marking their letters "Royalty," when they will be forwarded to the right quarter.

Dangerous Tramlines.

While riding through Kingston-on-Thames, the other day, a motor cyclist skidded on the tramlines at a corner, and was thrown to the ground. A local resident who witnessed the incident



Entente Cordiale. J. W. Percival's decorated tri-car at the Woodford meet, June 20th. The driver is attired as a French Army officer, and the passenger as Britannia

told the motor cyclist that the rails were regularly greased by the tramway company to prevent noise when cars are going round the corner. If such is the case a warning should be placed in a conspicuous position, as it is highly dangerous to cyclists and motor cyclists.

General Meeting of Motor Cyclists.

The suggestion is again made in our correspondence columns for a general meeting of motor cyclists in or near London. It is undoubtedly a good idea, and after the first gathering there would be no difficulty whatever in making the meeting a great success. Club secretaries should consider the matter.

Yarmouth Riders in the End-to-end.

Three members of the Yarmouth and District Motor Cycle Club will compete in the Six Days' Trial next week, viz., Dr. H. R. Mayo, F. G. Galley, and F. W. Barnes.

Damage caused by Steel-studded Tyres.

The Motor Union has received a letter from the Local Government Board's secretary in the following terms: "I am directed by the Local Government Board to state that it has been represented to them that much damage is done to the roads by the use of various forms of 'armoured' tyres on motor cars, and the suggestion has been made that such tyres should be prohibited."

Police Traps.

We are informed of a police trap working in the neighbourhood of Clitheroe, one mile from the town on the Skipton Road.

The trap at Southam (Warwickshire) resulted in a number of motorists being fined the sum of £60 in all last week.

A trap is in operation most week-ends in Lewisham High Road, S.E.

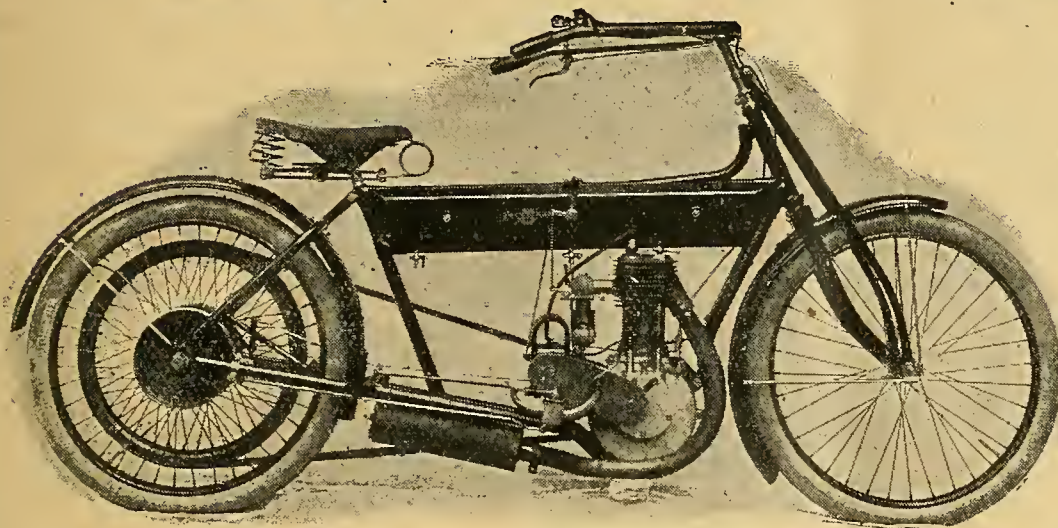
We are informed of the existence of a trap on Watling Street, electrically worked, at Weston-under-Lizard, running half-way between Penkridge and Wellington, Shropshire. The extent of the trap is 440 yards, and the road is dead straight.

In Barrack Road, Christchurch, on the Bournemouth Road, there is a 220 yards trap after passing the barracks. A reader was accused of covering the measured distance in eighteen seconds, whereas his speedometer was registering seventeen miles per hour.

Proportionate Fines.

The other day Mr. J. H. B. Damon, of Chelsea, was driving a motor bicycle through Richmond Park on the road between Priory Lane and the Richmond Gate. Immediately on entering the park he was stopped by a park-keeper and accused of travelling at the rate of twenty-one miles an hour. When the case came on the list of "offenders" was headed by Miss Dorothy Levitt, who was fined £2 11s. 6d. for travelling at a speed of nineteen miles an hour. When Mr. Damon's case came on he was fined £3 11s. 6d. The contrast between nineteen and twenty-one miles an hour is not great, but for a motor bicycle costing £50 to be fined £1 more than a car costing several hundreds seems to be hardly right. It is quite time something was done to render these fines being dealt with in a more equitable manner.

ALL THE WORLD



is talking of the ROC—"the car on two wheels." The Roc live axle, with clutch and speed gear, is the key to the future of motor cycling. The 1908 season has proved its efficiency in practice.

The 1908 ROC is also conspicuous by, e.g., the ball-bearing engine, the low duplex frame, the new large silencer, the remarkable control. The Roc 4 h.p. Royal Military Model, inclusive of these features, sells at 48 gns.

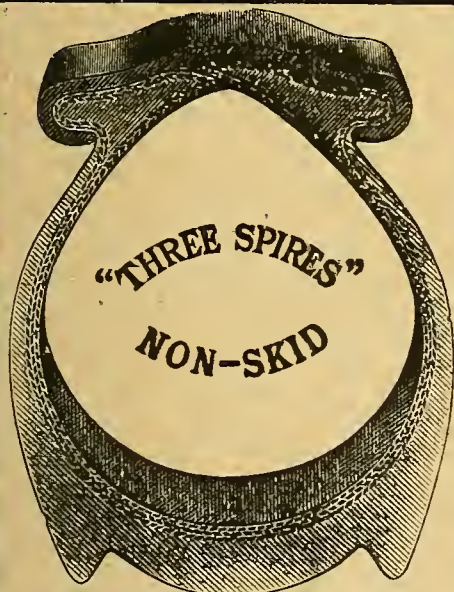
Early deliveries.

SPECIAL NOTICE.—Machines sent to the works for Roc clutch and gear conversions can now be promptly dealt with and the conversions returned complete and tested in about three days from receipt.

A. W. WALL, LTD.,
ROC MOTOR CYCLE WORKS, BIRMINGHAM.

ASTON RD. & DARTMOUTH ST.

London Agents—The Service Co., 292, High Holborn, W.C.



This is the non-skid ready to come into action if needed.

This is the tread taking the wear

A RUBBER NON-SKID

CORRECT IN THEORY,
PERFECT IN PRACTICE.

CUSTOMERS WRITE—

"The feeling of security from side slipping increases the pleasure of motor cycling. I have successfully competed in the London to Edinburgh run on Three Spires Non-skid, this is a proof of their reliability."

"I fitted a Three Spires Non-skid Tyre to the driving wheel of my Twin Minerva for the London to Edinburgh 24 hour trials, the tyre carried me through, and since I have ridden 1,000 miles, and it shows little wear; I have not had a single puncture and have found it a perfect non-skid."

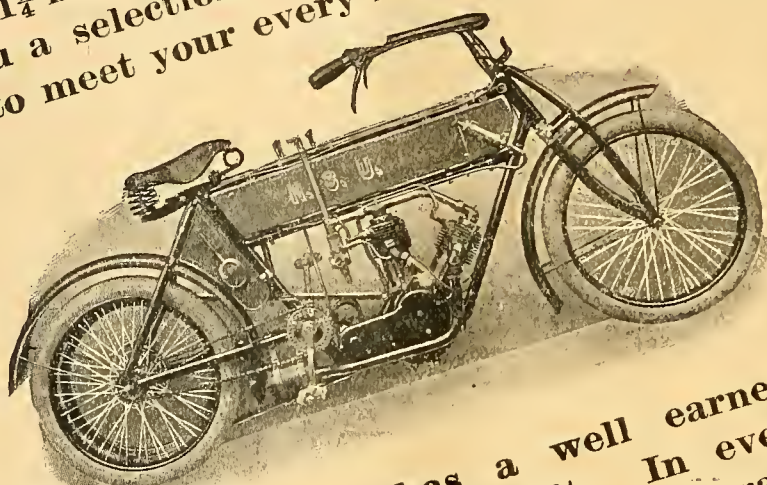
Write for special offer to readers of "The Motor Cycle."

THE

Coventry Rubber Co., Coventry

Write to us

about the new mount you want to get. The range of N.S.U. models extending all the way from the 1½ h.p. Lightweight to the 6 h.p. Twin offers you a selection of superlative excellence such as to meet your every requirement.



Each N.S.U. model has a well earned and enviable reputation behind it. In every hill climb, touring test, and feat of endurance, the N.S.U. is always in evidence. 12,000 N.S.U. riders can tell you of its merits. Without the N.S.U. Catalogue you are buying with the most important motor cycle out of your consideration.

MAKE A NOTE OF THE

N.S.U.

N.S.U. MOTOR CO., Ltd., 78, Charlotte St., London, W.

N.S.U. Non-skid Device makes side-slips impossible.

It requires two minutes to attach it. Price 3/6.

N.S.U. Sparking Plug solves all misfiring troubles.

N.S.U. Two-speed Gear levels all hills.

N.S.U. Belt Fasteners ensure an easy mind.

Write us about all these, too.

End-to-end Ride.

The 3½ h.p. motor bicycle which A. D. Powell, of Leicester, will ride in the Land's End to John-o'-Groat's Trial next week will be fitted with a new pattern Fitall hub gear.

A Two-seated Tricycle.

On June 10th an illustration appeared of a motor tricycle built to the order of Dr. Bradburne. The appearance of this illustration has led to numerous enquiries from various of our readers, and Dr. Bradburne has requested us to state that, as the machine was put together under his supervision by a local agent, he cannot answer the queries as satisfactorily as he would like. He is therefore anxious to hear of a person or persons who would care to take up the manufacture and development of the idea.

A Tricar in the Team Trials.

A tiller-steered tricar, driven by J. Portwine in the Team Competition at Daventry, was much admired. It is called the Weller, and is propelled by an air-cooled engine 90 by 102 mm., with two outside flywheels, through a hub two-speed gear and plate clutch. The frame is open and suspended on long laminated springs. Unfortunately, it did not make a non-stop run owing to oil getting on the contact maker and causing bad misfiring on a steep hill. We understand that Boots, Ltd., cash chemists, have two similar tricars running daily in London traffic.

An All Night Ride.

The Essex M.C. has arranged an all-night ride to Yarmouth on Saturday evening, the 18th inst., leaving Barnard's Hotel, Chelmsford, at 11 p.m.

A.C.U. End-to-end Run.

An interesting entry is that of Mr. A. F. Wilding, the well-known lawn tennis player, who competed in the championships at Wimbledon last week. Mr. G. W. Hillyard, secretary to the meeting, is also a most enthusiastic motor cyclist, and that his name does not appear among the list of entrants is a matter of regret.

Speed Trials at Portmarnock.

The Dublin Centre of the Motor Cycle Union of Ireland have arranged the following programme of races on Saturday next, July 11th, at 3 p.m.: Event I., two miles members' handicap. Event II., four miles members' handicap for the Dunlop Cup, cylinder capacity not to exceed 350 cubic centimetres. Event III., twenty miles open handicap for Kavanagh Cup. Entries close to-morrow (Thursday) evening. All competing machines must be equipped with proper motor cycle saddle, tyres, and two independent brakes. Club medals for first and second in each event, also third prize if more than twenty entries. It is probable that an event for members of the Dublin and District M.C.C. will be included. Entry forms can be obtained from the hon. sec., Mr. J. S. Armstrong, 34, Oakley Road, Rathmines, Dublin.

Nottingham Motor Cyclists.

In one month the membership of the Nottingham and District Motor Cycling Club has reached a total of forty-five. A writer in a local paper advises the committee to accept small car owners as members, but it is questionable if all mixed clubs are such a success as he imagines.

Admission will be 1s. Tickets and full particulars may be obtained upon application to the hon. sec., Mr. Harold Fuller, Wynndale Road, Woodford, Essex.

A.C.U. 24 Hours Ride.

The A.C.U. annual twenty-four hours' ride from London to Plymouth and back will start from the Angel Hotel, Thames Ditton, on Friday, August 7th, at 9 a.m. Both private and affiliated members may compete in this event, and the entrance fee will be 10s. 6d. There will be a timed test between Yeovil and Honiton, outwards and homewards, the time allowed being 1h. 32m. each way, and competitors who arrive within three minutes either in advance of or behind this time will qualify for a gold medal, provided the performance on the other part of the journey merits it. Those competitors who complete the journey but fail to ride the timed section within the limits allowed will qualify for a silver medal.

Cyclists Fined for Excessive Speed.

Four colliers were recently fined 40s. each at Newport for riding push bicycles at sixteen to eighteen miles an hour at Rogerstone. Four others were fined 20s. each for riding at a rate of sixteen miles an hour. A superintendent said that some of these young colliers rode down the valleys at a terrific rate, and were a source of danger.

The Popularity of Magneto Ignition.

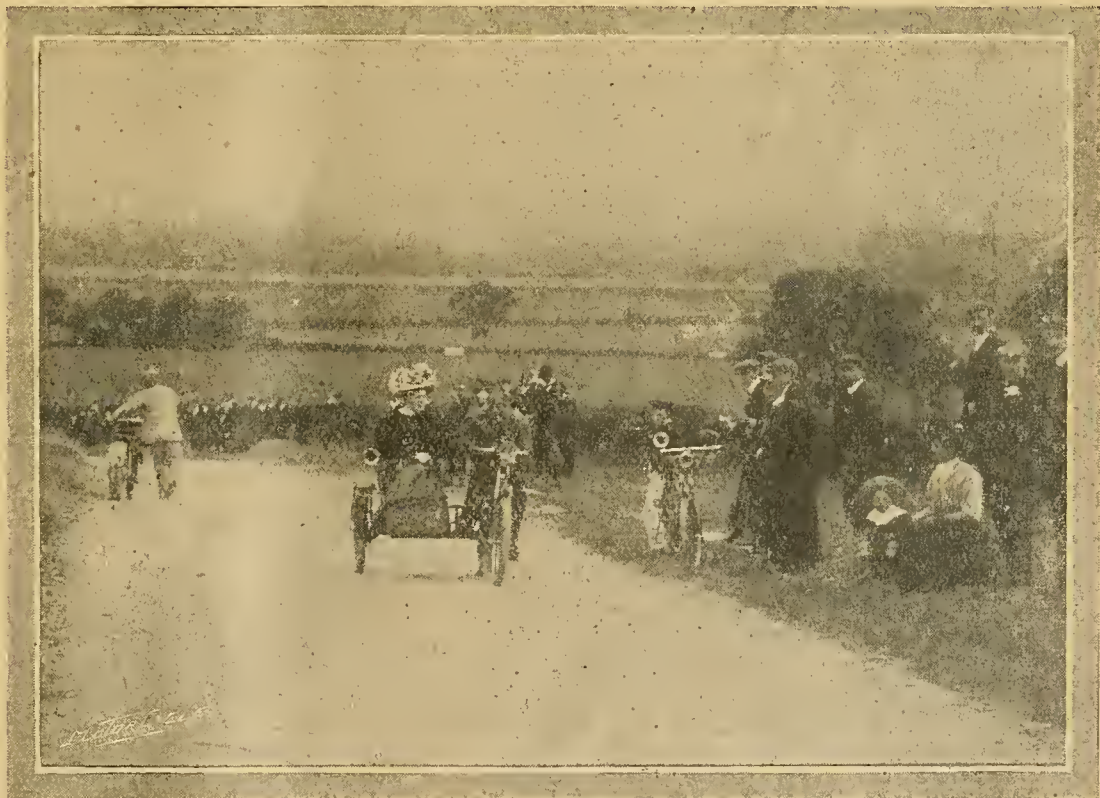
From the list of entries for the six days' reliability trial, published on page 542, it will be seen that no less than fifty-seven of the sixty-four machines entered are fitted with magneto ignition.

FUTURE EVENTS.

- July 9—Five Miles Handicap at Chesterton, Cambridge.
- " 13-18—A.C.U. LAND'S END TO JOHN-O'-GROAT'S SIX DAYS' RELIABILITY TRIAL.
- " 14-15—M.C.U.I. (Ulster Centre) Open 400 Miles Reliability Contest.
- " 18—London and South Western Bank Five Miles Motor Cycle Race at Herne Hill.
- " 18—Gymkhana at Birmingham (two open events for motor cycles).
- Aug. 3-4—Motor Cycling Club Run to Land's End and back for Charles Jarrott Cup.
- " 7—A.C.U. 24 Hours' Ride, London to Plymouth and back.
- " 8—Essex M.C. Open Race Meeting at the Stadium.
- " 15—Coventry M.C. Open Hill Climb for Motor Cycles.
- " 22—A.C.U. Annual Race Meeting at the new Stadium, Shepherd's Bush.
- " 29—Essex M.C. Open 200 Miles Non-stop Run for Motor Cycles.
- Sep. 12—Motor Cycling Club Petrol Consumption Tests.
- " —The International Auto Cycle Tourist Trophy Race in the Isle of Man.

Essex M.C. Gymkhana.

A gymkhana takes place on Saturday next at the cycle track, High Beech, Loughton. A very interesting programme has been arranged, and among the items included are tilting at the rings, Turk's head cutting, musical chairs, and an obstacle race. The proceedings will commence at 3.30, and during the progress of the sports tea will be served on the lawn at 5.30.



A competitor in the Hull and East Riding A.C.C. Hill-climb held on Saturday last.

MOTOR CYCLE RACING AT BIRMINGHAM.

AT the Aston Villa Grounds on Saturday, 6,000 people witnessed some good and exciting racing at the *Sport and Play* meeting. The results of the events for motor cycles were:

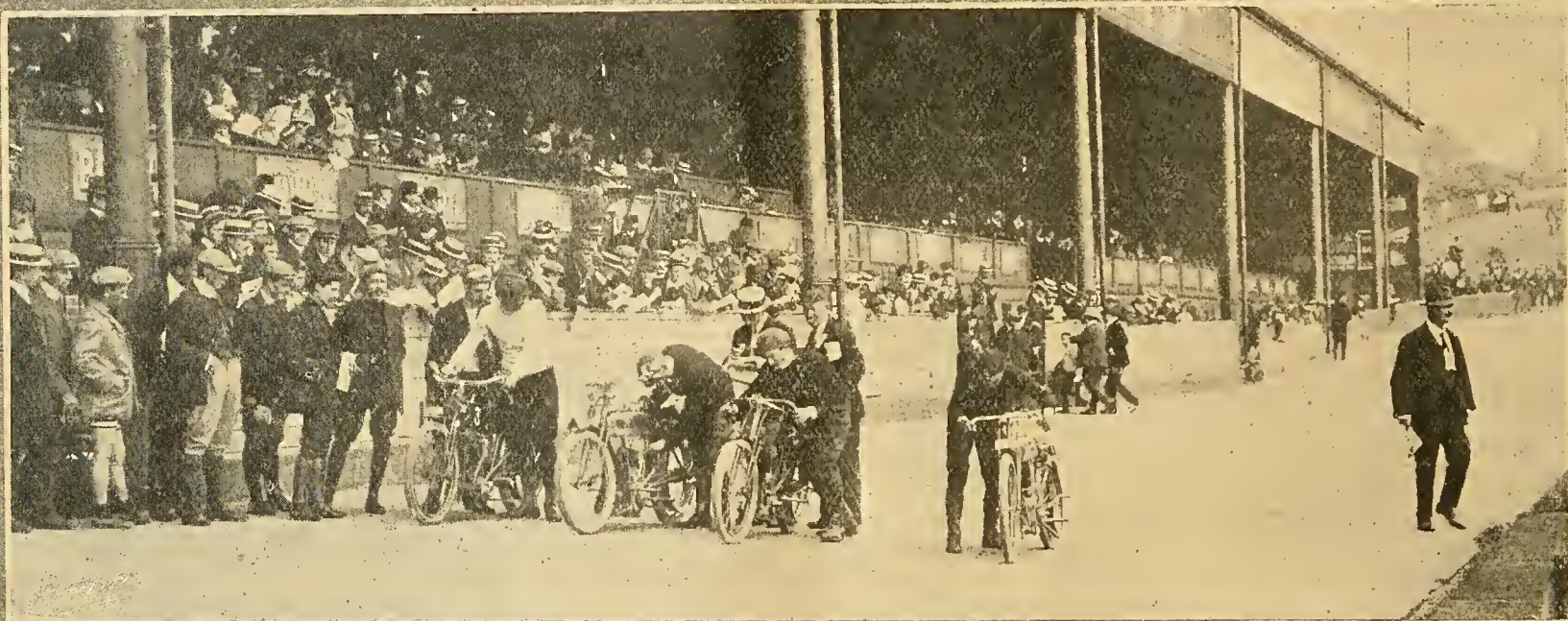
One Mile Lightweight Machines.—H. V. Colver ($2\frac{3}{4}$ h.p. Matchless), 1m. 19s., 1; F. E. Barker ($2\frac{3}{4}$ h.p. Rex), 1m. $26\frac{3}{5}$ s., 2; J. C. Smyth ($2\frac{3}{4}$ h.p. Rex), 1m. $27\frac{2}{5}$ s., 3.

Two Miles Match.—C. R. Collier, 1; H. V. Colver, 2; H. Martin, 3. Won by inches. Time, 2m. $15\frac{4}{5}$ s.

Three Miles Tourist Handicap.—Heat winners: V. Yates (Rex), 9s.; H. A. Collier (Matchless), 5s.; J. Smyth (Rex), 12s. F. E. Barker, was fastest loser. Final: Collier, 1; Yates, 2; Barker, 3. Time, 4m. $17\frac{2}{5}$ s.

Five Miles Triangular Pursuit Race.—C. R. Collier, 1; H. V. Colver, 2.

In an attack on the five miles motor record, C. R. Collier did 6m. $31\frac{4}{5}$ s. The existing record, held by S. Wright, was 6m. $58\frac{1}{5}$ s.



Start of the final Three Miles Tourist Handicap Race, which H. A. Collier won from Smyth, Yates, and Barker.

POLICE TRAPS ON THE END-TO-END ROUTE.

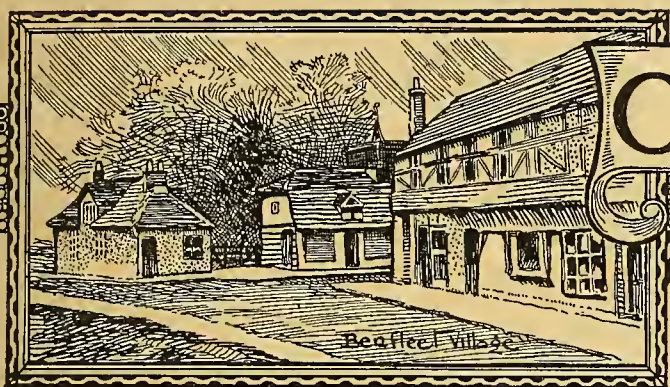
Mr. S. W. Carty, of Newcastle-on-Tyne, writes: "As I understand that the greater part of the route for the above trials is rather dangerous from a trap point of view, might I ask the motor cyclists who live in the neighbourhood of any of these danger zones to perform a sportsmanlike action by turning out and acting as amateur A.A. scouts and warn competitors when they are likely to get into trouble if they do not ride well under twenty miles an hour."

TWO TWENTY-FOUR HOUR RIDES IN ONE WEEK.

A motor cyclist who is anxious to take part in both the M.C.C. run from London to Land's End and back, August 3rd and 4th, and the A.C.U. London to Plymouth and back run on Friday, August 7th, at 9 p.m., points out that it will be impossible for him to do so unless the rides are put further apart. Two long distance rides such as the above certainly should not be fixed for the same week, and it is not likely that many private owners will attempt both runs.



Meet of the Nottingham and District M.C.C. at Osmaston Manor, the beautiful residence of Sir Peter Walker, Bart.



OCCASIONAL COMMENTS.

By "IXION."

A Magneto Tip.

Occasionally a loss of power is noticeable on a machine that has seen two or three seasons of use which defies even skilled attention. If the ignition be the Simms magneto, a point may have escaped attention which has a vital bearing upon the engine's efficiency. If the flat spring of the contact breaker be pushed aside, the brass cover slipped off, and the contact breaker detached, it will be noticed that the arm carrying the rocking platinum has a heel shaped like a ball, and that it is this ball which is lifted by the projections on the fibre cam. This ball is only subject to very minute and gradual wear, since it is of hardened steel, and its friction is against a softer substance, to wit, fibre. None the less it does wear in time, and the effect of wear upon it is obvious. Such wear reduces the distance by which the points separate, and retards the moment at which they separate. As new platina are likely to have been fitted in the distance the machine has covered, the gap at the break may have been corrected by adjustment of the platina, but unless the magneto has been retimed, although the break of the platina is correct in distance, it is wrong in time, occurring too late in the stroke. The simplest test will be to borrow the contact breaker off a newer magneto, if one is available. If the substitution of this effects an increase of engine speed, it is clear the older machine is timed too late. The gap being correct, it is by no means necessary to buy a new bell crank, cheap as this part is. A cure will be effected if the engine be carefully retimed according to the maker's instructions, which take into consideration the moment at which the break occurs in relation to the piston's stroke. But a new bell crank is advisable, since the hardening of the ball is only skin deep, and when case hardening is once worn through, the softer metal beneath will perish rapidly.

Cams on Aged Machines.

The above paragraph reminds us of a common source of weak running in ancient machines, whether creaky or otherwise. The valve cam is another case hardened part, and a part, too, which is subject to much heavier wear than the bell crank referred to above, especially if there be no trip hammer or bell crank, but the cam acts direct on the vertical valve tappet, as is the case with most early engines. The case hardened metal polishes noticeably in 2,000 miles, even with an interposed crank or roller, and begins to wear appreciably in 5,000 miles. Minus an interposed crank or roller, it wears even faster. Wear at this point has an insidious effect on the engine, and often escapes notice. Its result is that the tappet continues working vigorously, but with a reduced lift, and no matter how accurate the $\frac{1}{32}$ in. gap between the toe of the exhaust

valve and the tappet, the valve is not getting its full lift, and the exhaust is choked, thereby causing overheating and loss of power in the engine. A precisely similar result follows from worn brasses in the timing gear. The spindles of the cams, instead of lying snugly in round holes, lie at the bottom of oval holes, and so the axis of the cam is farther beneath the cylinder than it ought to be. Thus, even if the cam is unworn, the valve is not being lifted as high off the seat as it ought to be. This single fact shows how the sum of the minute wear in each of a number of brasses may very considerably reduce the power an engine was once capable of developing.

Wait till the Solution is "Tacky."

I wonder how many thousands of pneumatic tyre users have had occasion to curse that little word "tacky," so glibly employed on the flysheet of repairing instructions enclosed with every tyre outfit. "Tacky" is a term that covers every condition of glutinosity, ranging from the moist, treacherous aspect of the newly spread rubber solution to the dry and parchy appearance it presents when it is ready for the patch to be applied. A thousand times have I attempted to find a better word, or even a string of words, which should guide the novice in tyre repairing to choose the psychological moment at which alone he can apply his patch to his tube with any real hope of its adhering; and a thousand times have I failed. Let me only say that the mistake of ninety-nine amateur tyre repairers out of a hundred lies in applying the patch far too soon, when the solution is far too moist and glossy. When it is ready to adhere to your tyre as tenaciously as the French nail or the bit of wire that called it into requisition, it is all but devoid of gloss. It has almost lost its wet and glutinous appearance, and looks as if you could lay a biscuit on it without a single crumb staying behind. But the only safe plan is for the novice to take a length of old tubing, and to make four or five test patchings, applying the patch in every condition, one with the solution shinily wet, another with the solution as dry as a bone in a cathedral crypt, and others at the varying interims. He will then learn to recognise for himself that delicious stage of tenacity in which the patch lays itself meekly but firmly over the injured tube, and with never a curl of the lip settles into a contact actually as firm as that of accurate vulcanisation. There are men on the road who can patch the tube off a 40 h.p. Fiat so perfectly that it will remain airtight indefinitely; and there are others—and those the great majority—who would bungle and botch a repair for a Dursley-Pedersen push cycle. And it is just accuracy in choosing the moment at which the solution is "tacky" which differentiates expert from duffer, given good solution for both.

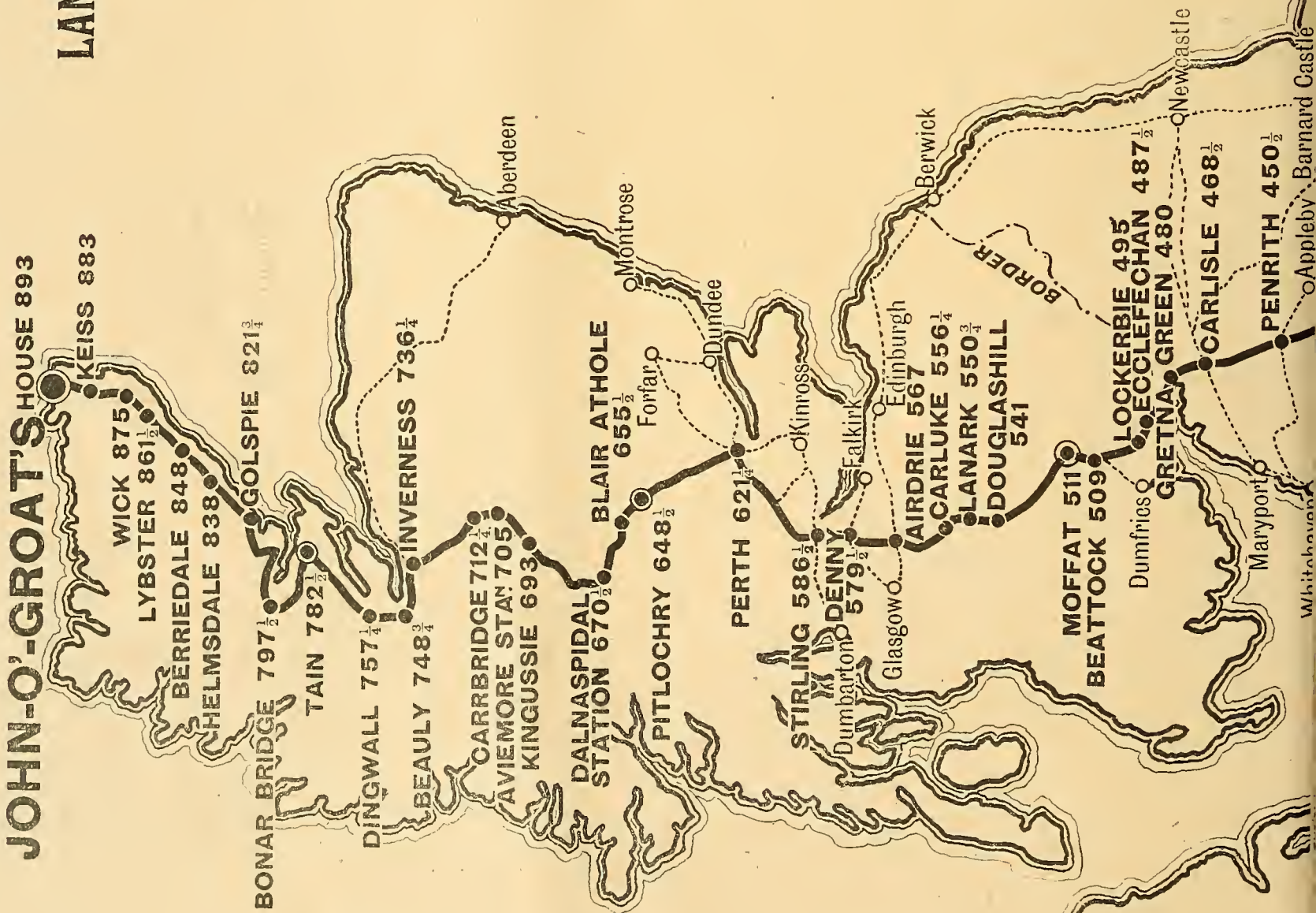
AUTO CYCLE UNION
LAND'S END TO JOHN-O'-GROAT'S TRIAL
OF MOTOR CYCLES,
JULY 13th to 18th.

WE have prepared this map of the End-to-end route with a view to assisting readers who live within reasonable distance of the line of the route to trace the most convenient point and time at which they can see the trials competitors. Routes from the principal towns are shown in dotted lines, and the approximate distances can be measured by the scale of miles at the foot of the map.

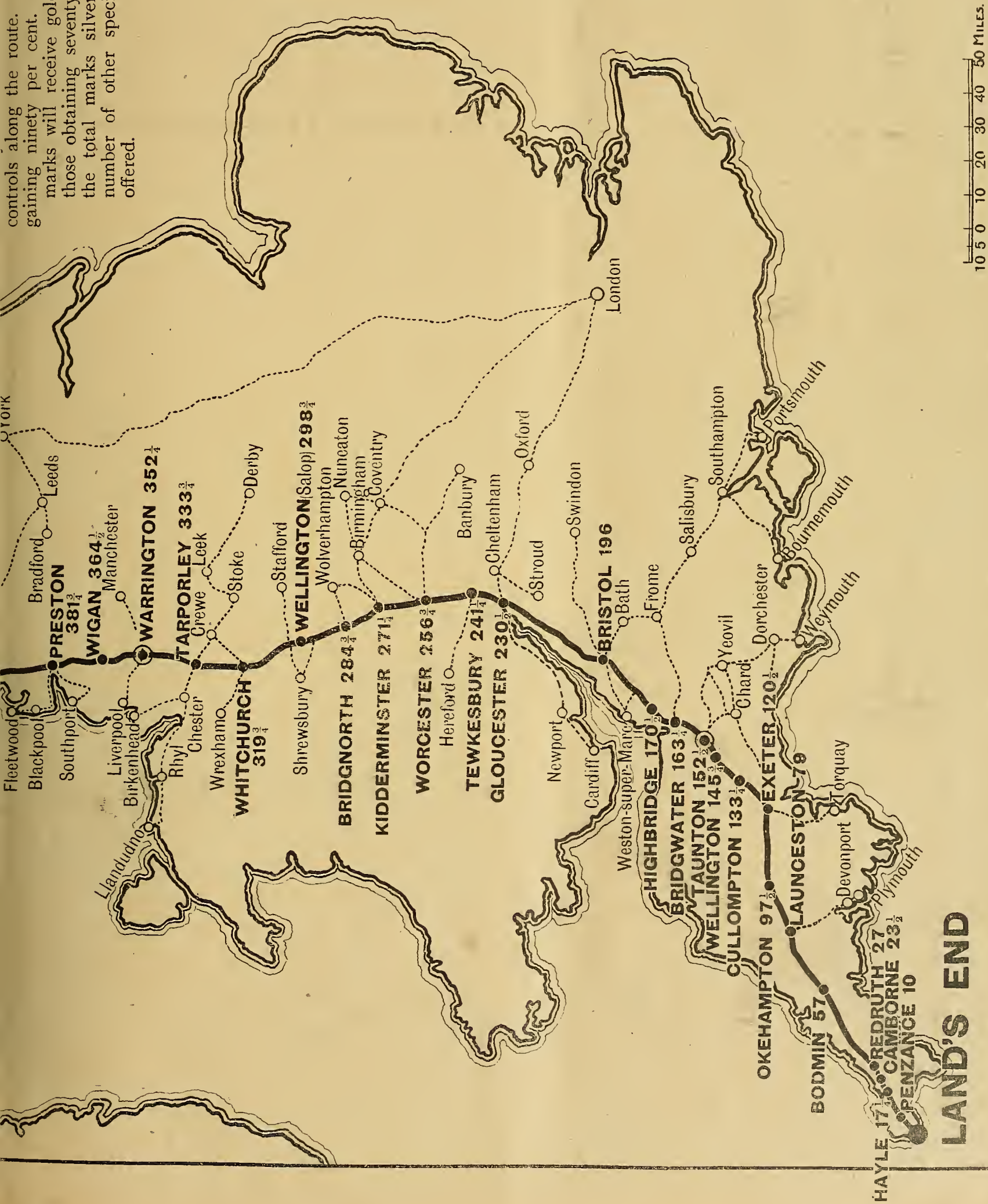
On page 542 will be found a full list of entries, and also the registration numbers of the competitors' machines. It will, therefore, be a comparatively easy matter to recognise the riders as they pass, provided the spectator possesses a copy of this issue of *The Motor Cycle*.

The daily itinerary is as follows:

MONDAY.			
Leave Land's End	...	...	8 a.m.
Arrive Launceston	...	...	12.6 p.m.
(Lunch, White Hart Hotel.)			
Leave Launceston	...	...	1.36 p.m.
Arrive Taunton	...	...	5.26 p.m.
(Sleep, London Hotel.)			
Leave Taunton	...	...	8 a.m.
Arrive Worcester	...	...	1.50 p.m.
(Lunch, Star Hotel.)			
Leave Worcester	...	...	3 p.m.
Arrive Warrington	...	...	7.55 p.m.
(Sleep, Patten Arms.)			
Leave Warrington	...	...	8 a.m.
Arrive Kendal	...	...	11.40 a.m.
(Lunch, Station Hotel.)			
Leave Kendal	...	...	1.10 p.m.
Arrive Moffat	...	...	5.40 p.m.
(Sleep, Buccleuch Arms.)			
Leave Moffat	...	...	8 a.m.
Arrive Stirling	...	...	12.14 p.m.
(Lunch, Station Hotel.)			
Leave Stirling	...	...	1.44 p.m.
Arrive Pitlochry	...	...	4.25 p.m.
(Sleep, Scotland's Hotel.)			
Leave Pitlochry	...	...	8 a.m.
Arrive Inverness	...	...	12.55 p.m.
(Lunch, Station Hotel.)			
Leave Inverness	...	...	2.25 p.m.
Arrive Tain	...	...	4.46 p.m.
(Sleep, Royal Hotel.)			
Leave Tain	...	...	8 a.m.
Arrive Wick	...	...	1 p.m.
(Lunch, Meredith's Hotel.)			
TUESDAY.			
WEDNESDAY.			
THURSDAY.			
FRIDAY.			
SATURDAY.			



controls along the route. Competitors gaining ninety per cent. of the total marks will receive gold medals, and those obtaining seventy per cent. of the total marks silver medals. A number of other special prizes are offered.



LAND'S END

Hints to End-to-end Competitors.

HINTS to competitors in the Land's End to John-o'-Groat's run have already appeared in these columns, but most writers have dealt with the preparation of the machine. I. B. Hart-Davies sends us some hints for the comfort of the rider which will, no doubt, be appreciated by those who have not hitherto taken part in a long-distance event. He says: "One can get exceedingly dirty after a few days on the road. Nevertheless, even the necessities must be cut down to the finest point. I find a soft flannel collar is best, since a spare one takes up less room, and can be crushed. Pyjamas are a luxury, and must be barred, since they also occupy too much room. The touring outfit should then consist of hairbrush and comb, razor and brush, spare shirt to be used for sleeping in, pair of slippers, clean flannel collar, handkerchiefs, toothbrush and powder, and pair of socks. A bag should then be sent to the third stopping place, addressed to the official hotel, containing a complete change of underclothing, etc., and a spare tube (butt-ended). If this is sent off from Penzance by passenger

train, the bag will be there in plenty of time, and can be forwarded on again to Wick if necessary.

"I tried this plan last year, and found it very successful, the change of clothes being a great relief. Carpet slippers are essential, for one's feet get tired during the day, and, unless the boots are a loose fit, one usually ends by going to bed early or borrowing the landlord's.

"A small silk scarf will be found very useful in preventing the neck being chafed by an umbrella coat, or for warmth should the weather turn chilly, incidentally keeping the hair and collar clean.

"An umbrella coat should be found room for on the carrier. As rain protectors they are unequalled, but too hot to wear in fine weather.

"With a first class machine, careful driving, and the above kit, an easy journey should be assured, provided that the weather maintains its good behaviour, and I for one am looking forward to a sporting event which I am sure will appeal to every healthy motor cyclist. May we all get there, and, what is more to the point, all get gold medals."

CLUB NEWS.

S.E. Auto Cycle Association.

The following list of fixtures has been passed by the committee: Penalty run, speed-judging contest, members' hill-climb, 100 miles reliability trial, also another open hill-climb, and a light car trial (open). The dates of these competitions can be obtained from the hon. sec., H. B. Renner, 1, Kidbrook Park Road, Blackheath, S.E.

Eastern District M.C.

Mr. T. Andrews has been returned winner of the speed-judging competition. The run on the 12th inst. is to Southend; 19th inst., St Margaret's; and 26th inst., Huntingdon.

An enjoyable run (in conjunction with the Western District M.C.) was held on the 28th ult. to the residence of the president, Mr. F. Leverton Harris, M.P., Burford Bridge, Dorking, where tea was served to a large gathering. Members left late in the evening. The president has kindly presented the club with a trophy for competition, conditions of which will be announced later.

Richmond and District M.C.C.

On the 28th ult. a handicap petrol consumption trial for motor bicycles and passenger machines was held, the route being from the Assembly Rooms, Surbiton, to the top of Leith Hill, *via* Epsom, Leatherhead, Dorking, and Coast Hill. A picnic was held at Leith Hill, at which a good number of members and friends were present. The prizes for the consumption trial were kindly presented by Miss Ingram, the gold medal being awarded to Mr. K. Lankester, whose petrol consumption worked out to 125 miles to the gallon. Mr. F. C. Wood won the silver medal. After enjoying the magnificent view on the top of Leith Hill, the club then proceeded to the Hut at Wisley for tea, *via* Newlands Corner.

Members are reminded that a reliability trial takes place on July 11th and 12th, for which the captain, Mr. Carpmal, has kindly presented a challenge cup for competition. The start will be made from the Assembly Rooms, Surbiton, at 2.30 p.m. sharp. Competitors will stay the night at Worthing. Entries should be sent to the hon. sec., H. C. King, Walton House, Surbiton Road, Kingston-on-Thames.

Newcastle M.C.

The second annual reliability trial was held on June 25th to Levenhall, near Edinburgh, *via* Berwick, the total distance being 228 miles. Passenger motor cycles and small cars were scheduled to run at seventeen miles per hour, and large cars and motor cycles at twenty miles per hour.

Twenty starters faced the timekeeper (Mr. J. Tunnah) at 2.30 a.m. The secretaries, Mr. J. P. Robson and Mr. B.

Wilford, were in attendance, and had made complete arrangements. The weather was of exceptional warmth and brilliancy.

Between Belford and Beal A. D. Mullen had ignition troubles, and beyond Ayton, W. Dunn was delayed fifty-five minutes by a bad puncture. A compulsory stop of two hours was arranged for lunch at the Royal Hotel, Portobello.

The first competitor to start from Levenhall on the return journey was E. H. Lowe, who, however, lost considerable time with punctures between Dunbar and Berwick. Tea was partaken of at Berwick at 4 p.m., and the competitors then entered on the last sixty-two miles of the run. At Alnwick the competitors were checked for time, as also on the outward journey. The following completed the run: W. Dunn (3½ h.p. Dene), James R. Moore (3½ h.p. Dene), Isaac Baty (3½ h.p. Dene), A. Clark (3½ h.p. Dene), G. Walker (3 h.p. F.D.W.),



Some of the competitors in the Newcastle M.C. Edinburgh and Back Reliability Trial on the 25th ult., at the start, 4.30 a.m.

A. S. C. Broadway (3½ h.p. Rex), O. E. Slater (3½ h.p. Dene), H. Bell (3½ h.p. N.S.U.), D. J. Wright, and A. D. Mullen. Passenger motor cycles: R. B. Smith (5 h.p. N.S.U.), F. Lee (4½ h.p. Frank), and N. Simpson (6 h.p. Singer).

The awards will be made immediately after the time sheets come in from the various controls, and the club member who made the most consistent running to schedule time will hold the Arthur Lucas Challenge Bowl for twelve months.

Valuable assistance was given to the club by Mr. A. Smart (who had charge of the Alnwick control), Mr. J. Malcolm (at Dunbar), Mr. Percy McHutchen (at Levenhall), Mr. J. Campbell, jun. (at Berwick), and Mr. Arthur J. Lucas and Mr. Alan G. Robson as judges at Newcastle.

Club News.—

Western District M.C. (London).

An inter-club competition of members of the above club and the N.W. London M.C. will take place on the 12th inst., the course being a circular one from Gerard's Cross, a total distance of about 100 miles.

Sheffield and Hallamshire M.C.C.

About twenty-two competitors took part in a fast and slow mile test last Saturday on the top of Mam Tor (Derbyshire). The rider who made the greatest difference between fast and slow times was declared winner. The results were: 1, Mr. S. Sawyer, 9m. 8s. difference; 2, Mr. Tysson, 7m. 56s. difference; 3, Mr. Torr, 7m. 20s. difference.

Nottingham and District M.C.C.

At the general meeting on the 29th ult. it was announced that the membership had reached forty-five. Mr. H. Dennis Bayley, of Lenton Abbey, has consented to become president of the club, whilst Dr. Fulton, Dr. Fisher-Ward, and Mr. Edward Powell have also consented to become vice-presidents. A club run was held on Saturday, the 4th inst., to Osmaston Manor, and the outing was much enjoyed by all present.

North-west London M.C.C.

This club was favoured with brilliant weather on the occasion of the picnic lunch in Ashridge Park on June 28th. The members met at Berkhamstead, and then proceeded, by kind permission of Earl Brownlow, to the chosen spot in the park, from which magnificent views over the vale of Aylesbury are obtainable. Lunch over, the party proceeded *via* Ivinghoe and Dunstable to tea at the Bull, Redbourn. From there a pleasant run back to town terminated a delightful outing.

Middlesbrough and District M.C.C.

On Wednesday last a 100 miles reliability trial was held from Marton Bungalow to York and back. Fourteen started, and only one experienced any mechanical trouble, viz., G. MacLauchlan, who was supplied with water-cooled oil for air-cooled oil in Middlesbrough, and experienced engine troubles. The Gyers Cup and gold medal were won by E. Young; silver medal, G. R. Sanderson; bronze medal, J. Bellerby. The competitors were: W. H. Rudland (3½ h.p. Kerry), A. H. Harbottle (2 h.p. Triumph), E. Rees (2 h.p. Minerva), E. Young (3 h.p. Bradbury), J. Bellerby (3½ h.p. Minerva), W. A. Duchars (3½ h.p. Rex), R. W. Day (3½ h.p. N.S.U.), G. R. Sanderson (3½ h.p. Triumph), W. A. George (3½ h.p. Rex), J. H. Dale (3 h.p. N.S.U.), Chas. Burnett (5 h.p. Rex), G. MacLauchlan (3 h.p. Rex), W. Danby (3 h.p. N.S.U.), and S. L. Gjertsen (3½ h.p. Triumph).

Hull and East Riding A.C.C.

On the 4th inst. a members' hill-climbing competition was held, and a good number of entries were received. In Class I., for machines not exceeding 80 mm. by 80 mm., W. Crawford (2 h.p. Minerva) won on formula, Mrs. A. Tomlinson (2½ h.p. Kestrel-Jap) being second. (Five entries.) Class II., single-cylinder machines, any capacity—1, Mr. Mumby (3½ h.p. Triumph); 2, R. Pearson (3½ h.p. Minerva); 3, Mrs. Tomlinson (2½ h.p. Kestrel-Jap). (Thirteen entries.) Class III., multi-cylinder machines—1, J. McDougall (6 h.p. Sarolea); 2, A. Willis (5½ h.p. Rex). (Four entries.) Class V., passenger motor cycles—1, Sergt.-Major Evans (5 h.p. Vindec Special and sidcar). (Three entries.)

Next Saturday the reliability run to Scarborough and back will be held, the first competitor leaving the Haworth Arms, Newland, at 9.30 a.m.

Lincolnshire M.C.C.

The gymkhana announced for to-morrow (Thursday) is postponed. Instead of the meet at Revesby on Saturday, the meet will be at Beelsby Hall, where Mr. J. P. Sowerby will entertain the members. Beelsby is seven or eight miles south-west from Grimsby.

The results of the Lambcroft hill-climb, so successfully arranged and managed by the Grimsby Centre, are as follows: 2 h.p. class.—1, T. G. Dobson (2 h.p. Minerva), 58½s., figure of merit 23.48; 2, V. Pearson (2 h.p. Imperial), 71½s., 20.69; two other competitors. Single-cylinder class.—1, T. G. Dobson, 58½s., 23.48; 2, V. Pearson, 71½s., 20.69; 3, H. W. Quine (3 h.p. Peugeot), 71½s., 20.69; ten other competitors; fastest time, E. J. Baskcombe (3½ h.p. Triumph), 51½s. Multi-cylinder class.—1, H. Haagensen (5 h.p. Vindec), 50s., 13.97; 2, G. P. Cusworth (5 h.p. Peugeot), 47½s., 11.60; 3, W. J. Clarke (5 h.p. Rex), 42½s., 10.86, and fastest time.

Dublin and District M.C.C.

On Saturday afternoon a reliability trial was held from Dublin to Maryborough and back, a distance of about 100 miles. At the start the weather was fine and the roads were very dusty, but *en route* the competitors ran through a heavy thunderstorm near the Curragh. Seven competitors faced the starter—D. J. Quirke (2½ h.p. Ariel), T. W. Batey (2¾ h.p. F.N.), W. Reilly (2 h.p. F.N.), F. J. Walker (5 h.p. Rex), J. Browne (3½ h.p. Triumph), and R. H. Taaffe (3½ h.p. Triumph). T. W. Batey was the only one to qualify for a silver medal.

York County M.C.C.

On the 29th ult. about twenty members took part in a twelve hours non-stop reliability trial over a circular course of forty-one miles. The course was from Wetherby to Boroughbridge and back, and was traversed five times. The winner proved to be H. Wilkinson (3½ h.p. Triumph), who only lost 9 marks, and will be entitled to hold the Triumph silver challenge cup for twelve months, and the club's standard gold medal; 2nd, H. H. Charge (3½ h.p. Triumph), 12 marks, silver medal; 3rd, F. W. Savory (3½ h.p. Triumph), 16 marks, bronze medal.

Newcastle and District M.C.C.

The second round of this competition was run off on Monday evening of last week from Blue House, Newcastle, to Rochester and back *via* Otterburn, seventy miles non-stop.

MR. NICHOLSON'S TEAM.

A. D. Nicholson (3½ Triumph) ...	75
J. J. Hall (3 Quadrant) ...	30
T. W. Hall (3 Quadrant) ...	75
J. S. Tweddle (3¾ N.S.U.) ...	75
Total marks ...	255

MR. AUSTIN'S TEAM.

L. Austin (3¾ N.S.U.) ...	75
E. G. Parker (3½ N.S.U.) ...	75
W. Dunn (3½ Dene) ...	35
G. Svendsen, non-starter.	
Total marks ...	185

MR. ROSENVINGE'S TEAM.

L. Rosenvinge (3¾ N.S.U.) ...	75
R. Embleton (3½ N.S.U.) ...	75
C. Reinhart (4 N.S.U.) ...	75
B. Bradford (3½ Dene) ...	75
Total marks ...	300

MR. OUTWIN'S TEAM.

W. H. Outwin (3½ Triumph) ...	75
R. Wilson (4 N.S.U.) ...	75
L. Dixon, disqualified for starting late.	
F. Wilson, non-starter.	
Total marks ...	150

The third and final round will be run off on July 25th, at 3.30, between the following teams: Mr. Nicholson's, Mr. Rosenvinge's, and Mr. Bates's. (This team drew a bye in the second round.)

The course on which this final will be run is from the North Gate, Morpeth, to Wooler and back, then from North Gate to Alnwick and back, the distance being almost 100 miles. Several stiff hills will be encountered on the route.

Motor Cycle Union of Ireland.

The annual competition for the Triumph Cup between the Dublin and Ulster Centres took place on the 27th ult., starting from Tolka Bridge, Dublin, and the conditions were that no stop would be allowed except at Dundalk for petrol and the level crossing at Newry. The following riders competed:

Ulster Centre.—T. Greer (5½ h.p. Rex), J. L. McNeill (3½ h.p. N.S.U.), C. E. Murphy, J. Stewart, T. Dickson, S. S. Brady, J. J. Kennedy, F. H. Maclean, T. T. Maclean, G. Simpson, M. J. Lindsay, and B. J. McManus (all on 3½ h.p. Triumphs), J. S. Garrett (3½ h.p. Rex), J. Lavery (3 h.p. Triumph), Hugh Denby (3½ h.p. Brown), W. J. Andrews (5½ h.p. Rex), J. Meggarry (2¾ h.p. Minerva), J. McAllen (3 h.p. Rover), J. Holden (3 h.p. Rover), L. MacLaine (10 h.p. Lagonda Tricar), R. Sharpe (5½ h.p. N.S.U.) sidcar, and W. H. Loughran (4½ h.p. F.N. sidcar).

Dublin Centre.—R. E. Price, R. H. Farmer, T. J. Dunphy, E. Farmer, and J. Reilly (all on 2¾ h.p. F.N.'s), H. Quinn (3 h.p. Triumph), and R. Walsh (2¾ h.p. Jap).

Non-stop runs were made by:

Ulster Centre.—T. Greer, J. L. McNeill, C. E. Murphy, D. Stewart, T. Dickson, S. S. Brady, J. J. Kennedy, T. T. MacLean, G. Simpson, M. J. Lindsay, and B. J. McManus.

Dublin Centre.—R. Walsh, H. Quinn, E. Farmer, T. J. Dunphy, R. H. Farmer, and R. E. Price.

The Ulster Centre was therefore declared to have won the Cup, and this being the second year in succession it becomes the property of this centre.

Complete List of Entries for the End-to-end Trial.

WITH PARTICULARS AND IDENTIFICATION NUMBERS OF THE COMPETITORS' MACHINES.

No.	Entrant.	Machine.	No. of Cyls.	Bore and Stroke.	Ignition.	Driver.	License No.	Machine Registration No.
PASSENGER CLASS.								
1	B. H. Davies	6 h.p. Advance (two-speed) bicycle (with sidecar)	2	mm. 76 × 82	Magneto ...	Entrant	202	J 799
2	M. W. Randle	10 h.p. Lagonda Tricar (three-speed)	2	90 × 96	Accumulator	Entrant	94	A 382
*3	O. Van Saal	5½ h.p. Phänomen (two-speed) bicycle (with sidecar)	2	74 × 84	Magneto ...	J. S. Shaw	88	LN 1932
BICYCLE CLASS.								
*4	W. H. Wells	5 h.p. Vindec-Special	2	75 × 76	Magneto ...	Entrant	2	SJ 50
5	W. Ridler	6 h.p. Leader	2	70 × 95	Accumulator	Entrant	95	AE 3048
6	E. Nelson	5 h.p. Rex	2	76 × 80	Magneto ...	Entrant	259	BO 98
7	J. Tassell	3½ h.p. Matchless	1	85 × 76	Magneto ...	Entrant	146	A 5281
8	S. W. Carty	3½ h.p. N.S.U. (two-speed)	1	82 × 86	Magneto ...	Entrant	158	BB 141
9	A. D. Nicholson	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	161	BB 323
10	Gordon Gibson	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	168	S 998
11	F. Dover	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	201	W 689
12	F. S. Barnwell	3½ h.p. Rex (two-speed)	1	82 × 90	Magneto ...	Entrant	184	MS 277
13	H. R. Mayo	5 h.p. Vindec-Special (two-speed) ..	2	75 × 76	Magneto ...	Entrant	238	EX 66
14	I. B. Hart-Davies	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	247	DI 29
*15	N.S.U. Motor Co.	6 h.p. N.S.U.	2	75 × 90	Magneto ...	M. Geiger	78	LC 6970
16	T. F. Cox	7 h.p. Minerva	2	80 × 85	Accumulator	Entrant	36	LB 313
17	W. H. Bashall	3½ h.p. T.T. Triumph	1	84 × 86	Magneto ...	Entrant	82	P 3601
18	F. C. Mustard	3½ h.p. T.T. Triumph	1	84 × 86	Magneto ...	Entrant	196	DU 1594
19	C. E. Murphy	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	199	ID 123
20	W. H. Outwin	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	197	BB 333
21	Miss Muriel Hind	5 h.p. Rex	2	76 × 80	Magneto ...	Entrant	4	DU 1894
22	E. Gwynne	5 h.p. Vindec-Special (two-speed) ..	2	75 × 76	Magneto ...	Entrant	61	SJ 56
*23	Douglas Bros.	2¾ h.p. Douglas	2	60 × 60	Magneto ...	W. W. Douglas ..	103	AE 1067
*24	Douglas Bros.	2¾ h.p. Douglas	2	60 × 60	Magneto ...	P. Phillips	111	AE 1171
*25	Douglas Bros.	2¾ h.p. Douglas	2	60 × 60	Magneto ...	Eli Clark	261	AE 844
26	R. W. Duke	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	200	O 226
27	H. C. Hanrott	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	205	A 7910
28	A. Manning-Lomax	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	260	O 3200
*29	Rex Motor Mfg. Co.	3½ h.p. Rex	1	83 × 89	Magneto ...	G. Lee Evans ..	6	DU 1902
*30	Rex Motor Mfg. Co.	3½ h.p. Rex	1	82 × 89	Magneto ...	O. C. Godfrey ..	50	-
*31	Rex Motor Mfg. Co.	5 h.p. Rex	2	76 × 80	Magneto ...	A. J. Sproston ..	39	-
*32	F. W. Applebee	5 h.p. Rex	2	76 × 80	Magneto ...	Entrant	1	BI 35
*33	Triumph Cycle Co.	3½ h.p. T.T. Triumph	1	84 × 86	Magneto ...	J. Slaughter ...	80	-
*34	Triumph Cycle Co.	3½ h.p. T.T. Triumph	1	84 × 86	Magneto ...	J. Marshall	3	DU 1299
*35	Triumph Cycle Co.	3½ h.p. Triumph	1	84 × 86	Magneto ...	P. H. Cockcroft ..	203	U 614
36	A. H. Ormerod	5 h.p. F.N.	4	50 × 57	Magneto ...	Entrant	207	C 1226
37	J. O. M. Dixon	3½ h.p. Vindec-Special (two-speed) ..	1	82 × 85	Magneto ...	Entrant	210	SJ 46
38	T. K. Hastings	5 h.p. Indian	2	-	Magneto ...	Entrant	273	-
*39	Phelon and Moore	3½ h.p. Phelon and Moore (two-speed)	1	82 × 88	Magneto ...	R. Moore	174	C 1338
40	W. Milnes	3½ h.p. Phelon and Moore (two-speed)	1	84 × 86	Magneto ...	Entrant	171	AK 132
41	H. H. Dommett	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	250	-
42	Robert King	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	212	A 7945
43	J. Haslam	3½ h.p. Rex	1	82 × 89	Magneto ...	Entrant	211	W 746
44	Sir R. K. Arbuthnot ...	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	163	BB 331
45	Leoffric Cutler	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	251	DJ 141
*46	H. and A. Dufaux, Ltd.	1¼ h.p. Motosacoche	1	68 × 70	Accumulator	H. Ellison	220	LB 214
*47	H. and A. Dufaux, Ltd.	1¼ h.p. Motosacoche	1	68 × 70	Accumulator	J. V. Robinson ..	24	H 3838
48	W. F. Merritt	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	248	LB 544
49	J. Ewing Adam	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	252	W 1093
*50	Moto-Rève Co.	2 h.p. Moto-Rève	2	50 × 70	Magneto ...	G. L. Fletcher ..	10	H 3501
*51	Moto-Rève Co.	2 h.p. Moto-Rève	2	50 × 70	Magneto ...	W. Smith	25	W 3837
*52	A. W. Wall, Ltd.	4 h.p. Roc (two-speed)	1	85 × 90	Magneto ...	C. A. Palmer ..	162	OR 5
*53	A. W. Wall, Ltd.	4 h.p. Roc (two-speed)	1	85 × 90	Magneto ...	W. Newman	181	OR 4
*54	A. D. Powell	3½ h.p. B.P. (two-speed)	1	80 × 80	Magneto ...	Entrant	253	BC 569
55	S. H. Richardson	5 h.p. F.N.	4	50 × 56	Magneto ...	Entrant	254	EL 567
56	H. R. Lewis	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	112	LN 9223
57	A. M. Tatham	3½ h.p. Matchless-Jap	1	85 × 76	Magneto ...	Entrant	255	E 807
58	J. G. Blandford	3½ h.p. Zenith Bi-car (two-speed) ...	1	80 × 80	Accumulator	Entrant	-	-
*59	Zenith Motors, Ltd.	3½ h.p. Zenette (variable gear)	1	80 × 80	Accumulator	P. Weatherill ..	113	HP 49
*60	Zenith Motors, Ltd.	3½ h.p. Zenette (variable gear)	1	85 × 80	Magneto ...	F. W. Barnes ..	18	HP 17
61	A. F. Wilding	6 h.p. Bat-Jap	2	70 × 95	Magneto ...	Entrant	256	-
62	A. D. E. Craig	5 h.p. F.N.	4	50 × 56	Magneto ...	Entrant	257	CE 493
63	H. D. Seale	3½ h.p. Triumph	1	84 × 86	Magneto ...	Entrant	258	-
64	H. R. Dougal	5 h.p. Vindec-Special	2	75 × 76	Magneto ...	Entrant	272	SJ 55

* Trade entries.

Questions & Replies.

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, **must be accompanied with a stamped addressed envelope for reply.**

Carbon Deposits.

?

Kindly inform me as to the cause of the formation and deposit of carbon in the cylinders, and whether carbon is to a small extent always deposited, or if it may be entirely prevented? Also as to the best way of keeping the amount deposited at a minimum?—W.G.N.

The deposit of carbon consists chiefly of the residue left from burnt lubricating oil combined with a quantity of road dust drawn in through the air intake of the carburetter, etc. It can be prevented by using the very best oils, avoiding over-lubrication, and by keeping the inlets of the carburetter gauze-covered. It cannot, however, be avoided entirely.

Dual Ignition and Separate Plugs.

?

Can you tell me if it is feasible to fit dual ignition to one plug? Shall I need a special two-way switch to do so if it is possible, and will the wiring need to be altered at all? The tricar is fitted with accumulator and magneto ignition, with adapters on the cylinders, and I wish to do away with the adapters, as they get red hot and cause pre-ignition.—L. L., Newcastle.

It is inadvisable to fit dual ignition with one set of plugs, as it entails the use of a complicated high tension switch, which is difficult to make and difficult to insulate. Moreover, if you buy one, it is bulky and expensive. Generally speaking, it is safe to rely upon a magneto alone.

Position of Silencer and Magneto.

?

Some time ago I fitted a new silencer to my $3\frac{1}{2}$ h.p. Rex motor bicycle. The silencer is fitted in front of the magnets and between the magneto and the front mudguard, and the exhaust pipe just touches the magneto on the right hand side. I am told this is injurious to the magneto. Is this so?—E 789.

If the exhaust pipe in question renders the magneto very hot, it is possible that it may do damage owing to melting the insulation of the armature winding. It would, however, take considerable heat to do this, and we should recommend you to feel your magneto after a long ride, and unless it is so hot that you cannot bear your hand on it, leave things as they are.

Specification of a New Machine.

?

I am thinking of having a motor cycle built to the following specification, and should be glad of your advice: 4 h.p. J.A.P. engine (85 by 85 mm.), Chater-Lea frame, B. and B. carburetter, J.A.P. automatic lubrication, 24in. by 2 $\frac{1}{4}$ in. wheels, Shamrock-Excelsior back, Palmer front, Riche's detachable tubes, $\frac{3}{4}$ in. Shamrock-Gloria belt, Chater-Lea spring forks, belt rim brake (foot applied) and Bowden back rim, coil and accumulator ignition, no pedals, T.B. hand starting device, S.N.P. stands, Advance adjustable pulley. Please say if this meets with your approval, or would the 85 by 95 J.A.P. be better? I weigh just under ten stones.—A.A., Warwick.

We agree with your specification except as regards the following points: We strongly recommend 26in. wheels, as 24in. tyres cannot be obtained without much difficulty in the country. Ignition, we strongly recommend a magneto. A $\frac{3}{4}$ in. belt is not large enough for the power, $\frac{7}{8}$ in. or even 1in. would be far better. If you have an engine

with a long stroke it may not run quite so smoothly, but it will be better for hill-climbing.

Reducing Speed and Petrol Consumption.

?

I recently purchased a second-hand $3\frac{1}{2}$ h.p. Excelsior motor bicycle. It will take me (fourteen stones) up all the hills in this district, but the slowest pace I can get is about fifteen miles per hour, and not more than forty-five miles to the gallon of petrol. The Longuemare carburetter is fitted with a spray of 11 slots and 21 choke tube. As I want to run the machine as economically as possible, I shall be glad of your advice.—C.B., Oxon.

There is something seriously wrong with the carburetter, as the consumption is excessive. Are you certain that there is no leakage from any of the tank, feed pipe, or carburetter unions? If not, check the level of the spirit. It should rise to within $\frac{1}{8}$ in. of the top of the jet orifice. If this is in order you might try a smaller spray and see the result. The machine should run at six or eight miles an hour, and should do about ninety miles to the gallon.



J. W. Ardern (Sheffield and Hallamshire M.C.C.) starting on his $3\frac{1}{2}$ h.p. Phelon and Moore for the second fifty miles in the M.C.C. Team Trial at Daventry, June 27th.

Controlling Needle Valve of Carburetter.

? My machine is a $3\frac{1}{2}$ h.p. Kerry, fitted with Longuemare carburetter and accumulator ignition. (1.) The carburetter floods very badly, and it will not take any extra air. I also notice that the valve in the float chamber of the carburetter jumps about a great deal when engine is going. Is this correct or not? (2.) When carburetter seems to be right as regards the flooding, the engine is very hard to start, and will only run on top speed with spark advanced to the full. (3.) Should there be a flap covering the whole of the tube, to be lifted by the suction of the motor in the ordinary air inlet of carburetter?—S.W.

(1.) You might try fitting the needle with a damping arrangement in the form of an adjustable screw to prevent needle jumping up too high. Also see that the level of the petrol is right by removing the jet. It should come up to within $\frac{1}{16}$ in. of the top of the pipe into which the jet screws. (2.) Probably too large a choke tube is fitted; try a smaller one. (3.) On one pattern of Longuemare carburetter a flap was fitted.

Adjustment of the Carburetter.

? I have a $2\frac{3}{4}$ h.p. Minerva, and have just fitted a B. and B. carburetter. The latter is for a twin-cylinder engine, but I have blocked up one induction port and put a smaller jet in, which is about No. 32. Machine starts easily, and on the stand will respond to ignition lever and throttle, and will take a little extra air. On the road the machine has no pace, and will not climb a very moderate hill. I may say that when extra air is open, by placing the hand over same, petrol is emitted from the opening. The petrol drips from under spray chamber when standing. The compression is good, and ignition seems to be in good working order. The machine is geared $4\frac{1}{2}$ to 1, rider eleven stones.—R.S.C., Darlington.

The trouble seems to be due to the fact that the jet is too large, or level of spirit is too high. You should try a smaller jet (27 or 28) and so arrange matters that the carburetter will take full air with throttle say half open when the machine is running as fast as possible. If the petrol drips from the

spray chamber when the machine is standing, it indicates that either the level of the petrol is too high, or the needle valve is not closing properly. You should grind the latter in with a little crocus powder and oil.

Using Other Peoples' Property.

? (1.) A party borrows, hires, or takes goods to repair, and by accident, even without their knowledge, damage occurs while in their hands. (2.) Is the said party compelled to pay a bill to cover the cost of making good the said damage if they have not been previously notified that the said damage had occurred in their hands, or even that damage had occurred at all? (3.) Supposing the party had been notified that damage had occurred in their hands, have they a right to possession of the damaged goods for the purpose of making good the said damage occasioned while in their hands? (4.) If the party offers to pay for new goods said to be damaged, have they a right to the old and damaged goods which they replace? (5.) If the party pays money unasked to defray the cost of new goods which are to replace the old and damaged goods, have they still a right to possession of the said old and damaged goods?—W.H.M., Sheffield.

Our legal adviser's replies to the above questions are as follows: (1.) If a party borrows goods without paying anything for the use of them, he must take particular care of them, and is liable, even though there is only very slight negligence on his part. If he hires them, or has goods for the purpose of repairing them, then he must take such care of them as an ordinary business man would of his own goods. He is liable for negligence, but not if the negligence is very slight. You will thus see that each case must depend upon its own merits, and the answer to question 1 is, therefore, that the party is not liable if the matter was a pure accident, and there was no negligence whatever. The fact that the damage was done without the knowledge of the person who had the goods would perhaps imply that he was not taking proper precautions for their safety in his absence. (2.) Assuming that the party is liable, then the sum that would have to be paid would, of course, be the cost of making good the damage done. The owner of the goods should certainly have intimated beforehand that damage had been done, and have given an opportunity for the party liable to inspect the goods before they were made good. If he does not do so, I think a jury would recognise that it places the defendant in an awkward position, and would probably knock something off the total amount claimed.

This, however, would be purely a matter of fact for a jury to decide. (3.) The party who did the damage cannot insist on making it good himself, but if he offers to do it for a certain sum, and the party gets it done at a higher sum elsewhere, then the jury ought to award the lower sum, and not the higher, provided that the party offering to do the work is fully competent so to do. (4 and 5.) No; but if it is arranged for new goods to be supplied, then the value of the old goods must be allowed.

Maladjustment of Carburetter.

? My motor cycle is a $3\frac{1}{2}$ h.p. 1907 Minerva, standard model, and I think there is something wrong with the carburetter, as I cannot get more than about fifty to sixty miles per gallon. I notice that petrol spurts out at the top of carburetter past the needle, and also drops apparently from the spray down the air adapter through the fixed air chamber, and this, no doubt, may account for my apparently heavy consumption. I notice if I happen to raise the needle, and then press it down quickly, the weights appear to hold the float up, and do not allow it to again sink down until the needle has been raised. Do you consider this a fault? And would you advise fresh weights? Perhaps it may be that the level of the petrol in the carburetter is too high, and if so, what must I do to lower the level? I also experience a difficulty when starting the motor when cold, unless I inject a little petrol through the valve on the cylinder. I should like, if possible, to make it so that the motor could be started very quickly, as having to run with the machine for some distance before firing is not very suitable for my weight (sixteen stones).—J.R.W., Preston.

The petrol leaking past the top of the needle valve is due to the latter having too much movement, or there is too much clearance in the hole, and some device to restrict its movement should be fitted. If you raise the weight on the needle valve you will lower the level of the petrol. The correct level is about $\frac{1}{16}$ in. to $\frac{3}{16}$ in. below the top of the jet orifice. Also examine the float mechanism and see that the float acts properly. The needle should be right down when petrol tap has been turned on a few seconds. If it does not seat itself petrol is flowing past the valve. Invaluable hints on carburetter adjustment are to be found in the latest edition of "Motor Cycles and How to Manage Them." The wrong adjustment of the carburetter is the cause of your engine starting sluggishly.

The new list of vulcanising appliances just issued by Messrs. Harvey Frost and Co., Ltd., makes most instructive reading, and motor cyclists should secure copies from the firm's West End branch, 27, Charing Cross Road, W.C. All the various H.F. vulcanisers are fully described and illustrated, and some useful and interesting information on vulcanisers and vulcanising generally is embodied. No charge is made for the list.



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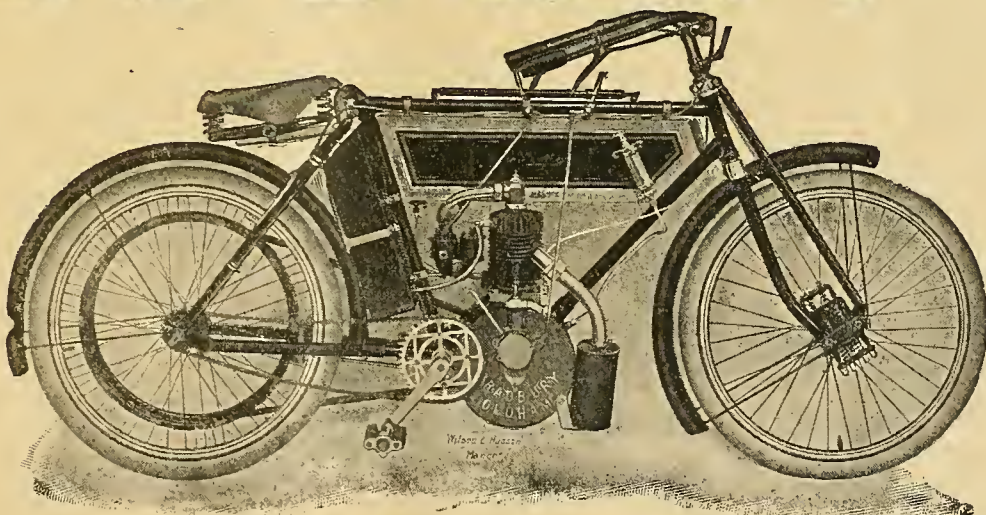
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Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

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3 h.p. Magneto N.S.U., in splendid order, engine just overhauled; £18, or near offer.—P., 26, Waterloo Road, Southampton.

3½ h.p. Werner, footboards, Palmer cord back, very fast, good appearance; £15 10s.—234, Belsize Road, Kilburn, N.W.

1908 Featherweight Rex, 2½ h.p., new month ago, not run 100 miles; £20, or nearest cash offer.—Everingham, Pocklington.

2½ h.p. Humber, low, long bars, brass tank, Davison's gauge, new tyres, perfect; £9 10s.—17, Landcroft Road, E. Dulwich.

MINERVA, 2 h.p., mechanical, Fafnir spray, nearly new tyres; £8.—Seen, 25 Polygon Mews, Burwood Place, Edgware Road, W.

4½ h.p. Stevens, powerful and fast, climb anything, reliable; £12; trial.—B. Corley, 55, Choumert Road, Peckham, London, S.E.

MOTOR BICYCLES FOR SALE.

MAUDE'S.—All the undermentioned motor cycles are in guaranteed good running, and can be seen on the road at the address.

MAUDE'S.—Zenith Bicar, two speeds, handle starting, newly enamelled and done up by the makers. Now, ye godfathers, how's this at £27.

MAUDE'S.—Zenith Bicar, 4 h.p., free engine, new rear tyre; £21.

MAUDE'S.—N.S.U., twin, magneto, two speeds, spring forks, with sidecar, £35.

MAUDE'S.—Sarolea, new tyres, Davison tanks, perfect order and condition; £22.

MAUDE'S.—Rex, 1907 model, 3½ h.p., just been overhauled; £18.

MAUDE'S.—Roc, 1908 model, two speeds, 4 h.p., magneto; £38.

MAUDE'S.—Ariel, 3 h.p., B. and B. carburetter, vertical, 26in. wheels, very good condition; £15.

MAUDE'S.—Werner, twin, 26in. wheels, spring forks, spray, accumulator ignition; £20.

MAUDE'S.—Minerva, 3½ h.p., vertical, M.O.V., spray carburetter, splend. puller; £17.

MAUDE'S.—Minerva, 3½ h.p., 26in. wheels, low built; £15.

MAUDE'S.—Minerva, 2½ h.p. vertical, new tyres, saddle, silencer, and pedals, thoroughly overhauled and re-enamelled; £12.

MAUDE'S.—Clyde, 2½ h.p., vertical engine, magneto, Longuemare spray carburetter; £16.

MAUDE'S.—Clarendon, 3 h.p., vertical engine, spray, very good tyres; £11.

MAUDE'S.—Rex, 5 h.p., twin, 50 guinea model, perfect order; £18 18s.

MAUDE'S.—Rex, 50 guinea model, non-skid to rear, Palmer front; £10 10s.

MAUDE'S.—Humber, 2½ h.p., good condition and order throughout; £8 10s.

MAUDE'S.—Bat, 3½ h.p., Bat engine, Longuemare spray, with sidecar, £25; without, £20.

MAUDE'S.—Quadrant, 3 h.p., spring forks, spray; £12.

MAUDE'S.—Rex, 22in. frame, trembler, 50 guinea model; £10 10s.

MAUDE'S.—Lloyds, 2 h.p., vertical engine, footrests, spray, 26in. wheels; a beauty, £12.

MAUDE'S.—Rex twin, 6 h.p., cantilever seat, 50 guinea model; £17.

MAUDE'S.—Humber, spray, trembler, 2½ h.p.; £8.

MAUDE'S.—Zedel, 2 h.p., vertical engine, low built, 26in. wheels, as new; £11; to be recommended as a lightweight.

MAUDE'S.—Jap, Phoenix built, good tyres; £9.

MAUDE'S.—Minerva, 2 h.p., M.O.V., spray; £7.

MAUDE'S.—Rex, 26in. wheels, low built, spray carburetter, footboards; £14 14s.

MAUDE'S.—Bayliss, 3½ h.p. very good tyres; £11.

MAUDE'S.—Another Bayliss, 3½ h.p., special price £8, good running order.

MAUDE'S.—Humber, 2 h.p., trembler coil, chain drive, good running order; £1.

MAUDE'S.—Singer, 2 h.p., magneto, Singer carburetter; £7.

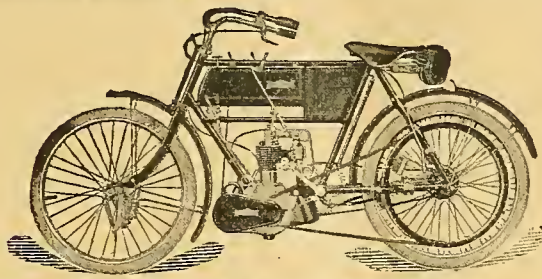
MAUDE'S.—45s. down and twenty-four weekly payments of 7s. 6d. secures 3½ h.p. Excelsior, 3 h.p. Rex, 2 h.p. Humber, 2½ h.p. Humber, 2½ h.p. Jap, or 2 h.p. magneto Singer. Delivery upon first payment.

MAUDE'S Motor Mart, Powell Street, Halifax (behind the Victoria Hall), offer without doubt the very best bargains in motor cycles, all of which are guaranteed in good running order before despatch. Write us and let us have your requirements, and we will quote you best terms for exchange or cash.—Nat. tel. 433.

The Hot Weather

is apt to turn one, so get a Motor and keep cool. Splendid selection, low prices. Make us a cash offer, however low. We can consider.

MINERVAS at Special Prices.



ARIEL 2½ h.p. LIGHTWEIGHT.

Coil and accumulator ignition	32	Guineas.
Magneto	37	"
3½ h.p. VINDEC	£48	10 0
5 h.p. VINDEC	53	0 0
5 h.p. TOURIST	52	0 0
2½ h.p. MINERVA	29	0 0
3½ h.p. MINERVA	32	0 0
4½ h.p. MINERVA	39	0 0
7-8 h.p. MINERVA	45	0 0
1½ h.p. F.N.	35	0 0
4½ h.p. F.N.	50	0 0
3½ h.p. TRIUMPH	48	0 0
3½ h.p. SILVER	39	0 0
3½ h.p. BROWN	37	0 0

Let us quote you for Exchange for any of the above.

Prices rock bottom. Cash or Exchange.

Any other make gladly quoted upon request.

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REX Triette, 6 h.p., non-skid	£25	0 0
HUMBER Tricar, chain drive	12	0 0
REXETTE, 8 h.p., twin tyre, two speeds and reverse, water-cooled, wheel steering.	60	0 0
HUBBARD, water-cooled, two speeds	20	0 0

CARS.

HUMBERETTE, beautiful order and condition, bucket seats	£38	0 0
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FORECARS, etc.

Nice Forecar, with front brakes	£5	0 0
BAT Sidecar, good condition	4	10 0

SIDECARS.

Let us quote you for Cash or Exchange for a new 1908 Montgomery Sidecar. Catalogue and terms free.

MAGNETOS.

GENUINE BOSCH.

DA 1	£4	5 0
DA 2	4	15 0
DA V	6	0 0

Good allowance for your coil and acc. in part payment.

BOSCH PATTERN.

Singles	£2	19 6
Twins	3	19 6

Write for particulars.

PALMER TYRES (Cord).

Cover.	Tube.	Cover.	Tube.
26 x 2, 43/8	10/-	28 x 2, 50/8	10/-
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11/- allowed on old covers and 2/6 on tubes.

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FULLY GUARANTEED.

26 x 2in.	6/-	28 x 2in.	7/-
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Immediate Delivery. Approval.

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"ALBANY" BELTING.

¾in. 7d., ¾in. 8d., ¾in. 9d., 1in. 10d. per foot.

Maude's Motor Mart, POWELL ST., HALIFAX.

National Telephone 433.

MOTOR BICYCLES FOR SALE.

ROVER, 3½ h.p., in splendid condition; £14, or nearest offer.—14, Fleet Street, Coventry.

1¼ h.p. Phoenix-Minerva; £9, no offers; 14 trial. — Cowley, 99, Waterloo Road, Leyton.

EXCELSIOR, 3½ h.p., latest model, splendid condition, Clinchers, 26 by 2½; £13; most reliable machine. — 30, Dault Road, Wandsworth.

4 h.p. Light Twin Elswick, like new, Palmers, unscratched, gold lined, Elswick green, 1907; any offer; exchange Triumph. — 1a, Lyall Mews, Eaton Square.

BEESTON Humber, 2½ h.p., two accumulators, free engine, will climb any hills, in good going order; £10, or offer. — Tyrrill, 98, Rossiter Road, Balham.

23 h.p. Minerva, genuine Chater-Lea, low position, spare tank in frame, aluminium enamel, new tyres, two accumulators, two belts, in perfect condition; £17 10s., or near.—64, Bramfield Road, Clapham Junction.

31 h.p. Two-cylinder Werner, tyres very little worn, non-skid back, footrests, Gloria belt, lamp, horn, numbers, etc in excellent order; owner has insufficient time for riding; £12, or near offer.—Bray, The Hermitage, Walton-on-the-Hill, Epsom.

ARIEL! Ariel!!!—For immediate delivery, the 2½ h.p. lightweight; write for catalogue and full particulars; also 3 h.p. and 5 h.p. twin-cylinder models; a few 3 h.p. and 5 h.p. twins at clearance prices. — Ariel Works, Bournbrook, Birmingham.

23 h.p. Rover, vertical engine, No. 6 Chater-Lea frame, very low, with long bars, Longuemare carburetter, Continental tyres, two brass tanks, two belts, and foot brake; £9 10s.; only wants seeing; any time after 7.—F. Palmer, 53, Highgate Hill, N.

TWIN Vindec, 1908, 5 h.p., model F., just six weeks old, used for trials, hill-climb and gold medal winner, in new and perfect condition, Truffault spring forks, magneto, starts at walking pace, very powerful hill-climber; £43.—Alexander's Motor Exchange.

LIVERPOOL (Rex Agency).—Before buying your new mount come and have a look at our machines. The largest stock of new and second-hand machines for 50 miles round; anything taken in part payment.—F. C. Jones and Co., 3, Redcross Street, Liverpool.

2½ h.p. 1904 Minerva-Phoenix, in perfect order, newly enamelled and plated, new accumulator, lamp, M. and B. switch, Reflex-Clipper tyres, punctureproof bands, £12; 2 h.p. gear drive Singer, perfect condition; both must be sold; what offers?—Drake, Haddenham, Ely.

1908 2½ h.p. Magneto Featherweight Rex, scarcely soiled, Autoclipse lamp, horn, footboards, numbers, etc., complete; cost £30, sacrifice £23 10s. cash, absolute bargain; owner ordered away; money wanted.—"Redfern," 106, Langdale Road, Thornton Heath.

5 h.p. Twin Givaudan Motor Cycle for sale, long wheelbase, very comfortable, perfect condition, very fast, new Brown and Barlow twin carburetter, Palmer cord tyres back and front; what offers.—Apply by letter, or call, R. Wilkinson, 7, Union Court, Old Broad Street, E.C.

TRIUMPH, 1907, 3½ h.p., magneto, very little used, not ridden during 1908, new extra heavy back cover, machine in perfect condition, acetylene lamp, with separate generator, has never been lit, number plates and full tool kit; inclusive price, £32.—Coote, 16, West Park, Bristol.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chester Road, Old Trafford.

4 h.p. Antoine, Chater-Lea, E.I.C. coil, 26in. wheels, low swan-neck pillar, B100, 20in. bars, Kumfo grips, handle-bar control, piston throttle, footboards, Davidson gauge, spring girder forks, H. Longuemare, easy starting air shutter, enamelling, plating like new, perfect going order, exchange twin Brown, F.N., other good make, or sell £22 10s.; photo and full particulars.—Motors, 4, Northfield Avenue, Ayr.

MOTOR BICYCLES FOR SALE.

REX London Agency, Store Street, Tottenham Court Road, W.C. Phone, 13456 Central.

LONDON Rex Agency have for immediate delivery all Rex models from 25 guineas.

REX 2½ h.p. Lightweight, magneto ignition, brand new, also one slightly used for trial; £22 10s.

LONDON Rex Agency.—3½ h.p. Tourist, ball bearing engine; 38 guineas; exchanges accepted.

REX 5 h.p. Twin Tourist; 42 guineas; best cash, gradual, and exchange terms.

LONDON Rex Agency, having special contract with Rex Mfg. Co., give most advantageous terms.

REX 3½ h.p. Model De Luxe, fitted with Roc clutch, ball bearing engine; immediate delivery.

LONDON.—All motors we advertise we have in stock ready for trial.

REX 5 h.p. Model de Luxe, Roc clutch. We can offer exceptional exchange terms on this model.

LONDON Official Agents for Rex motors, Horner's, Store Street, Tottenham Court Road.

REX 5 h.p. Two-speed De Luxe, just the thing for sidecar work.—Store Street.

LONDON.—5 h.p. Minerva, £5; 4 h.p. Antoine, magneto ignition, £13 15s.; Centaur, 3½ h.p., free engine, £12 12s.; twin 6 h.p. Antoine, £21.—Horner's, Store Street.

REX, 3½ h.p., £11 11s., good condition; 5 h.p. twin Rex, specially powerful, £17 10s.—Horner's, Store Street.

LONDON Rex Agency must clear the above second-hand machines at once.

REX London Agency, Store Street, W.C. Phone, 13456 Central. Make your own appointment with W. Hayes.

TRIUMPH, 3 h.p.; genuine bargain, £16, with spares.—5, Heath Street, Hampstead.

TRIUMPH, 1907, perfect, magneto, spares: £32, offers.—W. Measor, Burgess Hill, Sussex.

DE DION Pattern, 12-16 h.p., £45, or exchange damaged car.—18, Hailsham Avenue, Streatham.

MOTOR Cycle, Werner, 2½ h.p., spray carburetter; £6 10s.—Collins, 68a, Romney Street, Westminster.

TRIUMPH, 3 h.p., magneto, perfect; immediate sale; £23.—Bellevue Cottage, Prospect Road, Broadstairs.

3-4 h.p. Bat, spring frame and forks, new non-skids, perfect running order; £22.—64, Elgin Road, Croydon.

1908 Minerva, 3½ h.p., new in crate, as delivered last week, guaranteed; what offers?—Tuson, jun., Leominster.

3½ h.p. White and Poppe, Chater-Lea frame, very low, grand condition; £15.—5, Heath Street, Hampstead.

MINERVA, 3½ h.p., new November, 1907, magnificent condition; £22, with spares.—5, Heath Street, Hampstead.

F.N., 1908, 1½ h.p., lightweight, magneto, and spring forks, brand new; £30.—Box 257, The Motor Cycle Offices, Coventry.

1907 Triumph, 3½ h.p., magneto, has been well cared for, and is in excellent condition; £31.—5, Grove Villas, Wanstead, E.

50 Guinea 3½ h.p. Rex, vertical engine, 22 frame, trembler coil, reliable, guaranteed; £11 10s.—"Exchange," 16, Westgate, Halifax.

6 h.p. Twin and coach-built sidecar, 2½ in. Palmer cord tyres, R.O.M., also sidecar, 24 in. wheel.—65, Brighton Road, Croydon.

3½ h.p. Minerva-Ariel Cycle, Brown and Barlow, excellent condition; dirt cheap; £15.—58, Ferme Park Road, Stroud Green.

13 h.p. F.N., climbs River Hill and Reigate Hill without pedal assistance, good condition; can be seen.—106 Great Portland Street, W.

TWIN REX FOR £4

and '07 Single Rex, or level exchange for '07

3½ h.p. Magneto Rex.	
SPECIFICATION. —Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.	
2½ h.p. REX (new)	1908 £26 5
3½ h.p. REX Tourist (new) ..	1908 36 15
3½ h.p. REX DE LUXE (new) ..	1908 47 5
5 h.p. REX Tourist (new) ..	1908 42 0
5 h.p. REX DE LUXE (new) ..	1908 52 10
3½ h.p. N.S.U., magneto (new) ..	1908 42 0
5½ h.p. N.S.U., magneto (new) ..	1908 52 0
N.S.U. Lightweight (new) ..	1908 34 10
5 h.p. Twin VINDEC, magneto ..	35 0
6 h.p. 1906 Twin REX, 26" wheels	17 17
5½ h.p. Twin REX, black finish ..	17 17
5½ h.p. REX DE LUXE, magneto	27 10
Twin REX, black finish, new tries	18 18
6 h.p. Twin REX, non-skids	18 18
5½ h.p. Twin REX, 2½ Peter Unions	19 19
3½ h.p. REX, 1906, 2½ tyres	16 5
3½ h.p. 1906 REX, spring forks	15 0
3½ h.p. Magneto REX RACER ..	25 0
3½ h.p. REX, spray, 21½ frame	11 10
3½ h.p. 1906 REX, spring forks	15 0
3½ h.p. REX, sprav, fine climber	11 10
2½ h.p. Magneto REX, 1908	23 10
6 h.p. Twin ANTOINE, spg. fks.	22 0
4½ h.p. Twin MINERVA, magneto	27 10
5 h.p. Twin ONAWAY, very low	22 10
3½ h.p. MINERVA, 1907	16 10
3 h.p. GIVAUDAN, nearly new	16 0
3 h.p. ROVER, 26 × 2½ Palmers	13 10
3 h.p. LLOYD'S, 26 × 2½ Palmers	13 10
4 h.p. ANTOINE, spring forks ..	16 0
3½ h.p. MINERVA, spring forks	17 10
4-5 h.p. Twin ALCYON, two speeds	23 10
4 h.p. Twin WERNER, fine machine	19 19
5 h.p. Twin SAROLEA, long frame	18 18
2½ h.p. CLYDE, magneto	15 0
4 h.p. ANTOINE, 26 × 2½ tyres ..	16 10
3½ h.p. SIMMS, mag., 2½ Palmers	17 10
3½ h.p. QUADRANT, 1906	18 10
6 h.p. Twin ANTOINE, R.O.M.	22 0
2½ h.p. PHENIX, spray	10 10
3 h.p. HUMBER, spray	10 10
3 h.p. FAFNIR, very low	13 10
2½ h.p. CORONET, free engine ..	10 10
2 h.p. MINERVA, magneto	13 10
2½ h.p. F.N., special frame	11 10
3½ h.p. REX, 22 frame	11 10
2½ h.p. MINERVA, 26 × 2	11 10
3 h.p. BROWN	12 10
2½ h.p. CLEMENT, very low	11 0
1½ h.p. SIMMS	7 0
1½ h.p. SIMMS, magneto	7 0
1½ h.p. MINERVA	5 15
2 h.p. RALEIGH, spray	8 0
2 h.p. PRINCEPS	6 0
1½ h.p. QUADRANT	5 15
2 h.p. UNIVERSAL, spray	6 15
2½ h.p. SINGER, magneto	8 10

MISCELLANEOUS.

Light Car steel Frame, with front axle wheels and tyres, £7 10s.; Bat Tricar (spring frame) Chassis, £7; 8 h.p. Fafnir Engine, £9 10s.; three speeds and reverse Gear Box, £4; two-speed Gear Box, £2 10s.; pair solid tyre Motor Van Wheels, nearly new, £3 5s.; Forecarriage, fit Rex, £5; Osborne Four-speed, fit Rex, 50/-; N.S.U. Pulleys, 5/-; Brooks Broo, 11/-.

SNIPS.—45s. deposit and six monthly payments of 29s. 6d. secures 2½ h.p. Excelsior, 3 h.p. Humber, 2½ h.p. Minerva, 2½ h.p. F.N., 2½ h.p. Hobart, 3 h.p. Lloyds, 2½ h.p. Minerva, 3½ h.p. Rex, 2½ h.p. Aurora, 2½ h.p. Kerry, 3 h.p. M.M.C.; all guaranteed running order.

"PERFECTION" Leather V Belting—¾ in. 9d., ¾ in. 10½d., ¾ in. 1/-, 1 in. 1/1.

"SERRATRIX" Rubber Canvas Belting. Best on test—¾ in. 9d., ¾ in. 1/-, ¾ in. 1/4, 1 in. 1/8 per foot.

THE HALIFAX MOTOR EXCHANGE,

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Telephone 766.

Telegrams, "Perfection."

MOTOR BICYCLES FOR SALE.

HAMPSTEAD.—2½ h.p. Minerva, 1907, variable pulley, new belt, Palmer tyres, lamp, horn, tools, almost new; bargain. £14; guaranteed.

HAMPSTEAD.—Four-cylinder F.N., magneto, and spring forks, grand condition, all spares; £18.

HAMPSTEAD.—3 h.p. Rover; £12; M.O.V., vertical, Brooks 105 saddle, all spares; bargain.

HAMPSTEAD.—5½ h.p. twin Peugeot, Truffault spring forks, non-skid, new condition; £25; guaranteed.

HAMPSTEAD.—3½ h.p. Minerva, 1907 model, spring forks, splendid condition, new tyres; £16.

HAMPSTEAD.—1½ h.p. F.N., lightweight, 1907, magneto, and spring forks, grand condition; £18.

HAMPSTEAD.—1908 Triumph, handle-bar control, run but few miles; only £40.

HAMPSTEAD for Bargains.—Sole agents for Griffons, F.N.'s, Triumphs, Minervas; liberal allowances or exchanges.—Rey, 5, Heath Street Motor Works, Hampstead, close to tube station. Tel. 2678, P.O.

3½ h.p. N.S.U., practically new, spares, tools, accessories, guaranteed; seen any time; £20, offer.—162, Coldershaw Road, West Ealing.

1906 (£11 10s.) 2½ h.p. Kerry, spring forks, Palmer cords, all accessories, extras worth £3; splendid condition.—171, Church Street, Chelsea.

F.N., four-cylinder, 4½ h.p., nearly new, very fast, magnificent hill-climber; £33.—Seen and tried, Wursthorn, 106, Great Portland Street, W.

5½ h.p. Twin Magneto N.S.U., has been very little ridden, tyres unpunctured; £35, a bargain.—H.S.G., West Heath House, Hampstead, London.

3 h.p. Motor Cycle, very little used, excellent condition, Palmer tyres (unpunctured); £15, or nearest offer.—61, Suffolk Street, Birmingham.

23 h.p. Phoenix-Minerva, new Palmer cords, splendid climber, overhauled, perfect, all accessories, spares; £13.—Morris, North Street, Leatherhead.

TRIUMPH, 3 h.p., magneto, splendid machine, footboards, new, and spare tyre and belt, £23 10s.; also trailer, 45s.—27, Cleveland Square, Liverpool.

TRIUMPH, 3 h.p., accumulator, excellent condition, N.A.B. spring, new Continentals, two pulleys; £20.—Ludgater, 30, Alexandra Road, South Norwood.

MIDGET Bicans.—Two of these splendid machines, 5 h.p. twins, new condition; cheap for cash; owners bought car.—Whittaker, Bot Lane, Colne, Lancs.

3½ h.p. Triumph, June, 1908, brand new, only ridden once, absolutely perfect; cost £51, complete, sacrifice £42.—Davies, "Brynheulog," Pentre-Rhondda.

BROWN, 3 h.p., spring forks, Longuemare carburetter, Clincher A Won tyres, perfect condition, climb anything; trial.—Smith, 10, Park Place, Uttroeter.

REX de Luxe, twin-cylinder, magneto, free engine, had little wear, equal new; trial; expert examination invited; £26 10s.—Lloyd, Victoria Terrace, Leamington.

N.S.U., 5½ h.p., twin, like new, 2½ tyres, low frame, carriers, stand, lamp, tools, spares, belts, pulleys, horn, etc., all perfect; £27.—Wiswall, Stanley Villas, Runcorn.

ROC, 4 h.p., new 1908 model, Truffault spring forks, free engine speed gear practically new, has not done 300 miles; £39.—Hopkins, Alveston House, Ledbury.

FOR Sale, 5 h.p. Twin Vindec Special, magneto, Shaw non-skid, spare valve and contact, condition as new; 25 guineas.—Apply, 252, The Motor Cycle Offices, Coventry.

TRIUMPH, 1906, magneto, spring forks, tyres almost new (Palmer cord back), machine is in really fine condition; £22.—"Holly Bank," Manor Road, Leyton, E.

3½ h.p. Minerva, Chater-Lea frame, Longuemare carburetter, spring front forks; 2½ h.p. Minerva, first-class order, either £13 15s.—Holloway, Shoreham, near Brighton.

TRICARS FOR SALE.

GENUINE Rover Tricar, 4 h.p., two speeds, new condition; £25 15s.—Brockley Cycle Works, S.E.

31 h.p. De Dion Tricar, good going order; trial given; £20.—Barrett, 332, High Street, Manor Park.

£17, must sell.—6-8 h.p. Twin Tricar, three speeds, sound, wants overhauling; cash wanted.—66, Grand Parade, Harringay.

HUMBER Tricar, 3 h.p., roomy cane seat, seats lady and boy, perfect order; trial; £16.—13, Brewster Road, Leyton.

3-4 h.p. Tricar, Phelon and Moore two-speed, chain drive, tyres good, climb any hill, excellent condition; £17.—Jury, 37, Linnell Road, Camberwell.

1908 9 h.p. Singer, not run 50 miles, cost over £150, guaranteed perfect, double front seat; cash £77.—Hollins, Halsey House, Red Lion Square, W.C.

4-5 h.p. Bradbury Tricar, water-cooled, clutch, two speeds, chain drive, coach-built, good condition; trial; offer over £20.—Basnett, Cheadle, Staffs.

51 h.p. Humber Latest Tricar, coach-built, open frame, wheel steering, water-cooled, two speeds, lamps, accessories; £38.—98, Potternewton Lane, Leeds.

SALE, 5 h.p. w.c. Chater-Lea Tricar, Stevens engine, wheel steering, three speeds, reverse gear, in good working order; £40.—Wyatt, Ordnance Road, Hounslow.

RILEY Tricar, 4½ h.p., coach-built front and bucket back seat, just been overhauled and partly re-enamelled; trial run; seen any time; £42.—May, Chemist, 331, West Green Road, Tottenham.

LAGONDA Tricar, 5½ h.p., open frame, free engine, chain drive, car tyre on back wheel, in perfect condition and running order; cost £65, accept £31.—Overshall, Sanatorium, Virginia Water, Surrey.

6 h.p. Water-cooled Tricar, Jap twin engine, Chater-Lea frame, non-skid back, open frame, wheel steering, three speeds and reverse, capital condition throughout; £49 10s.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

5-6 h.p. Humber, water-cooled, coach-built bucket seats, push pedals, exceedingly smart, most reliable, splendid hill-climber very comfortable; bargain, £50.—B., Norfolk House, Lonsdale Road, Hammersmith Bridge, Barnes, S.W.

31 h.p. Rex Tricar, coach-built seat, just been thoroughly overhauled, new lin. Watawata belt, Palmer cord tyre and spares; £16 10s., or nearest offer, would exchange for lightweight (magneto preferred).—Newton House, Felixstowe.

31 h.p. Rover Tricar, free engine, just been thoroughly overhauled and replated, engine exceptionally powerful, and better than new, really wonderful hill-climber; bargain, £28, or motor cycle and cash.—Tricar, 86, Colvestone Crescent, Dalston, London.

HUMBER, 1907, practically new, 6½ h.p., water-cooled, wheel steering, motor car tyres, open frame, bucket seats; cost £140, sacrifice 55 guineas, exceptional bargain; only wants seeing; photo.—Stacy Marks, artist, Leamington Spa.

STOCKPORT.—Runabout, 5 h.p., 1907, bucket seat, only 20 inches from the ground, very rakishly built, winner tricar class Manchester Motor Club hill-climb, fast, and easily controlled, tyres perfect; 40 guineas.—Lund and Davies, Heaton Lane.

PEUGET, 7-8 h.p., twin-cylinder, Phoenix tricar, two speeds, driven about 1,000 miles only, in perfect condition throughout; 60 guineas, including spares and accessories, cost over £100, would exchange for small car.—J. Denyer, Meadgate, Staines.

8 h.p. Invicta Tricar, two-cylinder, water-cooled Stevens engine, Chater-Lea frame, irreversible wheel steering, three speeds and reverse, car tyres, thoroughly reliable; any expert examination; £42.—Garaged at Barnes, 6, Battersea Rise, S.W.

TRICAR Slaughter.—9 h.p. Riley, two-cylinder, water-cooled, three speeds and reverse; 5 h.p. Excelsior, w.c., three speeds; 4½ h.p. Phoenix, two speeds; 4 h.p. Kelecom, light, plain drive; 5 h.p. twin Kerry tricar; any reasonable offer cash, or exchange; wonderful bargains.—123, High Road, Tottenham.

DERMATINE BELTS
HOLD ALL RECORDS.

End-to-End Record, June 9th and 10th :

Mr. A. W. Bentley, using Dermatine belt.

M.C.C. 24 Hours' Ride to Edinburgh,

June 5th and 6th :

35 were successful, using Dermatine belts.

Stadium Race Meeting, June 8th :

Harry Martin, First in Ten Miles Race.

Stadium Race Meeting, June 24th :

Again the First, Second, and Third winners were fitted with Dermatine belts.

No other belt holds such records. The Original Rubber and Canvas Belt. **BEWARE OF IMITATIONS.** The standard belt that is adopted by all leading manufacturers.

End-to-End Record.

Read the testimonial from the Triumph Co.
Coventry, June 22nd, 1908.

Mr. Stanley Webb, 32, London Road,
Bromley, Kent.

Dear Sir,—I do not know whether we have written to you about the Bentley End-to-End record. Mr. Bentley had a Stanley Dermatine Belt fitted to his motor cycle. It gave him entire satisfaction, and had not to be touched once during the whole ride of 836 miles.

Yours faithfully, M. J. SCHULTE,
Manager Director, Triumph Motor Co., Ltd.

Second season in use, and still going strong.
125, Bunhill Row, E.C., 12/6/08.

Dear Sir,—You will be pleased to hear that the "Dermatine" Belt I used in this year's London-Edinburgh run gave me no trouble whatever, and that, moreover, it was the identical belt I used in last year's L.-E. run. It is still going strong, though having run nearly 3,000 miles. Yours faithfully, J. P. LE GRAND.

800 miles, and no trouble nor once shortened.

Southernhay, Loughton, June 12th, 1908.

Dear Sir,—I must again congratulate you upon your excellent belts, as the one I used on my 3½ Vindex in the Schulte Cup Competition to Edinboro' and back gave me no trouble whatever, and was not even shortened once in 800 miles. I consider this a severe test, and a splendid proof of efficiency.

Yours faithfully, OWEN L. SUMMERS.
Hundreds of Testimonials. British Made.



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3in.	4in.	5in.	6in.
1/2	1/4	1/8	1/11 per ft.

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The Stanley Adjustable Fastener.

A long-felt want at last for adjustable pulleys.



Can be used with existing Stanley Fasteners. It is also most useful for starting out with hook fitted, and in case belt slips, to shorten simply take out the hook. Belt shorten ½ in.; time, one second.

Price Stanley Fastener, complete with set hooks, 1/6. Set of hooks, separate, price 1/-.

The Stanley Detachable Fastener.
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With Unbreakable Hook. Guaranteed. (Made under Simolex Patent.) In sizes ½ in., ¾ in., 1 in., 1 1/8 in., 1 1/4 in., 1 1/2 in., 1 3/4 in., 2 in., 2 1/2 in., 3 in., 4 in., 5 in., 6 in., 8 in., 10 in., 12 in., 14 in., 16 in., 18 in., 20 in., 22 in., 24 in., 26 in., 28 in., 30 in., 32 in., 34 in., 36 in., 38 in., 40 in., 42 in., 44 in., 46 in., 48 in., 50 in., 52 in., 54 in., 56 in., 58 in., 60 in., 62 in., 64 in., 66 in., 68 in., 70 in., 72 in., 74 in., 76 in., 78 in., 80 in., 82 in., 84 in., 86 in., 88 in., 90 in., 92 in., 94 in., 96 in., 98 in., 100 in., 102 in., 104 in., 106 in., 108 in., 110 in., 112 in., 114 in., 116 in., 118 in., 120 in., 122 in., 124 in., 126 in., 128 in., 130 in., 132 in., 134 in., 136 in., 138 in., 140 in., 142 in., 144 in., 146 in., 148 in., 150 in., 152 in., 154 in., 156 in., 158 in., 160 in., 162 in., 164 in., 166 in., 168 in., 170 in., 172 in., 174 in., 176 in., 178 in., 180 in., 182 in., 184 in., 186 in., 188 in., 190 in., 192 in., 194 in., 196 in., 198 in., 200 in., 202 in., 204 in., 206 in., 208 in., 210 in., 212 in., 214 in., 216 in., 218 in., 220 in., 222 in., 224 in., 226 in., 228 in., 230 in., 232 in., 234 in., 236 in., 238 in., 240 in., 242 in., 244 in., 246 in., 248 in., 250 in., 252 in., 254 in., 256 in., 258 in., 260 in., 262 in., 264 in., 266 in., 268 in., 270 in., 272 in., 274 in., 276 in., 278 in., 280 in., 282 in., 284 in., 286 in., 288 in., 290 in., 292 in., 294 in., 296 in., 298 in., 300 in., 302 in., 304 in., 306 in., 308 in., 310 in., 312 in., 314 in., 316 in., 318 in., 320 in., 322 in., 324 in., 326 in., 328 in., 330 in., 332 in., 334 in., 336 in., 338 in., 340 in., 342 in., 344 in., 346 in., 348 in., 350 in., 352 in., 354 in., 356 in., 358 in., 360 in., 362 in., 364 in., 366 in., 368 in., 370 in., 372 in., 374 in., 376 in., 378 in., 380 in., 382 in., 384 in., 386 in., 388 in., 390 in., 392 in., 394 in., 396 in., 398 in., 400 in., 402 in., 404 in., 406 in., 408 in., 410 in., 412 in., 414 in., 416 in., 418 in., 420 in., 422 in., 424 in., 426 in., 428 in., 430 in., 432 in., 434 in., 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658 in., 660 in., 662 in., 664 in., 666 in., 668 in., 670 in., 672 in., 674 in., 676 in., 678 in., 680 in., 682 in., 684 in., 686 in., 688 in., 690 in., 692 in., 694 in., 696 in., 698 in., 700 in., 702 in., 704 in., 706 in., 708 in., 710 in., 712 in., 714 in., 716 in., 718 in., 720 in., 722 in., 724 in., 726 in., 728 in., 730 in., 732 in., 734 in., 736 in., 738 in., 740 in., 742 in., 744 in., 746 in., 748 in., 750 in., 752 in., 754 in., 756 in., 758 in., 760 in., 762 in., 764 in., 766 in., 768 in., 770 in., 772 in., 774 in., 776 in., 778 in., 780 in., 782 in., 784 in., 786 in., 788 in., 790 in., 792 in., 794 in., 796 in., 798 in., 800 in., 802 in., 804 in., 806 in., 808 in., 810 in., 812 in., 814 in., 816 in., 818 in., 820 in., 822 in., 824 in., 826 in., 828 in., 830 in., 832 in., 834 in., 836 in., 838 in., 840 in., 842 in., 844 in., 846 in., 848 in., 850 in., 852 in., 854 in., 856 in., 858 in., 860 in., 862 in., 864 in., 866 in., 868 in., 870 in., 872 in., 874 in., 876 in., 878 in., 880 in., 882 in., 884 in., 886 in., 888 in., 890 in., 892 in., 894 in., 896 in., 898 in., 900 in., 902 in., 904 in., 906 in., 908 in., 910 in., 912 in., 914 in., 916 in., 918 in., 920 in., 922 in., 924 in., 926 in., 928 in., 930 in., 932 in., 934 in., 936 in., 938 in., 940 in., 942 in., 944 in., 946 in., 948 in., 950 in., 952 in., 954 in., 956 in., 958 in., 960 in., 962 in., 964 in., 966 in., 968 in., 970 in., 972 in., 974 in., 976 in., 978 in., 980 in., 982 in., 984 in., 986 in., 988 in., 990 in., 992 in., 994 in., 996 in., 998 in., 1000 in., 1002 in., 1004 in., 1006 in., 1008 in., 1010 in., 1012 in., 1014 in., 1016 in., 1018 in., 1020 in., 1022 in., 1024 in., 1026 in., 1028 in., 1030 in., 1032 in., 1034 in., 1036 in., 1038 in., 1040 in., 1042 in., 1044 in., 1046 in., 1048 in., 1050 in., 1052 in., 1054 in., 1056 in., 1058 in., 1060 in., 1062 in., 1064 in., 1066 in., 1068 in., 1070 in., 1072 in., 1074 in., 1076 in., 1078 in., 1080 in., 1082 in., 1084 in., 1086 in., 1088 in., 1090 in., 1092 in., 1094 in., 1096 in., 1098 in., 1100 in., 1102 in., 1104 in., 1106 in., 1108 in., 1110 in., 1112 in., 1114 in., 1116 in., 1118 in., 1120 in., 1122 in., 1124 in., 1126 in., 1128 in., 1130 in., 1132 in., 1134 in., 1136 in., 1138 in., 1140 in., 1142 in., 1144 in., 1146 in., 1148 in., 1150 in., 1152 in., 1154 in., 1156 in., 1158 in., 1160 in., 1162 in., 1164 in., 1166 in., 1168 in., 1170 in., 1172 in., 1174 in., 1176 in., 1178 in., 1180 in., 1182 in., 1184 in., 1186 in., 1188 in., 1190 in., 1192 in., 1194 in., 1196 in., 1198 in., 1200 in., 1202 in., 1204 in., 1206 in., 1208 in., 1210 in., 1212 in., 1214 in., 1216 in., 1218 in., 1220 in., 1222 in., 1224 in., 1226 in., 1228 in., 1230 in., 1232 in., 1234 in., 1236 in., 1238 in., 1240 in., 1242 in., 1244 in., 1246 in., 1248 in., 1250 in., 1252 in., 1254 in., 1256 in., 1258 in., 1260 in., 1262 in., 1264 in., 1266 in., 1268 in., 1270 in., 1272 in., 1274 in., 1276 in., 1278 in., 1280 in., 1282 in., 1284 in., 1286 in., 1288 in., 1290 in., 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1892 in., 1894 in., 1896 in., 1898 in., 1900 in., 1902 in., 1904 in., 1906 in., 1908 in., 1910 in., 1912 in., 1914 in., 1916 in., 1918 in., 1920 in., 1922 in., 1924 in., 1926 in., 1928 in., 1930 in., 1932 in., 1934 in., 1936 in., 1938 in., 1940 in., 1942 in., 1944 in., 1946 in., 1948 in., 1950 in., 1952 in., 1954 in., 1956 in., 1958 in., 1960 in., 1962 in., 1964 in., 1966 in., 1968 in., 1970 in., 1972 in., 1974 in., 1976 in., 1978 in., 1980 in., 1982 in., 1984 in., 1986 in., 1988 in., 1990 in., 1992 in., 1994 in., 1996 in., 1998 in., 2000 in., 2002 in., 2004 in., 2006 in., 2008 in., 2010 in., 2012 in., 2014 in., 2016 in., 2018 in., 2020 in., 2022 in., 2024 in., 2026 in., 2028 in., 2030 in., 2032 in., 2034 in., 2036 in., 2038 in., 2040 in., 2042 in., 2044 in., 2046 in., 2048 in., 2050 in., 2052 in., 2054 in., 2056 in., 2058 in., 2060 in., 2062 in., 2064 in., 2066 in., 2068 in., 2070 in., 2072 in., 2074 in., 2076 in., 2078 in., 2080 in., 2082 in., 2084 in., 2086 in., 2088 in., 2090 in., 2092 in., 2094 in., 2096 in., 2098 in., 2100 in., 2102 in., 2104 in., 2106 in., 2108 in., 2110 in., 2112 in., 2114 in., 2116 in., 2118 in., 2120 in., 2122 in., 2124 in., 2126 in., 2128 in., 2130 in., 2132 in., 2134 in., 2136 in., 2138 in., 2140 in., 2142 in., 2144 in., 2146 in., 2148 in., 2150 in., 2152 in., 2154 in., 2156 in., 2158 in., 2160 in., 2162 in., 2164 in., 2166 in., 2168 in., 2170 in., 2172 in., 2174 in., 2176 in., 2178 in., 2180 in., 2182 in., 2184 in., 2186 in., 2188 in., 2190 in., 2192 in., 2194 in., 2196 in., 2198 in., 2200 in., 2202 in., 2204 in., 2206 in., 2208 in., 2210 in., 2212 in., 2214 in., 2216 in., 2218 in., 2220 in., 2222 in., 2224 in., 2226 in., 2228 in., 2230 in., 2232 in., 2234 in., 2236 in., 2238 in., 2240 in., 2242 in., 2244 in., 2246 in., 2248 in., 2250 in., 2252 in., 2254 in., 2256 in., 2258 in., 2260 in., 2262 in., 2264 in., 2266 in., 2268 in., 2270 in., 2272 in., 2274 in., 2276 in., 2278 in., 2280 in., 2282 in., 2284 in., 2286 in., 2288 in., 2290 in., 2292 in., 2294 in., 2296 in., 2298 in., 2300 in., 2302 in., 2304 in., 2306 in., 2308 in., 2310 in., 2312 in., 2314 in., 2316 in., 2318 in., 2320 in., 2322 in., 2324 in., 2326 in., 2328 in., 2330 in., 2332 in., 2334 in., 2336 in., 2338 in., 2340 in., 2342 in., 2344 in., 2346 in., 2348 in., 2350 in., 2352 in., 2354 in., 2356 in., 2358 in., 2360 in., 2362 in., 2364 in., 2366 in., 2368 in., 2370 in., 2372 in., 2374 in., 2376 in., 2378 in., 2380 in., 2382 in., 2384 in., 2386 in., 2388 in., 2390 in., 2392 in., 2394 in., 2396 in., 2398 in., 2400 in., 2402 in., 2404 in., 2406 in., 2408 in., 2410 in., 2412 in., 2414 in., 2416 in., 2418 in., 2420 in., 2422 in., 2424 in., 2426 in., 2428 in., 2430 in., 2432 in., 2434 in., 2436 in., 2438 in., 2440 in., 2442 in., 2444 in., 2446 in., 2448 in., 2450 in., 2452 in., 2454 in., 2456 in., 2458 in., 2460 in., 2462 in., 2464 in., 2466 in., 2468 in., 2470 in., 2472 in., 2474 in., 2476 in., 24

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INGER 9 h.p. Twin-cylinder Tricar, 1907 pattern, water-cooled, coach-built, three speeds and reverse, absolutely useless condition, just delivered from the makers after being thoroughly overhauled and made equal to new; cost with accessories, in 1907, £180, price £80.—No. 131, *The Motor Cycle Offices*, Coventry.

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BOOTH takes your rigid frame-breaking sidecar in exchange for a flexible Montgomery.

BOOTH. — Montgomery flexible sidecars; popular prices; cash, credit, or exchange. — Booth's Motor Exchange, Wade Street, Halifax.

ENTAUR Forecar, cane chair, brakes, wing guards.—8, Ashenden Road, Clapton, N.E.

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ATEST 10 guinea Sidecar, used twice, suit any machine; 5 guineas.—E. Sullivan, Grosvenor Road, Pimlico.

DECAR, upholstered green, Reflex-Clipper tyre, nearly new; £5 10s.—Worster, Benson Street, Grove Road, Bow.

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OR quick sale, Montgomery sidecar, in good running order; sacrifice £4, or best offer.—Particulars, Heard, Orchard Hill, Bideford.

DECAR, left-hand, 26in. wheel, in exchange for good strong trailer and adjustment.—Mason, 23, Goldsmith Road, Acton, W.

DECAR, flexible, upholstered green, apron, 24 Clipper-Reflex tyres, nickel, in good condition; £4.—W., 27, Pemroke Road, S. Norwood.

S.U. Coach-built Sidecar, body finished red, 24in. by 24in. Continental; cost 10s. last May, accept £10.—W. R. Kellett, The House, Castle Bar Hill, Ealing.

RIGID Bamboo Sidecar, good running order, nearly new, Mabon free engine, both fit Triumph; price £6.—Hutchinson, Normanhurst, Hatch End, Middlesex.

MONTGOMERY (full size) Adult Sidecar, fitted with Montgomery's latest non-flexible joints; seen any time; £5 6d.—Jennings, 268, Hornsey Road, Holloway.

HILLS-FULFORD Sidecar, absolutely brand new week ago, 26in. wheel, Dunlop, left; cost £9 6s. 6d., sacrifice £7 10s., no offers; buying car.—4, Bonheur Road, Bedford Park, Chiswick, W.

PLENDID Forecarriage Attachment, coach-built, everything complete, side lights, etc., minus tyres, fit Rex or others; best sell; £2; what offers.—40, Blenheim Road, Moseley, Birmingham.

HATER-LEA Forecarriage or Runabout, no seat, new, hardly soiled, been fitted Chater-Lea frame, foot brakes and boards, aged mudguards; £6 17s. 6d., best offers.—Southgate Road, London.

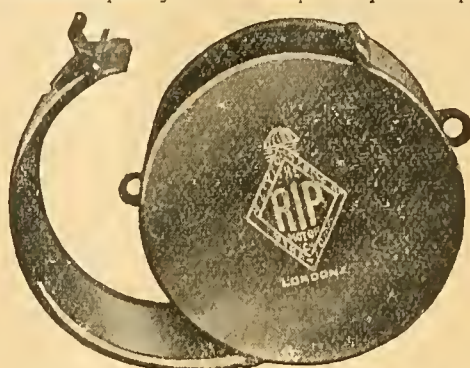
MONTGOMERY, cane body, upholstered green, apron, Palmer cord tyre, unattached, practically unused, perfect, and equal to new, £5; also trailer, 2in. new Dunlops, perfect, £2.—Harrison, Brookfield Street, Syston, Leicestershire.

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Before I had the gear I had frequently to use pedals to assist engine up steep pitches, but since purchasing the gear from you, I have never on the road had to use the pedals and can easily get up any hill round here including Clayton and Hand Cross with passenger on board.

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Clarendon Park, LEICESTER. Tele: 4251.

MOTOR TRICYCLES.

23 h.p. Singer Tricycle, magneto ignition; £9 10s.—No. 248, *The Motor Cycle Offices*, Coventry.

2½ h.p. Genuine De Dion Tricycle, new covers, 3in. Clincher tubes, plating, compression, gears, perfect, fast and quiet, in use now; photo; £14 10s., offer.—Manager, 295, Goldhawk Road, W.

TRAILERS.

LARGE Motor Trailer, very substantial; cost £15 15s., £5 5s., or offer.—Fireman, Colony, Epsom.

TRAILER, Coventry Eagle, in good condition; bargain, 45s.—Watson, Clayton Road, Hayes, Middlesex.

MILLFORD Trailer, wicker upholstered seat, Warwick tyres, good condition; £2 10s., near offer.—Cartwright, Cambridge Road, Bromley, Kent.

QUADCARS.

PHENIX Quadcar, 7 h.p., twin Fafnir, perfect condition; £55.—Stonehouse, West Parade, Wakefield.

3½ h.p. Eadie Quadcar, De Dion free engine, two speeds, grand hill-climber, spares; £19 10s.—No. 247, *The Motor Cycle Offices*, Coventry.

7 h.p. Phoenix Quadcar, absolutely perfect throughout; 50 miles trial given; sacrifice £42; take motor cycle part payment.—R. Else, Leawood, Matlock.

£14 Each.—3½ h.p. De Dion Quad, two speeds, free engine, in perfect order; climb everything; 3½ h.p. Rex bicycle, perfect order, both overhauled.—30, Finsby Road, Stamford Hill.

FOR Sale, 8 h.p. Phoenix Quadcar, perfect condition, only used 500 miles, four lamps, large horn, spares, tools, etc., all tyres fitted Shaw's leather non-skids; price £70.—Harry Eaton, Witney, Oxon.

PHENIX Quadcar, 5-6 h.p., water-cooled, two speeds, perfect condition, tyres new, will average 20, climb any hill; any test; first cheque for £45 secures, no offers.—15, Daybrook Avenue, Sherwood, Nottingham.

8 h.p. Phoenix Quadcar, two-cylinder, magneto ignition, splendid order, two speeds and reverse, bucket seats, wheel steering, very fast and reliable 1907 machine; £45, cost £100.—Storey, 26, Albany Street, London, N.W.

PHENIX Quad, 1907, 8 h.p., two cylinders, two speeds and reverse, not been 2,000 miles, engine and gears just overhauled, new carburettor and commutator, extras included, non-skids, lamps, tubes, tools, etc.; what offers?—Copeland, Kibblestone, Stone. Can be seen at Evans, High Street, Stone.

CARS FOR SALE.

4½ h.p. De Dion Car; any trial; sacrifice £19.—7, Broad Walk, Stratford-on-Avon.

6-8 h.p. Lurquin-Coudert, in perfect condition, too powerful for owner.—Ambrose, South Norwood.

6½ h.p. Peugeot, small tonneau, three speeds, reverse, cardan drive, splendid condition; trial; bargain, £40.—1, Townley Road, Dulwich, S.E.

6 h.p. De Dion, two-seater, three and reverse, tyres good, one spare, lamps, etc.; any trial; must sell; £47 10s.—W.G., 17, Acre Lane, Brixton.

ALLDAYS Traveller Voiturette, two-speed and reverse, little used, tyres, gear, and everything perfect; offers.—198, *The Motor Cycle Offices*, Coventry.

8 h.p. M.M.C. Car, tonneau body, seats five, Falconette compound tyres; will take new bicycles to value £45.—Tom Norton, Ltd., Llandrindod Wells.

PHENIX Light Car, 7-8 h.p., perfect running order, new studded back tyres, horn, acetylene lamps, spares; £95.—Dr. Preston, Church Street, Pendleton, Manchester.

10-12 h.p. Gladiator Car, two cylinders, three speeds, reverse, four-seater, in good running order; trial run; £50, prompt cash.—No. 246, *The Motor Cycle Offices*, Coventry.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

REPAIRERS.

IRIDIUM "Champion" Contacts, any parts fitted; returned same day; 1s. 3d. each.

IRIDIUM "Champion" Contacts, warranted pure; trimmers for polishing iridium, 9d.; no filing required.

IRIDIUM "Champion" Contacts. — Williams, 16, Wellington Street, Woolwich. Pure platinum fitted, to order, from 1s. 9d.

£5 any motor cycle we cannot repair. — Whites, 22, Brook's Alley, Church Street, Liverpool.

JEERON Contacts, registered, 291289, vastly superior to platinum; cures misfiring; reliability and efficiency.

JEERON, best contact obtainable for blades, screws, cranks, rockers, plungers, magnetos, coils.

JEERON, prices, 2s. 6d. each rivet fitted; special trimmers for polishing Jebron, d.; remittance with order ensures prompt attention; write for particulars and testimonials, too numerous to publish.

JEERON Magneto Screws, complete, for Bosch magneto, DA2, will fit contact breakers 5A, 5B, 5C, 5s. 9d. pair; old screws fitted with Jebron, 2s. 6d. each; everlasting wear, requiring no attention.

JEERON, the King of Contacts, fitted per return post; no delay; post free home or abroad; liberal trade terms.

JEERON.—From the Inventor, J. Edwards Brown, 38, Herbert Road, Plumstead, Kent.

CRACKED Water Jackets of motors successfully repaired by Lea's metallurgical process.—Lea and Son, engineers, Runnymede.

IGNITION Coils and Magnetos Repaired, any make; accumulators repaired and charged; best work; moderate charges; quotations. — Glover Bros., Electricians, Coventry.

BIRMINGHAM.—Repairs, overhauling, cylinders re-bored, re-bushing, valves, pulleys, any make, ideas carried out; tuning up a speciality; estimates free.—Priest and Williams, 66, Bishop Street.

CCCCCCCC Compression means power. — Cylinders re-bored and new pistons fitted; guaranteed fit 4-1,000in.; bears 13 stone on pedal; write for list.—Gradior Machine Co., Compression Specialists, Stafford.

TWO West of England Motorists.—Car and motor cycle repairs, prompt and reliable; cylinders re-bored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Works, Bridgwater.

10 Years' Experience means efficiency and economy for customers; De Dion, M.M.C., Excelsior, and motor cycle experts; large stock of renewals; repairs prompt; power increased by larger cylinder bore.—The Record Motor Co., Coventry.

REPAIRS and Overhauling. — We have the finest repair works in London for motor cycles, with up-to-date machinery; estimates free; new cylinders for any make of engine, pulleys, valves, gears, and replacements; send for our new booklets, with prices. — Laystall Motor Engineering Works, 27 and 29, Laystall Street, Rosebery Avenue, E.C.

EXCHANGE.

33 h.p. Excelsior, Palmers, non-skid; cash. 34 or exchange. — 45, Infirmary Road, Sheffield.

h.p. Dynamo, also piano-player and music, for good motor cycle.—98, Potternewton Lane, Leeds.

8 h.p. Up-to-date Two-seater, perfect condition, for good motor cycle. — Hass, 14, Stainsby Road, E.

41 h.p. Stevens Tricar, first-class order, for powerful bike and sidecar.—14, Barrack Street, Colchester.

WATER Motor, for charging purposes, new, exchange for B105 saddle, or sell 18s.—Everingham, Pocklington.

EXCHANGE, Gent's Two-speed, almost new, or new Raleigh road racer and cash for motor cycle.—Barnes, Colnbrook.

WANTED, your present mount in part payment of any 1908 make; keen quotations.—Farrar, Square Road, Halifax.

COMPRESSION

Cylinders Rebored

and new Pistons fitted complete with Rings and Gudgeon Pin.

Compression means Power.

Please send for our booklet, which gives prices for this work and other repairs.

Repairs and alterations to all makes of motor cycles.

The Laystall

Motor Engineering Works, Ltd.,

AUTOMOBILE REPAIRERS,

27 & 29, Laystall Street, Rosebery Avenue,

LONDON, E.C.

Estab. 1900.

Tel. 12301 Central. Tel.: "Internally, London."

G. T. RICHES & CO.,

19, STORE STREET, LONDON.

RICH DETACHABLE AIR TUBE.

24" x 2"	26" x 2 1/4"
13/6	14/6
24" x 2 1/4"	26" x 2 1/2"
14/-	15/6
24" x 2 1/2"	26" x 3"
15/-	22/-
26" x 2"	28" x 2"
14/-	14/6



Please write for Special List, with full prices and particulars of all sizes, together with instructions and hints. Your OWN TUBE CONVERTED. Write for prices.

WE EXCHANGE

your Push Cycle, or small-powered machine, for any make. We have in stock Twin Rexes from £18 18s.; Twin Special, £25; 3 h.p. Rex, £9; 3 h.p. Humber, £7 10s.; 2 h.p. Lightweight, £4; Rex Triette, magneto, 6 h.p., £30; Aster Tricar, 6 1/2 h.p., two speeds, £20. We guarantee every machine we sell. Send your requirements.

MILLHOUSE'S MOTOR EXCHANGE, SHEFFIELD. (Tram terminus: Millhouses.)

CHAPMAN'S PEDAL BRAKE.

Black - - 14/9
Plated - - 17/-

Very powerful. Comfortable to use. Durable and reliable.



Adaptable to any machine.

JOHN CHAPMAN and CO., Finchley Road, Child's Hill, N.W.

Unit Patents.

PIGSKIN INFLATOR and RACQUET, etc., CLIP, 9d. pair, post 1d.

Tyres puncture-proofed with Rubberised Pigskin. PAMPHLET FREE.

Drayton Road, LEYTONSTONE.



EXCHANGE

6 IN. Centre Lathe, slide back gear, for good motor bike.—255, Earlsfield Road, Wandsworth.

5 h.p. Twin Peugeot Engine; exchange 3 1/2 h.p. single and cash.—45, Lordship Lane, E. Dulwich.

EXCHANGE Nearly New two-speed Rudge and cash for motor cycle, no corks.—J. Spurrell, Eggworthy, Horrabridge, Devon.

EXCHANGE, 3 1/2 h.p. Vindec Special, 1906, and cash, for new or second-hand Triumph.—No. 218, The Motor Cycle Offices, Coventry.

FINE Twin Rex for £4 and 1907 3 1/2 h.p. Rex, or level exchange for 1907 3 1/2 h.p. magneto Rex.—Motor Exchange, Westgate, Halifax.

5 h.p. Twin, Fullers syntonic twin trembler, torpedo tank, for 3 1/2 h.p. Fafnir, or sell £7 lot.—Motor, 13, Clavering Road, Manor Park, E.

MOTO-REVES, 1908 models, immediate delivery; second-hand motor cycles taken part exchange.—Criswell's Garage, Newmarket.

EXCHANGE Motor House or workshop, nearly new; cost £18 10s., for sidecar, or sell £5.—Henley, Minerva, Mytchett Road, Frimley, Surrey.

EXCHANGE 6 h.p. Motor Car, two or four-seater, good going order, for twin motor cycle or tricar.—Apply, 254, The Motor Cycle Offices, Coventry.

EXCHANGE 4 h.p. C.I.E., magneto, spring forks, 24in. wheels, 23, touring equipment, for lower power and cash, or sell.—74, Croydon Road, Beckenham.

£65.—Smart two-seater, push pedals, also Riley car, equal wheels; also 7-9 h.p. two-cylinder Peugeot lorry, exchange.—Box 259, The Motor Cycle Offices, Coventry.

MOTOSACOCHEs, 1908 models; second-hand motor cycles, foreign and British stamps taken in part exchange.—Motors, 41, Green Street, Cambridge.

EXCHANGE, Chicago Typewriter, wants slight adjusting, value £3 10s., also plain oil; wanted, tyres, tubes, or any offers.—Malloch, Appleby.

5 h.p. Buchet Tricar, Micrometer clutch, 1 1/2in. Stratex belt, 3in. car tyre on back, for furniture or anything useful.—Faulkner, Trafalgar Road, Greenwich.

31 h.p. Motor and Sidecar, both in splendid condition, will exchange for 3 1/2 h.p. low built machine, or best offer.—144, Silver Street, Edmonton.

EXCHANGE, new 4 h.p. Fafnir engine, w.c., carburetter, tank, pump, silencer, 12in. reversing propeller, for good motor bike, or £20.—Cook, 72, Harcourt Street, Newark, Notts.

PIANOLA, by Chase and Baker, splendid instrument, in perfect order, and two rolls music, cost 52 guineas, for late 1907 Triumph, or sell cheap. — 27, Cleveland Square, Liverpool.

LADYBACK Tandem, gold lined, Palmers, plated rims, Anatomical lady's saddle, a handsome machine, for motor bike, Italian mandoline for adjustment.—11, Battlemount, St. Albans, Herts.

EXCHANGES are arranged at Wauchope's. —Second-hand machines are allowed for in part payment for new models of any leading make.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

MILLS and Fulford Motor Trailer, nearly new, Dunlop tyres; exchange for sidecar, or good clutch and speed gear to fit Kerry, 3 1/2in. belt drive, or sell 75s.—Apply, Hodges, Broadway, Addlestone.

EXCHANGE, for good motor cycle, tricar or reliable car, new high-class furniture, any description, valued wholesale, direct from works, or second-hand, excellent quality furniture, in nearly new condition, or sell cheap for cash.—Furniture Manufacturer, 7-11, French Place, Shore-ditch, London.

EXCHANGE Bradbury Tricar, 5-6 h.p., water-cooled, two speeds, free engine, coach-built front, bucket driving seat, wheel steering, chain drive, for 6 h.p. N.S.U., or other good make, with sidecar, and two-speed, cash adjustment.—Cooper, motorist, Staveley, Derbyshire.

EXCHANGE.

EXCHANGE, new B.S.A. road racer, frame 23in., three-speed Tricoaster, Dunlop tyres, lined in red and gold, for motor cycle, or sell £9.—W. Hewett, jun., 39, Alfred Road, Acton, London.

SMART 4½ h.p. Sunbeam Car, beautifully upholstered, perfect, seats three, £60, take reliable make tricar and cash; photographs required and given; no cards.—Stanley, "Reynoldsville," Walsall.

EXCHANGE, 8 h.p. Rex Car, two bucket seats, three speeds and reverse, Michelin tyres, nearly new, in good going order, for lightweight motor cycle; good price allowed for Motosacoche, or take £45 cash.—Glover, Witham, Essex.

EXCHANGE Thornton-Pickard Half-plate Stand Camera, complete, also telephoto lens, printing frames, lamps, acetylene generator, dishes, and many other accessories too numerous to mention, all nearly new, been very little used; will exchange for good 3½ h.p. motor cycle; will give little cash if required.—For full particulars apply, W. O. Williams, Pen-y-Bont, Garn Dolbenmaen.

WANTED.

WANTED, Sidecar, in good condition.—Moore, 27, Curzon Street, Long Eaton.

26 by 2½ Beaded Front Wheel, to fit N.S.U.—15, Charlotte Street, South Shields.

WANTED, Motor Car, Tricar, or motor cycle; cheap.—209a, Peckham Rye, S.E.

31 h.p. Magneto, up-to-date; must be sound and cheap.—17, Acre Lane, Brixton, S.W.

GOOD Magneto Motor Cycle; cheap for spot cash.—Gittins, Church Street, Oswestry.

WANTED, Old Accumulators; best price given.—Motories, 3, Arley Grove, Armley, Leeds.

WANTED, 26 by 2½ and 26 by 2 non-skid wired cover; also 26 by 2½ beaded.—Watson, Bedale.

WANTED, Sidecar, suit twin Rex de Luxe, left side; full particulars.—Bamber, Totley Rise, Sheffield.

MOTOSACOCHE wanted, must be in good condition and cheap.—Cripps, Wellington, Parkstone, Dorset.

WANTED, good Sidecar, will give gent's 10-guinea pedal cycle, new.—Farrar, Square Road, Halifax.

2 h.p. Minerva Engine, with carburetter, complete, for cash; no rubbish.—Trapps, 34, Bishophill, York.

WANTED, any good make motor cycle, magneto, and two speeds preferred.—Farrar, Square Road, Halifax.

WANTED, Cars, Tricars, or Cycles to repair and sell on commission.—Wood, 50, Victoria Road, Stroud Green.

1907 Triumph, or other good magneto machine; give reasonable cash price.—Butcher, 19, Union Street South, Halifax.

MOTOR Cycles in part exchange for new 1908 Moto-Reve lightweights; immediate delivery.—Crisswell's Garage, Newmarket.

WANTED, 3½ h.p. 1907 Pattern Triumph motor bicycle, with magneto.—Apply, The Warminster Motor Co., Ltd., Warminster.

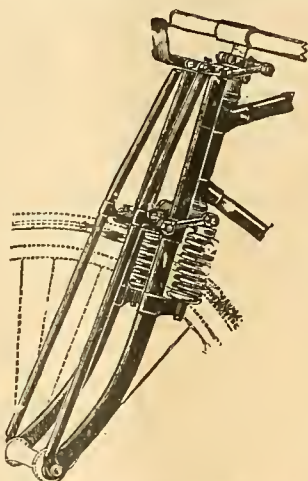
WANTED, good single-cylinder magneto, in level exchange for spring fork twin Rex.—Box 203, The Motor Cycle Offices, Coventry.

WANTED, Good Motor Cycle, exchange two old paintings and 9 carat gold chain and cash.—Smithers, "Eventyde," Woking.

WANTED, 3½ h.p. Motor Cycle, cheap, complete with magnto ignition; on approval.—H. Green, 1, Castle Square, Haverfordwest.

MOTOR Cycle; £20 cash; twin, magneto, two-speed, spring forks, Werner preferred, Ayrshire.—No. 215, The Motor Cycle Offices, Coventry.

HALIFAX.—Wanted, modern magneto single-cylinder machines; any quantity bought for spot cash.—Motor Exchange, Westgate, Halifax.

MOTOR CYCLISTS.

You can get rid of vibration and ride in comfort on the roughest roads if you have the

DRUID SPRING FORK

fitted to your machine.

It is worth while to learn all there is about this device. Send for the new booklet, your order will follow.

A. DREW,
74, Conybere Street, Birmingham.

A 3 h.p. Triumph

sold for

One Shilling.

The letter printed below shows how a reader of "The Motor Cycle" was able to sell his 3 h.p. Triumph through the medium of this journal, at a cost of One Shilling.

22, St. Alban's Road,
Moseley, Birmingham.
18th March, 1908.

Dear Sir,

I thought perhaps you would be glad to know that the 3 h.p. Triumph which I advertised in your journal on Wednesday last, was sold in consequence, next day, at my price, and to the very first applicant.

I certainly expected to dispose of same, but was not prepared for such an excellent and quick response to the advertisement.

Yours faithfully,

F. COWAN.

If you have a motor cycle to sell, or an accessory either, why not advertise it in "The Motor Cycle" too—the rate is One Penny per word, minimum One Shilling per paragraph.

Copy must reach us on Thursdays.

"The Motor Cycle," Coventry.
London: 20, Tudor Street, E.C.

Genuine Birmingham

"QUADRANTS."

A large stock of parts, still to be cleared.
Write for latest list.

REG. SAMSON,
232, LADYWOOD RD., BIRMINGHAM.

ADVERTISERS—Please note that Friday is the latest day we can receive advertisement copy for this following week's issue.

WANTED.

WANTED, 1908 Triumph.—K., Craigallion, Champion Hill, S.E.

WANTED, Cylinder for 3 h.p. Carlton.—K., 78, Harold Road, Upton Park.

LADY'S Motor Cycle, magneto, handle-bar control.—34, All Saints Street, Bolton.

B 100 Saddle wanted, good condition; cheap.—A.H.B.B., 132, Ferme Park Road, Hornsey.

WANTED, 26 by 2 wired cover, 2 h.p. inclined engine; 20s.—83, Brandon Street, Walworth.

CASH for up-to-date motor cycle.—Full particulars, R. Hill, Greatham, Stockton-on-Tees.

WANTED, Twin Rex Engine, 1906 model preferred.—Apply, 12, Mayfair Street, West Hartlepool.

WANTED, 1906 or 1907 Triumph, magneto and spring forks, for cash.—5, Heath Street, Hampstead.

WANTED, 1½ h.p. Minerva engine, good condition, for spot cash.—Leake, Harlington, Middlesex.

WANTED, engine, about 5-6 h.p., good condition.—3, St. Peter's Road, Kingsland Road, London.

SIDECAR wanted, in exchange for oak bureau, with cabriolet legs.—Lewis, 23, Arden Road, Handsworth.

WANTED, good Montgomery flexible sidecar, suit 1908 Triumph.—Wakefield, Appleton Street, Northwich.

WANTED, Green Carriage-built Sidecar, rigid; price; particulars.—Hendra, 33, Noble Street, London, E.C.

WANTED, 3½ h.p. N.S.U., or good make; must be cheap for cash.—W. Beaumont, Bird's Royd, Brighouse.

WANTED, Cars, Tricars, or Cycles to repair and sell on commission.—Wood, 50, Victoria Road, Stroud Green.

WANTED, 2 h.p. Minerva, spray and cash, for good make 2½ h.p., running order.—6, Islip Street, Kentish Town, N.W.

LATE 1906 3 h.p. Triumph, magneto, spring forks, good condition; cheap; approval.—2, Marshall Street, Barnard Castle.

41 h.p. Bradbury, or 5 h.p. Phoenix Trimco give 2½ h.p. Humber bike and cash.—5, Armitage Road, Milnsbridge, Huddersfield.

6-7 h.p. Car, Rover, Humber, or Siddeley, must be cheap; full particulars; would exchange 8 h.p. tricar and cash.—Carter's, Ibstock.

WANTED, Tricar, about 6 or 9 h.p., Singer, Riley, or other well-known make water-cooled only; cheap for cash; photo.—65a, Pearl Road, Walthamstow.

WANTED, powerful twin or F.N., 4½ h.p.; give £5 case Whitworth stocks and dies, taps, Buck and Hickman, or sell £22.—13, Brookwood Avenue, Barnes.

MOTOR Cycles, tricars, etc., received for sale; five per cent. for selling; no sale no charge; private buyers waiting.—Kemp's Blind Works, Loughborough Junction, London.

WANTED, Tricar, in exchange for 2½ h.p. Ariel cycle, splendid order, and gent's 18ct. gold keyless lever hunter watch, new.—8, Clifton Road, Squires Lane, Church End, Finchley.

MABON Free Clutch, latest, and forecar attachment (Manning's or Phoenix) with or without tyres, to suit 3½ h.p. 1907 Minerva; state price.—McLay, Kirkintilloch, Scotland.

MOTOR Cycle wanted, good order, up-to-date Triumph, Vindec, Roc, or Rev preferred; spot cash; also 1908 Montgomery sidecar.—Address, "Chaufeur," Eason and Son, Dublin.

WANTED, to purchase for cash, Triumphs Quadrants, Minervas, Bats, Japs, Riley, and Lagonda tricars, or exchange arranged for new models.—Wauchope's, 9 Shoe Lane, London, E.C.

5 h.p. Cycle and sidecar, magneto, two speeds, or tricar, in part exchange for 12-14 h.p. car, new last July, fast, quiet, reliable; £75; trial and expert examination both ways.—452, Hackney Road, N.E.



THE MOTOR CYCLE



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Agents for the Colonies: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

Subscription Rates: Home, 6s. 6d.; Foreign, 10s. 10d.; Canada, 8s. 8d. per annum.

Contact Breakers for Twin Cylinders.

By "IXION."

I RECENTLY received the "catalog" of an American make of motor cycle, in which the twin-cylinder specification included a contact breaker "specially designed to prevent one cylinder firing against the other." This is a point which has only recently come to the front in the home twin-cylinder usage. It is quite a number of years since I first owned a twin-cylinder motor cycle engine, and I got the most miserable results out of it. I tinkered away at the compression, the carburation, the valve timing, and what not, and although there was no audible misfiring, the power developed was simply contemptible in comparison to the stated capacity of the engine. Finally, in the course of many adjustments there came a day when the machine flew along like a thing possessed. I could not account for the sudden improvement. Everything was apparently in exactly the same condition as it had been on many previous occasions when the machine would barely stir, and I was about to write the whim of the machine down as one of those things "no feller can understand," when it dawned on me that since the compression and timing and carburation had not been tinkered with since the last failure, the secret must lie in the adjustment of the contact breaker. Next it dawned upon me to run each cylinder separately, by shorting the other with a screwdriver, and so the vital importance of synchronisation dawned on me, and I have never been at a loss with twin-cylinder ignition since. I want in these notes first to describe how mal-synchronisation can ruin the running of the engine, and then to consider various methods of breaking the contact from this point of view.

The Necessity of Perfect Synchronisation.

My worst illustration is from a big tricar. With this machine in tip-top order, barring ignition adjustment, I have known the second gear of $7\frac{1}{2}$ to 1 be required to take three persons up a very short grade of 1 in 25, and this without there being any misfiring (by "misfiring" in this connection I mean audible misfiring of the dot-and-carry-one or can't-we-bang-and-splutter type; literally, it was misfiring all the time, but the misfiring was of a smooth and inaudible kind). This being possible, we should all of us, down to the uttermost novice, understand the necessity of perfect synchronisation, and, further, select a device which will afford the greatest freedom from such annoying lapses of power. There are six standard devices, viz.,

- (1.) Two plain coils with make and break.
- (2.) Two trembler coils with wipe.
- (3.) Two trembler coils with make and break.
- (4.) Single trembler coil with distributor.
- (5.) Magneto.
- (6.) R.O.M. contact breaker.

In considering these various devices we have three points to keep in mind as ideal. One is reliability in the shape of freedom from dirt, wear, and derangement; the second is that any slight lapse from perfect condition should affect both cylinders equally, for it is a great deal better to have *both* cylinders 20% beneath maximum efficiency than to have one cylinder 5% under maximum efficiency and the other 10% under; and the third is ease and simplicity of readjustment.

Contact Breakers for Twin Cylinders.—

I.—Plain Coils with Make and Break.

The coil will give no trouble, being a plain one. The contact breaker has four platina and two spring blades, any one of which six parts may be separately affected by dirt or wear. This is especially likely if the platina are ordinary platina, and not "indestructible," i.e., of iridium or iridium compound. Further, its adjustment is a matter requiring skill, and scoring four minus marks; we therefore give this device ten bad marks.

II.—Trembler Coils with Wipe.

On this device we have the four platina on the coil and their two springs. In addition a wipe contact is a difficult thing to make, since the segments have to be mortised into an alien substance (e.g., brass into fibre); these two substances wear unevenly, and particles of metal get carried on to the fibre, and give circuit where it is not wanted. I should therefore give this device eight bad marks. It requires no adjustment, and scores on that point for its other shortcomings.

III.—Trembler Coils with Make and Break.

This device includes the six vulnerable points of the last as regards the coils, and further includes four additional platina on the contact breaker and two spring blades. As all of these are very readily subject to derangement, they incur twelve bad marks on my system of judging, and we have yet to consider the question of adjustment. There is no doubt that a most delicate and perfect adjustment is possible with this device. On the other hand, to get it exact is a most skilful operation, and not one that any driver would desire to face on the road—in fact, few owners of it take the trouble in ordinary use. A chauffeur can do it, an owner will do it for a timed hill-climb, but it scarcely enters the region of everyday use. And as even an approximately correct adjustment is more difficult to secure than with any other device, we must allot four minus marks on the score of adjustment, and state that, however desirable this ignition may be for racing (I am not sure it is not the absolute best for that purpose), it scores sixteen bad marks for ordinary touring use.

IV.—Single Trembler Coil with Distributer.

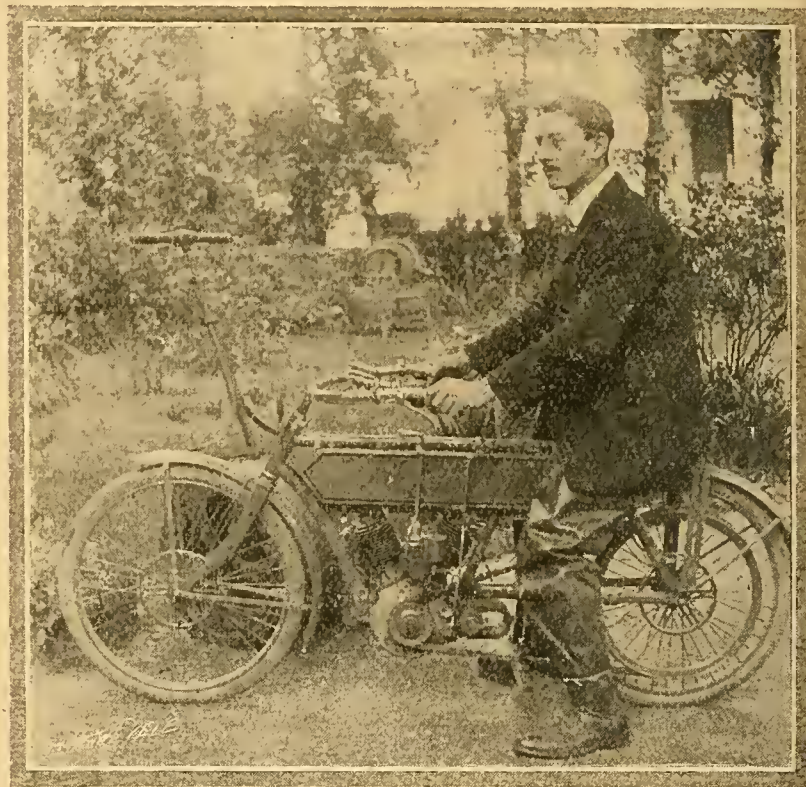
This device is not, so far as I know, employed on any motor cycle.

V.—Magneto.

The magneto contact-breaker consists of a revolving arm with two recesses in a fibre disc controlling the contact-breaking. The same pair of points control both cylinders, and a very wide range in the amount of break does not seriously impair the firing. Thus we are left with no other course of derangement than the wearing of the fibre. I have never yet had a fibre wear unless the rod from timing strap to advance spark lever has been bent out of truth, so I am rather loth to debit this device with any bad marks at all. Similarly, though there are two platina on the contact-breaker, the universal experience of motor cyclists is that these platina wear much longer and are less subject to pitting than the platina on any known battery ignition contact-breaker. In addition, there is no fear of oil getting on them, as they are not carried on the engine. Contrasting this device with the foregoing, two bad marks are the most we can honestly allot to it.

VI.—The R.O.M. Patent Contact Breaker.

In the R.O.M. patent contact-breaker, we have a device that endeavours to secure the advantages of the magneto contact-breaker for a battery and coil-ignited engine. It is newly on the market, by comparison, and is very highly spoken of. On an examination of it, we find that it is so constructed that the losing of temper by the single blade, or the pitting, oiling, or soiling of the platinum, will affect both cylinders equally, so that synchronisation is never affected, though the efficiency of both sparks may gradually be equally reduced by wear. The wearing points, however, are iridium indestructible points and a hardened steel cam, and we know we need not expect wear with these save after prolonged running. Only a very exhaustive practical test can prove whether this is equal to the magneto. It can scarcely be superior,



A smart-looking twin-cylinder, which is as efficient as it is handsome, is the 4½ (67×72) h.p. Phenomen depicted above. Frame, tanks, and hubs are all enamelled French grey, and the machine has been nicknamed the motor cycle "Grey Ghost." The machine was brought round to Tudor Street the other day, and proved to be so well adjusted that it could be started by sitting astride and by pushing along the ground with one's foot. A trial run proved the machine to be comfortable, flexible in traffic, and steady in grease.

but because of its theoretic excellences—the improbability of wear and the maintaining of accurate synchronisation under all conditions—I am inclined to debit it with no more bad marks than the magneto (that is to say, two), and to rank it bracketed first, level with the magneto. Tabularly arranged, the results of my enquiry are as follows:

Contact-breaker.	Marks Debited.
1. { Magneto } 2	
3. Two trembler coils with wipe	8
4. Two plain coils with make and break ...	10
5. Two trembler coils with make and break	16

I hope this article will provoke some discussion. It is not theoretical, for I am no theorist—it is merely a string of deductions from prolonged road experience, written from the standpoint of an ordinary easy-going motor cyclist who desires the best average results with a minimum of trouble and a maximum of regularity.

The Ruthhardt Motor Cycle Magneto.

A MAGNETO possessing some novel features has been introduced by the Ruthhardt Magneto Co., Hatton Garden, E.C. The magneto, like other ignition devices of this type, hails from Stuttgart, and is a worthy follower in the steps of its predecessors. Its chief novelty lies in the shape of the magnets, which it will be seen on referring to fig. 1 are circular. The pole pieces are not separate, but form a single piece with the magnets. Wherever possible aluminium is employed, and this fact in conjunction with the construction of the magnets renders the instrument considerably lighter than any other on the market—a point of no small importance where saving of weight is extremely necessary as in the case of a motor bicycle, since it weighs only $4\frac{1}{2}$ lbs., while the height is only 4in. and the width $3\frac{5}{8}$ in. Fig. 2 shows the contact breaker. The casing has attached to it the inclined plane A, with which the fibre roller C loosely mounted on the spindle J comes in contact as the armature shaft revolves. The result is that the roller is pushed forward, carrying with it the spring arm G, thus causing the platinum points attached to G and the screw H to separate. The primary current is collected by means

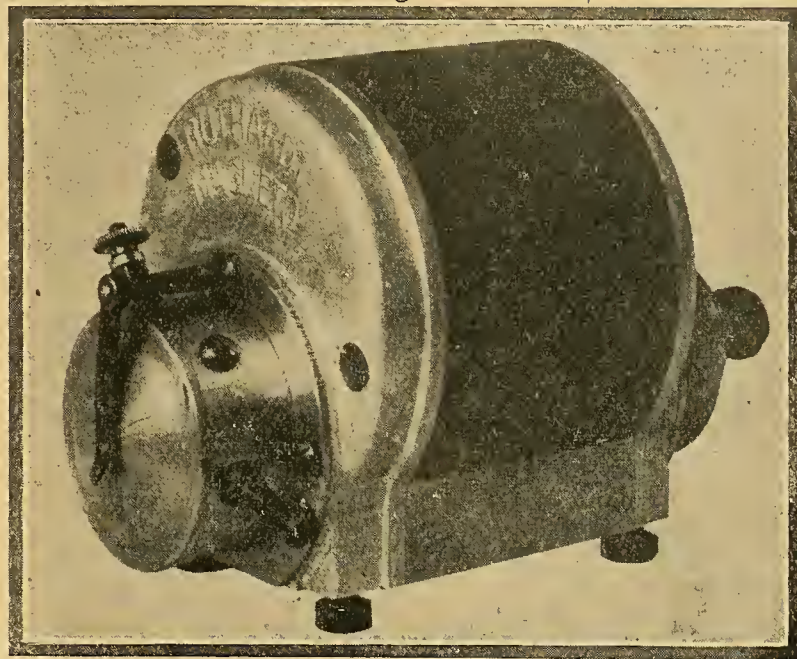


Fig. 1.—The Ruthhardt single cylinder motor cycle magneto.

of a carbon brush in contact with the spring B from the face of the condenser case N (fig. 3). The earth connection D makes contact with a nut not shown in the illustration, which when unscrewed allows the contact breaker to be removed. Fig. 3 shows the armature, the spindle of which is provided with ball bearings at both ends, that on the left-hand end not being shown in the illustration owing to its being concealed by the end plate O. The condenser N is neatly carried at the end of the armature. In case of the H.T. terminal becoming disconnected, and an unfair strain being put on the insulation of the armature winding, a safety spark gap R (fig. 1) is provided. The magneto is compact, light in weight, efficient, giving as it does a flaming spark at low speeds, and most accessible, since it can be easily taken to pieces and cannot be wrongly assembled. We shall look forward to hearing accounts of its behaviour under actual road conditions, as there appears to be no reason why these should not be entirely satisfactory. An arrow stamped on the contact breaker shows the direction in which it is intended the magneto shall run.

Engine makers are asked to send literature and manufacturers' prices to the Fowler-Manson-Sterman Cycle Mfg. Co., 240-254, West Lake Street, Chicago, Ill.

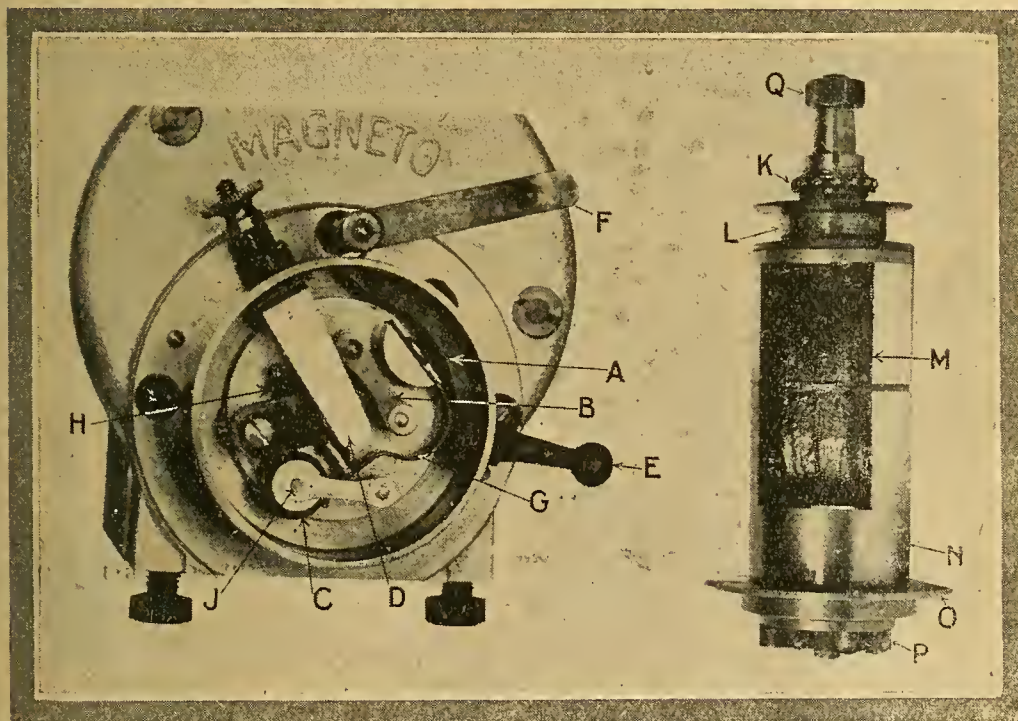


Fig. 2.—CONTACT BREAKER.

A, inclined plane attached to contact breaker case
B, spring in contact with primary collector brush
D, contact to earth attached to switch terminal I
E, advance spark lever
F, spring holding case cover in position
G, spring arm holding platinum contact, rubbing against fibre roller C
J, fibre roller mounted loosely on spindle
H, platinum-tipped screw

Fig. 3.—ARMATURE.

Q, armature spindle
K, ball bearing
L, h.t. collector ring
M, armature winding
N, condenser
O, end plate covering ball bearing
P, contact breaker

Realising that there is a demand at the present time for a reliable motor cycle speed indicator, Messrs. Stewart Clarke and Co., Denmark Street, Charing Cross Road, have given their attention to a special model, suitable for motor bicycles and tricar, which is sold at a moderate price. The instrument itself works on the centrifugal force principle, following lines which have previously been found to be quite successful. An innovation, however, is the design of the flexible shaft,

which is usually one of the weakest points in speed indicators of this type. In the Stewart Clarke, however, the shaft consists of hardened steel hooks revolving in a tube consisting of coiled hardened and tempered steel ribbon, the whole being enclosed in a casing of brass. If anything should happen to the shaft, it can be easily repaired by inserting a spare link without the aid of tools. Spare links will be supplied with the speedometers free of charge.

London to Edinburgh on a Lightweight.

By H. G. COVE.

EVER since the lightweight motor bicycle came into prominence I have watched its progress with great interest, and although I have always thought that there were great possibilities for it, I never believed it could be a successful machine in an arduous competition like a twenty-four hours run. My opinion was that for the "potterer"—that is, the man for whom speed had little attraction, and whose mileage was never more than 100 miles a day, the lightweight would be very useful, but for the motor cyclist no one delighted in competition work, and especially a little burst of speed occasionally, I certainly thought the lightweight machine would be useless. It is very strange how one forms opinions, sticks to them, and believes them to be perfectly true, until circumstances happen which show how wrong one has been in the past, and how easy it is to form incorrect views when one has not sufficient data to go upon.

This has been amply brought home to me within the last few weeks, and the lightweight motor bicycle is the sole cause of it. I had entered for the London to Edinburgh run on my 4 h.p. J.A.P., and having had it in good trim had little doubt of my success. However, in an evil moment I decided to take the machine down and replate and enamel all over. This was my undoing, for when the parts had gone to the platers I discovered that the work could not be finished in time for me to take part in the E. run, on my own machine at any rate.

Why I Rode a Lightweight.

I had so made up my mind to add a further medal to my store that I looked around to see from where I could borrow another machine, and after many enquiries and persuasions I got a little Moto-Rêve, looking upon it as a last chance—in fact, almost a forlorn hope. I took delivery of this machine—which, by the way, was the identical one that had climbed the greater portion of Sutton Bank a week or two previously—on the Thursday before the start of the London to Edinburgh run, and, having given it a trial, I made the best of my way to Highgate, prepared to do my utmost.

At four minutes past ten, word came from the starter to go, and away I sailed on the 400 miles journey.

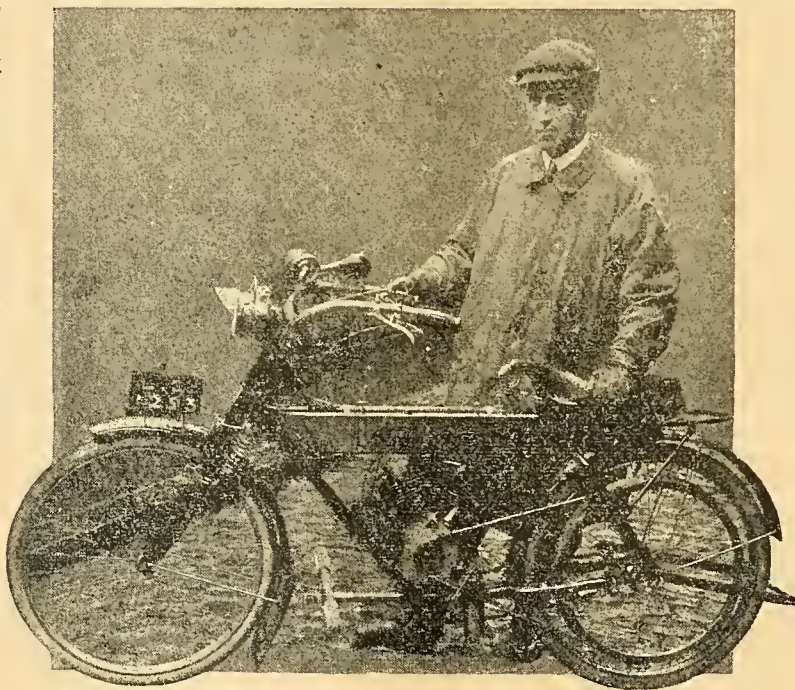
Barnet, Hatfield, and Welwyn were soon left behind, and a quarter of an hour before time I found myself at Biggleswade, quite prepared for the hot coffee and sandwiches which were ready for us. The machine so far had behaved admirably, and I was getting quite used to it. Filling up with petrol, I plunged through the rain, and, like other competitors, was glad to see Alconbury, and shortly afterwards signs of daylight.

I arrived at Grantham well in advance of schedule time, and so far had no trouble whatever. Here a good breakfast awaited us, to which I did justice. Owing, however, to my insufficient knowledge of the machine, I had given it far too much oil during the night, and I had to refill the tank with a mixture of air and water-cooled oil, which was all I could procure. Needless to say, from Grantham to Wetherby, where a good supply of the correct Moto-Rêve oil awaited me, I had to travel very carefully, as the inferior stuff which I carried in my tank went in like treacle and speedily became as thin as water.

At Doncaster I noticed signs of misfiring, and on examination found that the back cylinder was not pulling as well as it ought to, but as nothing very serious appeared to be the matter I went on. As the morning advanced a strong head wind, which had sprung up early, increased in force, and this, together with the clouds of dust which blew right in my face, rendered driving very arduous. Strong

though the wind was, my little engine never faltered a moment, and only once on a steep hill had I to assist it slightly with the pedals.

At Wetherby I took the precaution to empty out the bad oil, thoroughly clean the engine inside and out with paraffin, and to fill up from the can of Price's. The head wind, if possible, increased in force, and at times the dust almost blinded me. All went well until I arrived at Scotch Corner, and here the misfiring I had previously noticed became very acute, so I thought it wise to have a thorough examination and see just what was wrong. Owing to the head winds and the misfiring I had already lost quite half an hour, and I now lost a great deal more time. On removing the induction pipe I found the collar of the back inlet valve had broken and a portion lay on top of the valve. This



[The writer with the lightweight Moto-Reve.

London to Edinburgh on a Lightweight.—

kept jumping about, at times holding the valve down and at times releasing it, and therefore set up the misfiring I had observed. Upon searching in my tool bag for the spare inlet, I was horrified to find that it had a different lift from the valve I had removed. This took some time to alter, and I lost quite an hour before I got under weigh again.

I then proceeded towards Newcastle, but just as I emerged from the high level bridge I met a procession of teetotallers blocking the road. I made desperate efforts to get past, but all to no purpose, so had to spend half an hour cooling my heels whilst they proceeded. I arrived at last at the Grand Hotel, but only to find that the head of the procession was there, and by the time I had filled up with petrol and made one or two adjustments the teetotallers were again blocking my passage north, all the traffic being held up. It was therefore 4.15 ere I could get away from Newcastle, thus making me over two hours and a half late. I was warned of a police trap in Morpeth, but seeing nothing of it, and the magnificent road tempting me, I let my little mount go for all it was worth. I arrived at Berwick at 7.7, filled up with petrol, and left at 7.10, and thus was able to pick up threequarters of an hour valuable time.

I now calculated that if all went well the remaining fifty-eight miles could be easily accomplished in 2h. 50m. left at my disposal. Knowing the roads were good as far as Levenhall, I determined to drive hard, my idea being to get as near twenty-five miles an hour as possible, as this would leave me a few minutes to spare in the event of anything going wrong. I soon found that the machine was capable of far greater speed than I had imagined, and on the best portions

of the road thirty miles per hour appeared quite easy. At Cockburnspath I changed the belt, as it was bottoming on the pulley, and then journeyed on as fast as possible to Levenhall, where I arrived at 9.29. Here to my horror I felt the back tyre slowly sinking, and on examination found that a flint, or piece of glass, had cut the walls of the tyre, and having no time to mend the puncture, was compelled to complete the journey on the rim. This I safely accomplished, and the frame did not seem to be any the worse for such harsh treatment. A silver medal was my award.

Petrol for 400 Miles Costs 4s. 4d.

In reckoning up expenses and time occupied on the journey, I arrived at some very interesting figures, and I do not think that the cause of the lightweight machine can be furthered better than by my giving them. The distance covered—390 miles—was accomplished in just about twenty-four hours, and, therefore, with stoppages, an average speed of $16\frac{1}{4}$ miles per hour was maintained. If one makes allowance for time lost in repairs and spent in control, namely, five hours, we arrive at the fact that the average speed whilst running was $20\frac{1}{2}$ miles per hour, and this for a 2 h.p. twin-cylinder machine, with full roadster tyres and ample tools and spares, is remarkable. The whole weighs 90 lbs.

Now, as to the cost, I find I used three pints of lubricating oil, but I was driving fairly hard the whole of the time, and often giving more oil than needful. With regard to petrol, the cost I note was 4s. 4d., and this, owing to the extremely strong head winds, was more than would be the case in the ordinary way.

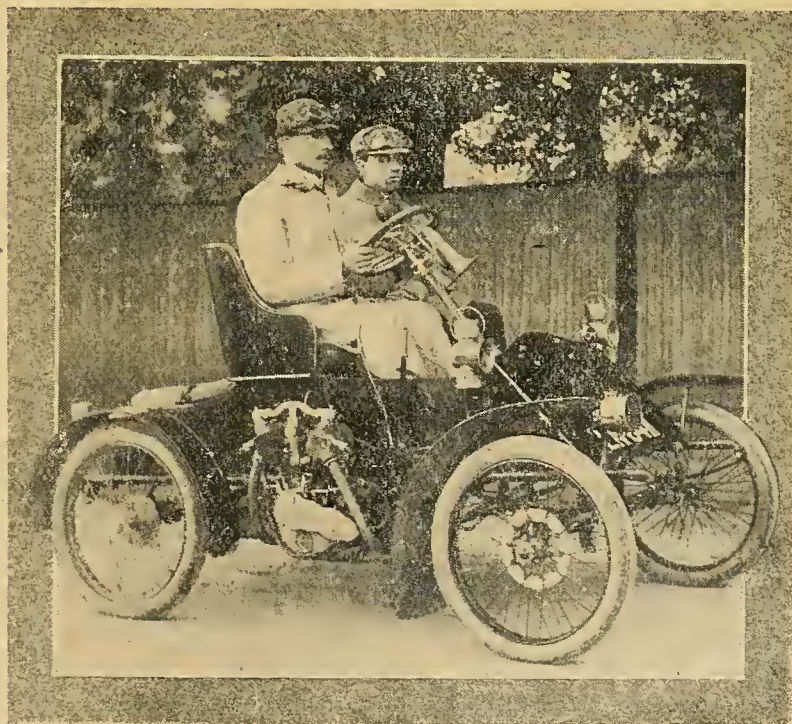
In conclusion, I can only say that the lightweights have now a champion in me, whereas before I looked upon them as expensive toys.

A LIGHT FOUR-WHEELER.

IN the M.C.C. London to Edinburgh twenty-four hours' run the smallest four-wheeled vehicle to accomplish the 400 miles within schedule time was propelled by a 5 h.p. 75 by 80 mm. twin-cylinder air-cooled motor cycle engine. Mr. Chater Lea, the driver, is seen on the identical vehicle in the accompanying illustration, and he was accompanied on the run by Mr. H. Compton. The return journey was made by road in two days, and we are told the only trouble experienced on the double journey was caused by two nail punctures. This is a really splendid performance for such a small vehicle, and some particulars of it will be interesting.

The frame is tubular, all hubs run on ball bearings, and the rear wheels have expanding metal to metal brakes. These brakes are operated by a pedal, a side lever operating a very powerful band brake on the gearshaft. The engine drives through a leather-faced cone clutch and two-speed gear box. The driving shaft is arranged as a continuation of the engine-shaft, and is carried across the machine, terminating in a sprocket from which the drive is by chain to one of the rear wheels. The drive is thus similar to that of a sidecar, there being no differential, and in practice we are told this system works perfectly. Starting is by handle (which is geared up, ensuring a quick start with the magneto ignition). Thumb slides on the steering wheel control the ignition and throttle, and a small lever on the wheel actuates the exhaust lifter

and provides a governor for the engine in traffic. The Carette, as it is called, is capable of speeds up to twenty-eight miles an hour. The accessibility of the engine, magneto, and carburetter will be noted, and the gears can be reached by lifting a floor board.



Mr. Chater Lea, on the 5 h.p. Carette, with which he won a M.C.C. London-Edinburgh Gold Medal.

A NEW HYDRAULICALLY-OPERATED CLUTCH.

THIS invention relates to a clutch for motor cycles and cars, and is described with reference to the accompanying drawing as applied to a motor cycle. The object of the invention is to operate the clutch hydraulically, thus obviating the necessity of rods, levers, and separating gear.

A represents the hub which has a portion B considerably enlarged to accommodate the flat disc clutches C, the alternate discs of which are keyed to the shaft D, which is revolved by the belt pulley or chain ring I attached to D. The other alternate discs C are keyed to the shell of hub B.

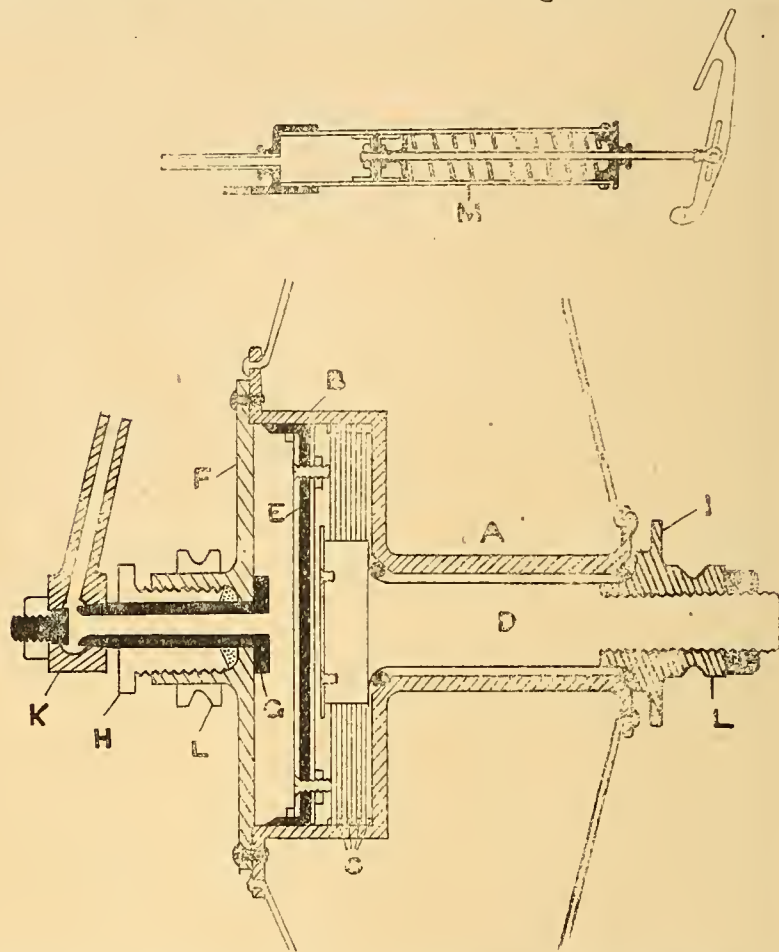
E is a leather piston mounted between two plates which are kept together by means of screws and nuts, the ends of which press against (when the gear is in operation) the disc clutches. The flange of the piston cup is kept pressed up against the walls of the clutch cylinder by a split steel ring. F is the cover of the clutch cylinder, and has a stuffing box or gland H in its centre through which a hollow shaft G passes. The form of joint shown at K is made so as to facilitate the removal of the gland H in order to repack the stuffing box.

The cover F and hub A revolve round the hollow shaft G which is stationary. In communication with the hollow shaft G is a pipe conveying the liquid and operating medium to the single cylinder pump and gear shown at M.

The piston of this pump has a spring attached to it in order to keep the liquid operated by the pump in a state of compression when necessary, the liquid being withdrawn by means of the operating pedal.

The operation of working the clutch is as follows: When the pedal attached to M is released the spring forces the piston in, driving with it the oil into the piston chamber of the hub A through the hollow shaft G, which in turn forces the leather piston E up against

the disc clutches C, which alternate disc being in frictional contact with the disc keyed to the shell or hub A, any rotating motion of the shaft D is conveyed to the hub A. Such amount of rotating motion is trans-



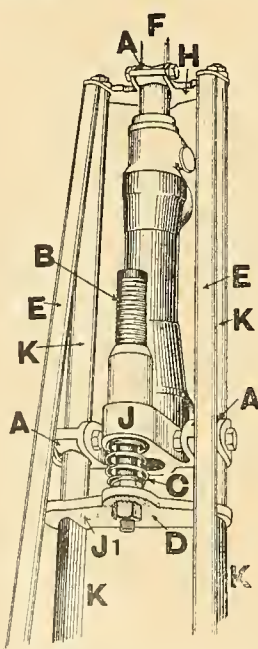
mitted to A according to the pressure of oil exerted in the clutch chamber. The operation of declutching is the reverse of that described above, viz., by pressing the clutch pedal down the oil is withdrawn from the clutch chamber and the plates are released.

A NEAT SPRING FORK.

A SPRING fork is an article which should be standard on every motor bicycle, and numerous are the ideas that have been patented to obtain that elasticity and ease of running on rough ground which is essential to the comfort of the rider.

One of the latest devices submitted to us has been designed and patented by Mr. W. Godden, Patent No. 2791, 1901, and as far as we know there is no fork similar in construction on the market at the present time. The wheel is held in a rigid fork, and brakes and girder forks can easily be fitted, as a vertical movement only of the wheel is allowed.

Reference to the line illustration shows three guide plates H, J, and J₁. Two of these plates are fitted with rollers A A A, which bear against the extensions of the fork blades K K and the handle-bar stem F. The coil springs B and C are centrally applied, and control both up and



down movements of the wheel.

We have not ridden a machine fitted with this spring fork, but from an inspection of a sample from which our line sketch was made we think it has possibilities, although there would be wear on the tubing against which the rollers take a bearing.

A most complete price list of parts has reached us from the South British Trading Co., Ltd., 13-15, Wilson Street, Finsbury, E.C., comprising the parts for all Vindec motor cycles for the past five years, as well as the parts of the Peugeot and F.N. engines and Bosch magnetos.

The Junior and O.T.A.V. Motor Car Co., 117, Long Acre, W.C., have taken up the agency of the 5½ h.p. O.T.A.V. voiturette—a vehicle which in that it possesses V belt transmission and air cooling may almost be classed as a motor cycle. In the near future we hope to publish a description of this little runabout.

Mr. Stenson Cooke, secretary of the A.A., instructed his patrols on the Land's End to John-o'-Groat's route to warn the competitors in the A.C.U. Trials of any undue activity on the part of the police in the districts through which they pass. The A.C.U. committee has accorded a hearty vote of thanks to the secretary of the A.A. for his generous assistance.

HINTS AND TIPS FOR MOTOR CYCLISTS.

By
Road Rider.

(Continued from page 511.)

HANDLE STARTING.

234. Always pull handle up, never push it down. If position does not allow of pulling it up, disengage handle and re-engage dogs till it does. Never even pull handle up except with spark well retarded.

Do not grip handle, but allow it to lie loosely across first joint of the fingers, without the thumb encircling it at all.

Always flood the carburetter, and verify position of every lever, especially the spark advance, before pulling.

If engine is sulky, and known to be in tune and order, inject a few drops of petrol into cylinder.

Handle starting with magneto ignition is only recommended if the handle is set on a counter-shaft or on the rear axle. It is possible to start a twin-cylinder engine with magneto ignition and a crankshaft handle, but it will frequently be a weariness in the flesh. Often the contacts will have to be levelled up and washed with petrol before a start is obtained.

Common starting defects, when engine, etc., are known to have been perfect at the stop: coil trembler stuck, cylinders gummy, plug points too far apart or carbonised, dirt or stale petrol in carburetter, engine very hot, petrol turned off, and switch not on.

In persistent failure to start a twin-cylinder engine on the handle, engage top gear, release compression in one cylinder (by holding down inlet valve, or putting penny under an exhaust valve), get passenger to push while clutch is held out, engage clutch gradually when fair speed is attained, and release compression in second cylinder when first cylinder begins to fire. (N.B. This is given only for novices in emergencies.)

HANDLE-BAR SWITCHES.

235. Every motor cycle should have a positive means of stopping the engine carried either on handle-bar or steering wheel. With a tricar, the clutch may stick; a motor bicycle may sideslip. If the engine cannot be instantaneously and certainly stopped, the resultant damage will be largely increased.

HOT CRANKCASE.

236. The crankcase necessarily receives a certain degree of heat by communication from the cylinder, but this degree is very limited. If the crankcase gets hotter and hotter with each successive run, or any time gets so hot that the hand cannot be kept upon it, there is a serious leakage past the piston rings, which should be seen to.

LEAKY PETROL UNION.

237. A mere leak can usually be repaired with soap, seccotine, fish glue, or Cæmentum, aided or not by binding with insulating tape. A pocket soldering outfit is easily carried. If leak is in the union, a stuffing gland may be faked out of string, or a short piece of rubber tubing may be threaded over the tube.

LEAKY RADIATORS.

238. Failing prompt soldering, bind with rag or tape smeared with red or white lead.

LEAKY WATER PUMPS ON TRICARS.

239. If leak is per stuffing box, refill it with asbestos string well smeared with blacklead.

If leak is from lubricator aperture, keep well greased, and if this fails, refit lubricator to a six inch pipe made to fit tightly into original aperture, and carried up vertically therefrom.

LOOSE NUTS.

240. If a nut often comes adrift, and yet is in such a place that no ordinary adjustment will necessitate its removal, the end of its bolt may be slightly burred over with a light hammer, spreading the metal enough to prevent nut falling off. If nut ever has



The handsome challenge trophy presented by Mr. Henry Littlewood to the Barnsley M.C.C. for annual competition in hill-climbing. It was won for the first time last month by J. Marshall, who rode a 3½ h.p. T.T. Triumph.

to come off, a spanner will force it over burr, and restore the thread in passage.

If nut is a large one, and may need to be removed at any time, paint over bolt end with thick, ropy black paint.

If a small one, varnish with clear varnish. Nuts in accessible places which have to be constantly removed and replaced should be castellated, and the bolt fitted with a split cotter.

LUBRICATION.

241. One of the most important subjects to a motor cyclist.

1. Never use an unsuitable oil. Find out what make of oil the manufacturers of the engine recommend; don't listen to them if they advise their own brand, as you cannot be bothered to carry it on tour, but get the name of a brand that is everywhere obtainable, and ask the factors of it for a list of agents. Never buy unknown brands, nor yet oil from cans previously opened, or from big stock drums.

2. Never use too little. Poor running, strange squeaks, knocks, or grinding sounds from the engine give due warning of this. There should always be about half a tumblerful in the crankcase.

3. Rather less emphatically, never use too much. Over-lubrication causes caking of the rings, piston, valves, and combustion head. But it is infinitely preferable to under-lubrication.

If oiling has been carried to the verge of safety in the direction of economy, you will feel the engine leap away every time a fresh charge is injected. If you never feel the engine respond to a pumpful, probably it is being somewhat over-lubricated, and the frequency of the charges may be cautiously reduced. No rule can be given, as the amount must always vary with the size of pump used, the temperature of the atmosphere, the qualities of the oil, and the speed of the driving.

Tests for oil.—Heat to 400° over a Bunsen burner. If any residue in twenty-four hours the oil is a very good one. For purity, leave oil on a burnished copper surface for two days; if no green stains result, it is free from acid. For dirt, strain a portion. For viscosity, place samples on a flat sheet of glass, and heat its under side. The oil that spreads farthest is the most suitable, but the flashpoint test with a Bunsen burner should precede this test. In general, any oil contained in sealed cans bearing name of a known and reputable maker will be safe.

SPECIAL LUBRICANTS.

For magnetos, gas engine oil.

Chains, grease and graphite mixed, applied to a clean chain.

Machine bearings, any good cycle oil.

Tricar wheels, stuff with grease under caps. Fill rear wheel with grease, supplement with cycle oil.

Gearboxes, engine oil or gear grease, alone or mixed, as recommended by makers.

Water pumps, thickest grease.

Contact breakers, drop of cycle oil on all cams occasionally. Some wipe contact breakers should run in grease.

Magneto drives, grease when dismantled; most drives obtain their lubricant from the engine.

Leather belts, dubbin, engine oil, or any special dressing.

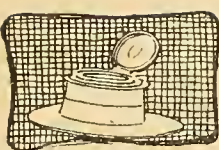
Clutches, collar or castor oil, allowing time to soak.

Free wheel, flush with paraffin, oil with cycle lubricant.

Tyre covers and valves, French chalk.

Pump piston washers, vaseline or grease.

(To be continued.)



LETTERS TO THE EDITOR



The Editor does not hold himself responsible for the opinions of his correspondents

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Repairing Petrol Tanks. Steep Hills.

[3411.]—Seeing some discussion on the exploding of petrol tanks while attempting to solder same, I may say that the only safe way is to proceed as follows: Empty out petrol, fill up quite full of water, empty out, and then one can solder without any danger of an explosion.

Re letter 3389. The hill is called White Down Hill, and, in my opinion, it is impossible to climb it (minus pedals) without a two-speed gear. I thought Coast Hill on the Dorking Road was much steeper than 1 in 12. I should have thought it was more like 1 in 4 or 5 in one place. Trusting there will be a competition at White Down,

D. REFFELL.

The Folly of it.

[3412.]—You do publish some rot in your paper, the latest nonsense being to advise people that the Stanley belt fastener (see page 523) can be used to lengthen a belt. The difference in lengths of the three sizes is only $\frac{1}{4}$ in. How long do you imagine a new belt will be stretching $\frac{1}{4}$ in.? If you give advice, give sensible advice.

Plymouth.

The fastener in question allows the belt to be shortened $\frac{3}{4}$ in., as it must be obvious to anyone except "F. G. S." that more than one hook can be used. When our correspondent has mastered this, we should recommend him to learn by heart, "The man who asks questions should ask sensible questions, and ask them civilly."—Ed.]

Handle-bars Working Loose.

[3413.]—Having lately had a nasty fall through being sent away from a repair (?) shop with a loose handle-bar, may I ask why such an unmechanical device as a friction grip for such a vital part of a motor (or any other) cycle is persisted in by manufacturers? To how many motor cyclists has it occurred, I wonder, as to what would happen were their headstock gripping bolt to carry away suddenly while riding. As this bolt frequently serves also as the top bolt of girder forks, and is as such subject to great vibration, this is an ever-present possibility. Cannot the down tube of handle-bars be made D section, the fork tube to correspond? then nothing short of pulling the handle-bars bodily out can render the forks independent of the handles. Since my accident I have had a $\frac{1}{4}$ in. bolt put through headstock and both tubes.

BS 31.

Leaking Batteries and Leather v. Rubber Belts.

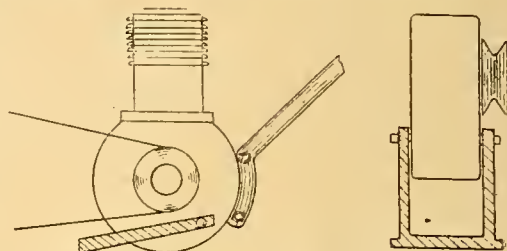
[3414.]—If your correspondent, Mr. R. N. Morley [letter No. 3397], will try a couple of E. P. Richford's (Holborn) unspillable accumulators I think his troubles will be at an end. If he cares to do so, he may put them in his tank upside down, but he will get no acid trouble. Unlike most of the unspillable type, they contain no jelly. I have had two in use for some considerable time, and find them excellent.

I have also been much interested by several epistles lately, re slipping rubber belts, also fasteners pulling out. Strange to say, I am now using my fourth Stanley Dermatine, and have never experienced either of the above defects. How many of the grumblers have a perfect 28° pulley and an engine that does not liberally oil the belt? It is astonishing how many motor cyclists try to run rubber belts on worn out pulleys and then condemn them if they slip. My machine is 4 h.p., 160 lbs. weight, and myself 13 st., belt $\frac{1}{2}$ in., but that does not make it slip in any weather. I have no doubt "Jupiter" is in his element fining up greasy, filthy leather belts, but still I prefer to remain

ONE OF THE KID-GLOVED BRIGADE.

Front Wheel Stands.

[3415.]—I enclose sketches of a "front wheel" stand which works under the crank case, as in "Ixion's" Brick-bat. The first drawing shows the stand out of action, held up by a clip. The second sketch shows the front view of the stand in action.



F. W. B. WALTON, R.N.

[3416.]—Judging by the remarks made by "Ixion" and others in your very interesting paper, it appears that there is no front wheel stand supplied by the makers of motor cycles. This may be so of the general run of machines, but does not apply to the Roc, the arrangement adopted in this machine being, in my opinion, ideal, combining as it does a back and front wheel stand. Briefly, the footrests act as supports, and when the machine is allowed to rest on the footrest, it is so beautifully poised that both wheels only just touch the ground, and can therefore be easily revolved. A puncture is thus robbed of half its terrors, and I would suggest that long footrests fitted to other makes would overcome the need for either front or back stands, as in the case of the Roc.

(Dr.) CLARENCE BEESLEY.

[As we have previously pointed out, the only objection to long footrests is their liability to touch the ground when turning corners sharply. We refer readers to "Ixion's" Comments this week.—Ed.]



[3417.]—I notice that in a recent issue of *The Motor Cycle* you draw attention to the convenience of a stand for the front wheel of a motor bicycle. I think, therefore, you will be interested in the accompanying photographs, which represent a device I had made for me more than two years ago. As you will see, it is a combined mudguard stay and stand, and it is extremely satisfactory in use. When the stand is required to be used, it is merely necessary to remove the butterfly nut, when it can be swung down, and will raise the front wheel clear of the ground.

AH 202.

Hills and Hill-climbing.

[3418.]—I have been reading with interest the correspondence in my pet paper about hills and hill-climbing. Not long ago it was Glen Finnart and Rest and be Thankful. I have just returned from Scotland, where I was racing on the 27th of last month at the Celtic Park Track. During my stay in Glasgow, I was driven up both the hills on Mr. E. H.

Bostock's 60 h.p. Daimler car, and must confess they simply astonished me. Both are perfect terrors, and I feel almost certain no single-cylinder machine could climb either of them. On Rest and be Thankful there are three hairpin bends, the one at the top being the worst; and on the steepest part, should anything fail on the machine on this bend, heaven help the rider—the drop is hundreds of feet into the valley. The road is very narrow and in a shocking condition the whole way up. Glen Finnart is short, but like the side of a house, the road also being in a shocking condition. I should like to see some of our hill-climbing champions having a shot at these; they would open their eyes and make them think. Cross Sutton Bank out—it's a pimple. When I hear of a rider getting up these, I will find him another much worse, that Harry Lauder has named "Trust in the Lord."

T. A. CARTER.

A Problem to be Solved.

[3419.]-Referring to Mr. E. L. Ovington's experience, I quite agree with Mr. H. Hill, and not to obtain the "abnormal" running to me means that the carburation and spark position and also exhaust lift are not adjusted correctly. It takes some miles to obtain it, because the correct position of air, gas, and spark levers has to be obtained, according to the atmosphere, but once obtained it "roars" in this "abnormal" way all day.

DC 74.

[3420.]-I have read the interesting letter of Mr. E. L. Ovington, also the answer submitted to it. A footnote from the Editor reads, "Does the extra lubricating oil participate in combustion and propulsion at very high temperatures?" In my opinion this is the cause of the abnormal running of the Big Four, and also many other engines that suddenly develop greatly increased power from some unknown cause, and in some cases "go on their own" with the current switched off. This is put down to dirty cylinder, etc., but

caused this? There being no gas, it must have been the surplus oil. To prove this, I allowed the engine to "abnormal" again, and it ran for several minutes with gas and light (spark) off, and the explosions occurred every time till all the oil was consumed. After this the automatic lubricator was altered, and the engine has never "bolted" since. Perhaps exception may be taken to this being a gas engine experience, but the Editor's note was sufficient for me to see that something of the same sort had really occurred with a petrol motor.

In conclusion, may I say a few words about the many wonderful hills Mr. Barker, Mr. W. Percy, and others have just discovered. Clay Bank, mentioned by Mr. Barker, should be carefully avoided. I was over it last week, and it was a mass of stones, not even the usual six inches in the gutter to wheel your machine. Probably it would take two Clay Banks to make one Sutton, and then not reach a 1 in 4 grade on it. This should be a condition of your correspondent's "What is the state of the hill; is it rideable?" Not invite riders to a hill that is in the state Clay Bank is at present.

W. GOULD.

[3421.]-In looking over your June 17th issue, I notice my letter which I wrote you with regard to the peculiar phenomenon which takes place when I operate my F.N. Big Four motor cycle under certain conditions. At the end of the letter I see the following sentence by your Editor: "Does the extra lubricating oil participate in combustion and propulsion at very high temperatures?" That is a phase of the problem that I acknowledge I never considered. Come to think of it, however, I think it is very probable that at exceedingly high temperatures the oil is decomposed, and on this account there is an abnormal quantity of carbon in the explosive mixture, to say nothing of the hydrogen gas liberated. In this manner a large number of heat units would be liberated in the cylinder upon explosion, and owing to the fact that the temperature is high, the explosion would take place with greater rapidity than under normal conditions. In other words, we not only would have more actual fuel in the cylinder, but we would be able to use more of the energy of the exploding fuel as mechanical energy and less as heat energy owing to the fact that the mixture would be fired almost entirely at the top of the stroke instead of burning comparatively slowly.

I await with interest other suggestions as to the cause of the peculiar phenomenon I have observed.

New York.

EARLE L. OVINGTON.

The Balancing of Motor Cycle Engines.

[3422.]-Some time ago there was some correspondence in your journal on the question of the balancing of motor cycle engines. Please let me add my experiences.

At present I ride a 7-8 h.p. twin Minerva, having previously had a 4½ h.p. twin of the same make, also a single 3½ h.p., and what I want to try and prove is that the twin is somewhat overbalanced, so to speak, the balance weights on the flywheels being too large for the light pistons and connecting rods.

On my last machine I had occasion to fit new pistons and make them heavier than the usual patterns. On my present machine I have drilled three ⅛ in. holes right through the balance weights, close up to the rim of the flywheel. The result in each case has been to make the engine run more sweetly, especially in the latter case, where there seems an increase of speed in the normal running of the engine and distinctly less vibration (which also means more power) at all speeds.

The reason why I did this was because I noticed, when the cylinders were removed from the crank case, the pistons would rise up of their own accord. Now from my small amount of technical knowledge I know this ought not to be the case; if anything, the pistons should just be able to slide down to their lowest position. In the former case we get complete balancing of the vertical piston motion, but leaving a large unbalanced couple which tends to set up vibration horizontally. This accounts for the clattering noise at high speeds.

In other details the engine is beautifully designed, and for reliability it takes a lot of beating. I should be glad of a few replies or criticisms anyone has to make, and I should like to state in finishing that I think one of the chief reasons for the Rex Co.'s successes in hill-climbs is the almost perfect balance of their engines.

T. F. COX.



The coupling shown is a "Unito," made of flat steel strips. One is placed to hold both front wheel hubs together, another to hold both back wheel hubs, and the other two hold the head and the down tubes. There are joints which allow for lateral movement. The couple, or should we say the coupled, had ridden from Sheffield to Lincoln via Newark the day our photograph was obtained.

extra lubricating oil is the moving spirit in this "frivolity." Some years ago we had a gas engine which, to quote "Ixion," took the bit between its teeth, and bolted. The rate that engine ran (and it had governors, of course) was terrific. The gas was cut off, but to no purpose, and it continued running at this speed for several minutes. I determined to find the cause of it, and nothing was allowed to be altered. For several days nothing amiss occurred. Then I noticed that when the engine was hot and driving heavily an explosion would occur, but no gas was taken in for it. What

The Practical Touring Machine.

[3423.]-I notice a letter in your issue of July 1st from "A Member of the P. and D. M.C.C." which interprets a note of mine in a way I never intended. As a matter of fact, owing to sundry causes, and principally to the abnormal nature of the run, the turn out was only six, not two, as he states. However, my idea was solely to get some of our English friends to try the hill, and, of course, let us know how they get on, through your columns. I hope for the reputation of the P. and D. M.C.C. that "A Member" will help to swell the numbers at the remaining runs of this season. ES 186.

Two Twenty-four Hour Runs in a Week.

[3424.] Reading the paragraph on the above matter, I agree with you that the two events coming so close to each other are bound to suffer from want of entries, and, to make matters worse, both runs are practically over the same course. To make both events successful, there should be, in my opinion, at least a month or six weeks between the two. I know of a dozen or so men who are very anxious to enter for the two runs, but who will not be able to do so unless the dates are altered. As the Land's End and back date was fixed weeks ago, it seems reasonable that the A.C.U. may alter the Plymouth date. A 746.

Tyre Troubles.

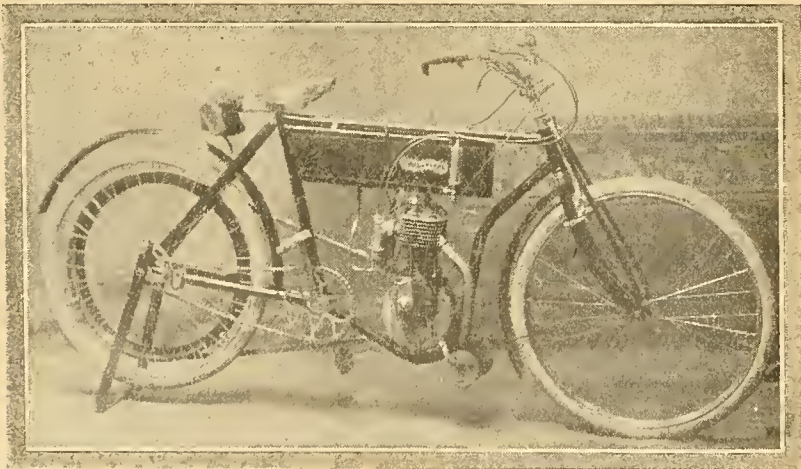
[3425.]-I was much interested in Mr. W. T. Walton's letter about tyres. I have had an extra heavy tyre go in exactly the same way, having ridden it about 1,000 miles. I sent it back to the makers, and they have sent me a new one free of charge. The tyre was a 26x2½ Modèle de Course Continental. I think that if the British firms were to treat their customers as fairly as I have been treated, the demand for foreign tyres would diminish greatly.

There is no doubt that one-gallon cans of petrol are badly wanted. I was asked 1s. 4d. for a gallon of petrol in Southport the other day, when the price is only 2s. for a two-gallon can.

A police trap is in operation for a quarter of a mile through Carnforth on the North Road; in fact, the whole of the way from Preston to Carnforth it is well to keep to the legal crawl. 6-7 H.P.

[The Lightweight Question.

[3426.]-The enclosed photograph is that of a specially designed motor bicycle for town work made for me by Mr. J. Langham, of this town (Leicester). The weight is 87 lbs., and this would have been further reduced but for the fact that the streets in the district are very "bumpy." The engine is a 2 h.p. Minerva, Brown and Barlow carburetter, with handle-bar control (the only lever not on the handle-bar is the spark advance). The petrol tank holds half a gallon, and the accumulator, coil, and oil tank are as small



as possible. Low frame, large size pedal bicycle saddle. Bates's special tandem tyres 1½ in., the tubes filled with Miraculum. The machine is very handy, fairly fast, and a splendid hill-climber. In view of the strong feeling in favour of the lightweight just now, I thought the above particulars and photograph might be of interest to some of your readers.

W. MOFFAT HOLMES, M.B.

Suggested Meet of Motor Cyclists near London.

[3427.]-In reply to Mr. H. Vowler *re* the above matter, this club—the Eastern District—has already under consideration a joint run of this sort, and his club has been invited to participate in the same. Doubtless his secretary will give him all particulars, and it only remains for him to again get his members to join hands with us, as they did last Sunday week at our president's house at Burford Bridge. This was voted a most successful run, and from reports to hand I think all enjoyed themselves very much. Several other clubs have also been invited (north of the Thames), and I shall be most happy to give club secretaries all information necessary if they will write to me direct at 92, Bromley Street, Stepney, London, E. I should like to arrange the meeting of the hon. secs. and representatives on the 15th, but arrangements already made will stand good for that date, and a further meeting can take place later.

CHAS. STEWARD.

The Kid Gloved Brigade.

[3428.]-In *The Motor Cycle* last week, under the heading of "Belt Fasteners," "Jupiter" speaks of rubber belts as things for the "kid-gloved brigade." I will pass his comments on the relative merits of leather and rubber belts, as I judge from the tone of his letter that he is one of these oily individuals, who not only has his engine, but his hands as well covered with grease, which, of course, is quite detrimental to a good rubber belt. As for the kid-gloved brigade, if there were more members of this force motor cyclists in general would create a far more favourable impression than they do at the present time. A great many riders realise this, and when they dismount at the end of a trip and remove their mackintoshes or dustcoats and overalls, as well as their "kid gloves," no one would ever suspect for a minute that they had possibly been riding 200 or 300 miles through dust or rain. Thank goodness, the motorist who dons the leather coat and leather breeches, dirty leggings, and goes about with no gloves and dirty hands is fast disappearing. I think if "Jupiter" would only compete in one of the 1,000 miles competitions and see the neat appearance of the riders when they finish their day's journey, he would feel rather inclined to join what he terms the "kid-gloved brigade." PS 5.

Business Methods.

[3429.]-Having, like many another motor cyclist, suffered from the amazing indifference and slack business methods of some motor cycle firms, with the consequent annoyance and inconvenience, it is with peculiar pleasure that I ask you to give publicity to the prompt and satisfactory way in which I have recently been treated by two well-known firms.

I was desirous of exchanging my old mount for a lightweight F.N., and wrote to Wauchope's for terms. These were sent per return of post. I then sent my bicycle and cheque away on a Tuesday afternoon, and on the following Thursday I received an acknowledgment, and the assurance that the order for the new machine had been placed with the F.N. Motor Agency with a request for early delivery. To my delight, on Friday afternoon the new bicycle arrived from the F.N. people, but, unfortunately, the lower cover for the ball head had by some means been broken. I wrote to the F.N. Agency on Friday night, and on Sunday morning received another cover free of charge.

Taken altogether, I should think this is almost a record for prompt and courteous dealing, and certainly speaks volumes for the two firms concerned, and of their desire to please their customers.

I have had several rides on my 1½ h.p. F.N., and am delighted with it. The spring forks are excellent, and the hill-climbing capabilities of the machine most satisfactory, while its manageableness and the ease with which it can be started by pedalling must appeal to that class of riders who, like myself, are nearing life's meridian.

I suppose I must add that, unfortunately, I am not interested in any way in either of the above firms.

I would just like to add that I parted with my old 1906 Rex with real regret, and it was only its weight that induced me to do so. For reliability, the machine had no superior, and for this reason had the Rex Featherweight been equipped with spring forks I expect that would have been my present mount. AA 1376.

"SUCH RESULTS SPEAK VOLUMES"

for

DUNLOP QUALITY

Mr. M. W. Randle, of 7, Lawrence Lane, Cheap-
side, writes under date of July 1st, 1908:

"For precaution's sake, prior to starting on the End-to-End run, I am going to re-tyre my '10 Lagonda' tricar; but I have had such fine results out of the present front tyres that I don't like changing them,

**NON-STOP
CERTIFICATE
IN THE A.C.U.
QUARTERLY
TRIALS.**

but must do so, to be on the safe side, and I'm wondering if it will interest you to have their record. I put them on in the early spring of last year, and drove them 1,200 miles, taking the Non-stop Certificate in the A.C.U. Quarterly Trials, a clean sheet

**SILVER CUP
ESSEX M.C.
200 MILES
NON-STOP
FOR TRICARS.**

and Silver Medal in the Penalty Run, won First Prize—a Silver Cup—in the Essex M. Club's 200 miles non-stop for tricars, and then did the London to Plymouth and back twenty-four hours' ride, and was the only passenger

**FIRST PRIZE,
SILVER MEDAL,
AND CLEAN
SHEET IN THE
PENALTY RUN.**

vehicle to get the gold medal. Unfortunately, during the night in the rain and fog I got my near side wheel in a hole and bent the front axle, with the result that I got the wheels out of alignment and wore a flat on the tread of the tyres, so got you to re-tread

**LONDON TO
PLYMOUTH.
THE ONLY
GOLD MEDAL
GAINED BY A
PASSENGER
VEHICLE.**

them, and have been driving on them ever since, having covered over 6,500 miles more, and they are good I fancy for at least another couple of thousand miles, and what's more I have never had a puncture the whole time, and I think such results speak volumes for your goods, and if the new ones only wear as well as present pair, I certainly shall still be a very satisfied driver of Dunlop tyres."

Send for booklet containing
full particulars of Dunlop tyres
for motor cycles and tricars,
gratis and post free on request.

DUNLOP TYRE CO., Ltd.,

Aston, BIRMINGHAM;

Alma Street, COVENTRY.

BRANCHES: London, Nottingham, Manchester,
Newcastle, Norwich, Bristol, Leeds, Glasgow,
Dublin, Belfast.



In answering this advertisement it is desirable that you mention "The Motor Cycle."

SUCCESSFUL LONG
DISTANCE
COVERING

AND

RELIABILITY

are prominent features in every model from the $1\frac{1}{4}$ h.p. Lightweight to the 6 h.p. Twin, bearing the name of the famous

N. S. U.

Here is our proof:

SUNDERLAND AND DISTRICT M.C.C. Reliability Trial
for the Vaux Challenge Cup, July 1st, 1908.

The course was from Sunderland to Doncaster *via* Stockton and Thirsk, a distance of 220 miles. Marks were deducted if competitors were a minute or more before or after schedule time. The winner finished on a 4 h.p. N.S.U. without losing a single mark.

NEWCASTLE AND DISTRICT M.C.C. Non-stop Run.
June 29th, 1908.

This trial was contested over a very difficult and hilly course of 75 miles. Each of the six N.S.U. competitors made a non-stop run, leaving only five others out of the total number to compete in the final.

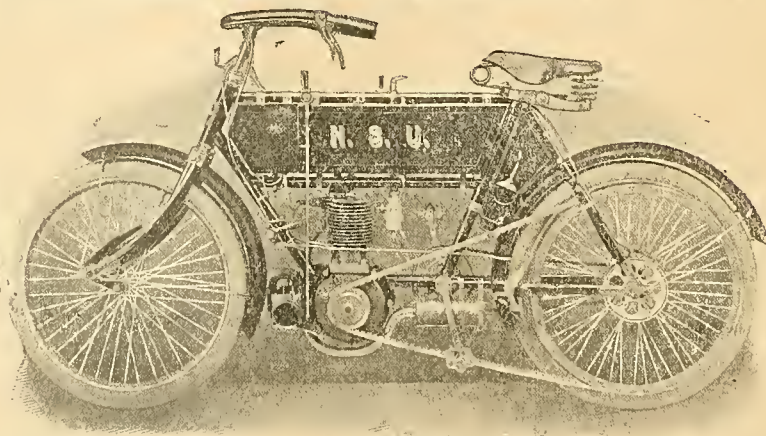
It's worth your while to write us about that new machine you intend to get. Every model in the splendid range of N.S.U. mounts has an enviable reputation behind it.

**N.S.U. Non-skid Device makes side-slips impossible.
COSTS ONLY 3/6.**

N.S.U. Sparking Plug solves misfiring troubles. ♦ ♦

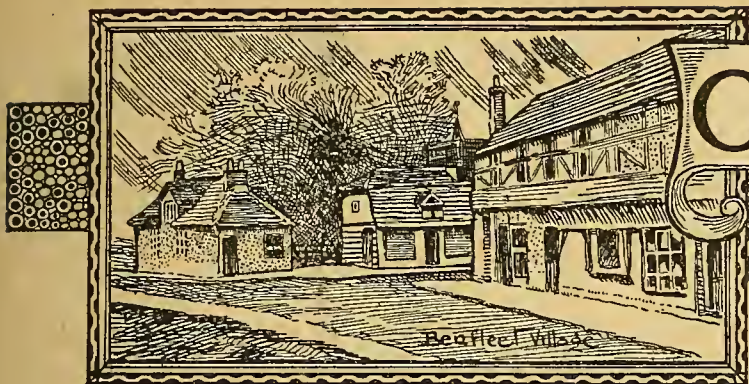
N.S.U. Belt Fasteners are used in all Hill Climbs.

N.S.U. Two-speed gear levels all hills. ♦ ♦ ♦ ♦ ♦



N.S.U. MOTOR CO., LTD., 78, CHARLOTTE STREET, LONDON, W.

In answering this advertisement it is desirable that you mention "The Motor Cycle"



OCCASIONAL COMMENTS.

By "IXION."

Which Side to fit Sidecars.

Whether to fit a sidecar on the near or off side of a motor bicycle is a very delicate question, on which readers' opinions would be interesting. On the one hand, the left-hand position is preferred by many riders, because they are accustomed only to mount from the near side, and cannot mount from the off; but this method of fixing puts the passenger closest to oncoming traffic, and when wheel-shavers are about he—or more often she—does not like it. On the other hand, the near or left-hand position, while preferred by the passenger, makes it awkward for the driver to mount until he has had considerable practice, and also renders the belt and magneto contacts slightly less accessible. While I loathe having to mount from the off side, I hold that the passenger's nerves are the vital factor to consider, and so recommend that the sidecar should be set on the near side, and that the driver should take a push-bicycle and practise the off side mount with it.

Ideal Footrests.

Riders' ideas of footrests vary extremely, and no one seems to know exactly what is desirable. I have this year used on long runs a great many varieties, ranging from fixed and sprung footboards to pedals swinging on a fixed axis, aluminium plates, 2in. wide, and rubber covered, and plain steel spindles $\frac{3}{4}$ in. in diameter. The sort I especially dislike are the plain steel spindles. They are well enough for a short run, but the sensation they create on a really protracted non-stop is most peculiar. They feel narrow and sharp and hot against the hollow of the sole, and after a hundred miles or so one feels as if one's feet were resting against a narrow skewer, and as if that skewer were red-hot. I almost equally detest footboards, as one's feet never seem firm on them, and one cannot fidget about. I think, on the whole, I like the ordinary pedal, as used for the pedalling gear, but threaded on a fixed spindle instead of being attached to pins on pedalling cranks. With these the foot does not slip about, and yet its angle can be varied a little.

Carriage of Spare Parts.

I saw last week a heavy tourist mount fitted by a mechanical owner with a host of minor refinements, and amongst the details I was most impressed by the arrangements made for carrying spares. His tank clips were extended right round the tank, and gripped the middle bar of the frame, as well as the top rail. They were three in number. The front one was extended on each side into a tongue bracket for the carriage of a light generator. The two hinder ones each held a metal strap loop, so that on each side of the tank he carried a small toolbag, scarcely larger than the ordinary push-cycle size, these being held off the tank by the encircling bands of the clips. In one he had his spare valves, each packed in a little Selvyt case; in the

other six spare sparking plugs, also encased in wash leather. Such details make it impossible for the weight of the machine to be kept as low as is desirable, but they show the pains and ingenuity expended by some enthusiasts to suit their machines to touring requirements. Without going to such complication of structure, I am a great believer in using several small toolbags instead of one large one, and so keeping the fragile spares separate from clumsy spanners.

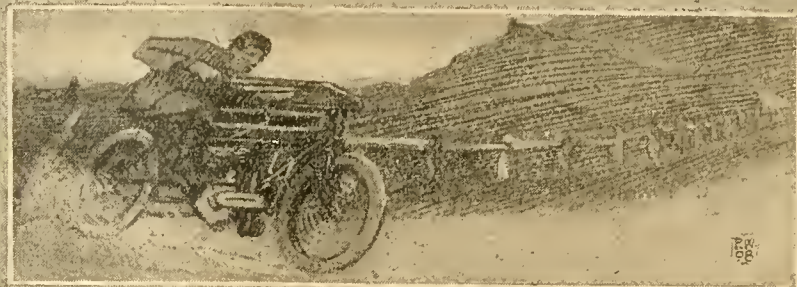
Clay Bank.

I see a Mr. Allan Barker is inviting motor cyclists to attempt the ascent of Clay Bank, on the Stokesley-Helmsley road. Before readers take the trouble of visiting it, they ought to know the nature of the task. The hill is a pretty straight one, and as far as memory serves me the gradients are by no means excessive. But the surface is—or was—too atrocious for words, resembling thinly spread, unrolled road metalling. There is a water-splash at the foot of the hill, and it is crossed at intervals by stone gutters, intersecting the road at an angle, and provided for cart wheels to rest in while the horses get their breath. The ascent will give no rider any pleasure, and any aspirant to honours upon it should use handle-bar control, and grip his handles as a drowning man clutches a straw. I remember walking down it in preference to riding down, when I was last along that road. It is not far from Sutton, and riders visiting Sutton can easily return down it, and then try the ascent if they want a rough shaking. Near the top the road cuts through an immense landslip, which is worth a visit, and the scenery, as a rule, almost compensates for the unspeakable vileness of the surface. Steep hills are plentiful in the district.

Worn Cylinders.

One or two remarks have recently appeared in our columns about the appearance of wear in the light cylinder castings now current, after they have done a couple of seasons' work. I recently took down the engine of a 5 h.p. twin, which has done about 10,000 miles with a two-speed gear and sidecar. On calliper-ing the cylinders, I found the upper part of the bore enlarged to the extent of about 2 mm. To renew these cylinders would cost about £2 10s.; to bore them out evenly to an extra couple of millimetres would entail the purchase—and probably also the manufacture—of a pair of new pistons, and would leave the cylinder walls too thin for the heavy work they have to do. Consequently I am making no replacements at all except to procure six new piston rings, with which I confidently expect to restore the power and the compression to their ancient efficiency. I will let readers know how I succeed, but even if this method proves to have sacrificed a trifle of power, its extremely low cost recommends it for general adoption.

CURRENT CHAT.



Special Features

Contact Breakers for
Twin-cylinders.

London to Edinburgh
on a Lightweight.

The Motor Union and Motor Cyclists.

It is said that the Motor Union is drawing up a prospectus for motor cyclists which will very strongly appeal to them.

The Number of Motor Cycles in London.

367 motor cycles were registered with the London County Council from March 1st to April 30th, bringing the total number of motor cycles registered in London to 8,508.

The Auto Cycle International T.T. Race.

The Four Inch Race for cars has been announced to take place in the Isle of Man on September 24th, and it is practically certain that the Motor Cycle T.T. Race will be held on the 23rd of that month.

Motor Cycle Imports.

146 motor cycles were imported last month of the value of £6,424 with parts, as against 158 in June, 1907, of the value of £8,031 with parts. The half-yearly figures from the Board of Trade returns show that, although the imports of foreign machines are a long way in advance of the British exports, a less number of foreign motor cycles are being brought into England every year. The import figures were:

1906	1907	1908
1,249	1,142	908

Value with parts—

£50,994	£49,637	£36,207
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British Exports.

The June exports of British motor cycles totalled fifty of the value of £2,839 with parts, as compared with thirty-one machines in the corresponding month of 1907 of the value of £2,508 with parts. At the end of the first six months of each year the export figures were:

1906	1907	1908
360	330	390

Value with parts—

£26,556	£26,132	£24,485
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Re-exports of Foreign Motor Cycles.

Twenty-three motor cycles of foreign manufacture valued at £709 and £3,725 worth of parts manufactured abroad were re-exported from this country during the six months ended 30th June.

Rear Lights.

At the annual meeting of the Birmingham Motor Cycle Club the following resolution was passed: "That in view of the danger to road users from vehicles being insufficiently lighted, and as a practical move in the right direction, it be a strong recommendation to every member of the club to carry a red rear light on his machine."

A.C.U. Council Meeting.

The next council meeting of the A.C.U. will be held at Warwick on October 3rd. Warwick is well situated for the purpose, being in the Midlands and approachable by excellent roads from all quarters.

A.C.U. Penalty Run.

It has been decided to hold a penalty run over Essex roads for members of the A.C.U. and clubs in the South of England districts affiliated to it. The entrance fee will be 3s., and competitors will be fined 1s. per stop. The maximum amount exacted in fines will be 5s. Competitors making non-stops will be awarded bronze medals, and there will be a prize for the best performance of a team entered by any club of the value of two guineas. The event will take place in the autumn.

Cissac's Fatal Accident.

That world-famous motor cyclist, Henri Cissac, met with his death in the Grand Prix Race on Tuesday of last week. He was driving one of the huge Panhard racing cars when one of the rear tyres burst, and the car turned turtle, pinning Cissac and his mechanic Schaub to the ground. Both were unfortunately killed. Cissac was the



motor cyclist who created such a stir by his wonderful speed performances at Brighton and Blackpool in 1905, riding a 14 h.p. Peugeot. At one time he was without doubt the most expert motor cyclist in the world. Several of his records still remain unbeaten, notably the one for the fastest speed ever accomplished on a single track machine. In the 1906 Tour de France Reliability Trial, he was the only rider to finish without the loss of a single mark.

Further Medal Winners in the L.-E. Run.

The following additional names have been passed for awards in the London-Edinburgh twenty-four hours' run at Whitsuntide: Gold medals—W. Adam, H. G. Bell, A. Carpmael, jun., H. C. Hanrott, W. Pratt, and P. H. Trotman. Silver medals—H. G. Cove, F. Mussell, J. H. H. Robinson, and C. Truscott.

Twelve Hours' Reliability Trial.

The following riders obtained full marks in the Edinburgh and Glasgow M.C.C. twelve hours' reliability trial on June 27th: R. G. Bostock, Gordon Gibson, J. L. Thomson, J. A. Forrest, C. B. Fergusson (all on 3½ h.p. Triumphs), H. H. Simpson (5 h.p. Vindec), and J. McDuff (2½ h.p. Tee Bee). C. H. MacMillan (5 h.p. F.N.) lost seven marks. The event was most successful.

Police Traps.

There is a police trap between the Marquis of Granby and Lewisham.

There is also a trap on the Brighton Road extending from Streatham Church to the railway station.

A police trap is in operation at weekends on the main road between Gomshall and Shere, two villages lying between Guildford and Dorking.

We have also received information that the park-keepers in Richmond Park are very active, and stop all motorists who exceed the ten miles per hour limit.

Near Polhill, on the Sevenoaks Road, motorists are being stopped and requested to show their licenses. Far from being done with the police after this interruption, they are timed over a measured distance as soon as the interview is over.

We have received news of a police trap between Robertsbridge and Battle, Sussex. The trap begins from the first publichouse on the left, and extends to the railway crossing (in the direction of from London to Battle). The trap is worked both ways and on Sundays. Every motorist is stopped and asked to show his license.

Scotland is also by no means free of police traps, as we hear that the police are very active in the neighbourhood of Banff. A correspondent informs us that the best road from Huntly to Banff is *via* Rothiemay Station and the village of Cornhill, and not by the village of Aberchirder, as the part (nine miles) from Aberchirder to Banff is in a most disgraceful condition.

Reliability Trial in England and Scotland.

The Newcastle and District M.C.C. will hold its annual 400 miles reliability trial on August 2nd and 3rd over a course in the North of England and South of Scotland.

The Land's End to John-o'-Groat's Trial.

The following members of the A.C.U. consented to act as judges, Messrs. A. G. Reynolds, J. W. G. Brooker, A. Sharp, and H. G. Cove. Messrs. Reynolds and Brooker will travel over the whole course, and both are veteran A.C.U. officials. Mr. Brooker has never missed an A.C.U. trial since 1903, and Mr. Reynolds, who attended his first A.C.U. 1904 1,000 miles trials as a competitor, has been through every other similar event as a judge, following two complete trials on a motor bicycle. Mr. Reynolds's services to the A.C.U. have been invaluable, and the amount of purely honorary work he has done for the Union has been nothing short of phenomenal. Would there were more like him.

Motor Bicycles "Hop Along."

At the Blanchardstown (Dublin) Petty Sessions recently, Mr. Alfred St. John Kennedy was summoned for driving a motor bicycle at a speed of thirty miles per hour. Mr. Tobias referred to the machine as "one of those things that hop along like a sheep." Mr. Kennedy was fined £1.

Trapping After Dark.

The credit (?) of introducing trapping by lantern light belongs, we understand, to the authorities of Lee and Eltham, S.E. The trap is worked both by day and by night, is one furlong only in length, and is in the Eltham Road, S.E., between Lee Green and Eltham.

Condition of the End-to-end Route.

A reader who has just completed a tour from Cardiff to John-o'-Groat's informs us that the roads from Inverness to John-o'-Groat's are in good condition right up to Alness, but at Dingwall there are "drive slowly" notices through the town. After Bonar Bridge the road is in good order until the vicinity of Dornock, where there are three or four miles of really rough road. The other side of the mound (about two miles) the roads were being metalled last week. On to Helmsdale the surface is good, and across the Ord is fair with some loose parts. Berriedale is in good order. The rest is plain sailing.

Portmarnock Speed Trials.

Owing to the weather turning out so badly on Saturday last, the 11th inst., the speed trials of the Motor Cycle Union of Ireland, at Portmarnock, have been postponed to Saturday week (July 25th), and will be run in conjunction with the fixture of the Dublin and District M.C. Club on that date.

Police Methods.

Two Finchley motor cyclists appeared at Welwyn on the 10th inst. to answer summonses for riding in a manner dangerous to the public at Welwyn on

May 31st. The police evidence was intended to show that the defendants drove their motor cycles at a speed of between sixteen and twenty miles per hour down the hill from the direction of Stevenage into Welwyn. The defendants, on the other hand, contended that they not only came down the hill with all care, but actually stopped on the way down, because a number of

Another Police Trap.

On the London-Eastbourne Road, about two miles beyond Uckfield. This is a long-distance trap, and works right into Eastbourne twenty miles away. Riders should turn off at Willington and travel *via* Hampden Park.

The Need for a Change Speed Gear.

The issue of the *Scottish Cyclist* of the 8th inst. contains a very sensible leading article on motor cycle touring. It states that touring on a motor bicycle is not so popular as it might be. This seems to us to be hardly correct, as a large number of motor bicycles are to be seen touring on English roads at any rate. However, the remainder of the article points out in a very lucid manner the importance of having a machine fitted with a two-speed gear, since it opens up the whole of the country for the motor cyclist. The Highlands of Scotland adequately serve to show the importance of fitting a machine with a change-speed gear of some sort. The steep hills with their severe corners cannot be taken at a rush, and anyone who has been through the country would easily realise that unless a change down is possible, these corners cannot be negotiated. Anybody who has any doubts on the subject should refer to the *Scottish Cyclist* of the 8th inst. *The Motor Cycle* has constantly advocated the use of a change-speed gear, but they are not likely to become universal just yet, as cost, complication, and reliability are all against variable gears.

FUTURE EVENTS.

- July 13-18—A.C.U. LAND'S END TO JOHN-O'-GROAT'S SIX DAYS' RELIABILITY TRIAL.
 „ 14-15—M.C.U.I. (Ulster Centre) Open 400 Miles Reliability Contest.
 „ 18—London and South Western Bank Five Miles Motor Cycle Race at Herne Hill.
 „ 18—Gymkhana at Birmingham (two open events for motor cycles).
 Aug. 3-4—Motor Cycling Club Run to Land's End and back for Charles Jarrott Cup.
 „ 7—A.C.U. 24 Hours' Ride, London to Plymouth and back.
 „ 8—Essex M.C. Open Race Meeting at the Stadium.
 „ 15—Coventry M.C. Open Hill Climb for Motor Bicycles and Passenger Motor Cycles.
 „ 22—A.C.U. Annual Race Meeting at the new Stadium, Shepherd's Bush.
 „ 29—Essex M.C. Open 200 Miles Non-stop Run for Motor Cycles.
 Sep. 12—Motor Cycling Club Petrol Consumption Tests.
 „ 23—The International Auto Cycle Tourist Trophy Race in the Isle of Man.
 „ —Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.

children were playing on the roadway. The hearing lasted one hour, and a fine of 20s. including costs was imposed.



Some of the End-to-end competitors at Land's End on Saturday. Most of the others did not arrive at Penzance until Saturday evening.

START OF THE END-TO-END RUN.

Penzance, July 12th.

WE arrived here this morning by train in company with several officials and competitors who had been unable to leave London earlier.

Though dull, the morning was fine, and by 10 a.m. a large number of riders had congregated on the quay outside Taylor's Garage, where their machines were sealed and inspected by the officials until lunch-time. Judges, marshals, and competitors worked with a will, the former sealing the frames and cylinders, and taking voluminous notes, the latter giving endless information about their respective mounts. The notes referred to were obtained by filling up a card stating every conceivable detail concerning the machine, such as weight unladen, weight of the rider, weight of luggage and accessories, dimensions of engine, size and make of tyres, make of belt or type of transmission, nature of ignition, type of brakes, etc. In this way, the valuable facts concerning the machines have been accumulated. Up to the present time almost all the riders have made an appearance. B. H. Davies is

heavily. The names of those who were duly despatched on the 893 miles run are:

M. W. Randle (10 h.p. Lagonda tricar), W. H. Wells (5 h.p. Vindec Special), W. Ridler (6 h.p. Leader), E. Nelson (5 h.p. Rex), J. Tassell (3½ h.p. Matchless), S. W. Carty (3¾ h.p. N.S.U., two-speed), A. D. Nicholson (3½ h.p. Triumph), Gordon Gibson (3½ h.p. Triumph), F. Dover (3½ h.p. Triumph), F. S. Barnwell (3½ h.p. Rex, two-speed), H. R. Mayo (5 h.p. Vindec Special, two-speed), M. Geiger (6 h.p. N.S.U.), T. F. Cox (7 h.p. Minerva), F. C. Mustard (3½ h.p. T.T. Triumph), C. E. Murphy (3½ h.p. Triumph), W. H. Outwin (3½ h.p. Triumph), Miss Muriel Hind (5 h.p. Rex), E. Gwynne (5 h.p. Vindec Special, two-speed), W. W. Douglas (2¾ h.p. Douglas), P. Phillips (2¾ h.p. Douglas), Eli Clark (2¾ h.p. Douglas), R. W. Duke (3½ h.p. Triumph), H. C. Hanrott (3½ h.p. Triumph), A. Manning-Lomax (3½ h.p. Triumph), G. Lee-Evans (3½ h.p. Rex), O. C. Godfrey (3½ h.p. Rex), A. J. Sproston (5 h.p. Rex), F. W. Applebee (5 h.p. Rex), J. Slaughter (3½ h.p. T.T. Triumph), J. Marshall (3½ h.p. T.T. Triumph), P. H. Cockcroft (3½ h.p. Triumph), A. H. Ormerod (5 h.p. F.N.), J. O. M. Dixon (3½ h.p. Vindec Special, two-speed), T. K. Hastings (5 h.p. Indian), R. Moore (3½ h.p. Phelon and Moore, two-speed), W. Milnes (3½ h.p. Phelon and Moore, two-speed), H. H. Dommett (3½ h.p. Triumph), Robert King (3½ h.p. Triumph), J. Haslam (3½ h.p.



End-to-end riders
at Penzance
replenishing the
petrol tanks.

perhaps the most noticeable absentee, as through tyre and other troubles he has reluctantly decided not to compete. He is, however, intending to complete the journey as an official. Another well-known rider, who successfully went through the 1907 six days' trial is Ivan B. Hart-Davies, who is prevented from competing by pressure of business. The only passenger machine is M. W. Randle's 10 h.p. Lagonda tricar, which has seen great service. J. S. Shaw, with the Phänomen bicycle and sidecar, has withdrawn, and so have W. H. Bashall (3½ h.p. Triumph), S. H. Richardson (5 h.p. F.N.), and J. G. Blandford (3½ h.p. Zenith). Of those who will actually start we recognised many old friends, notably W. H. Wells, F. W. Applebee, sen. (who has either competed in or else been closely connected with every A.C.U. reliability trial since 1903), E. Nelson (who took part in the End-to-end run of 1906), Miss Muriel Hind, O. C. Godfrey, R. Moore, H. R. Dougal, W. Milnes, White, and others. T. K. Hastings with a brand new 5 h.p. Indian (twin) has just arrived safe and sound from the States.

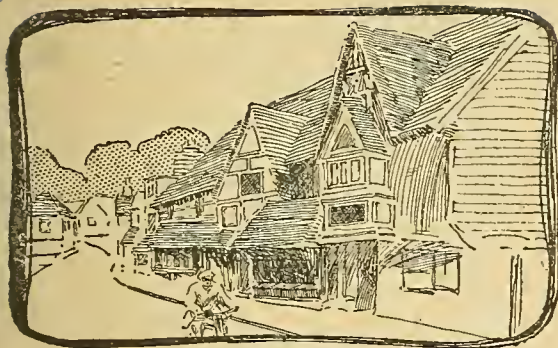
The official start was made in glorious weather on Monday morning at 8, but soon afterwards rain fell

Rex), Sir R. K. Arbuthnot (3½ h.p. Triumph), Leoffric Cutler (3½ h.p. Triumph), H. Ellison (1¼ h.p. Motosacoche), J. V. Robinson (1½ h.p. Motosacoche), W. F. Merritt (3½ h.p. Triumph), J. Ewing Adam (3½ h.p. Triumph), G. L. Fletcher (2 h.p. Moto-Rêve), W. Smith (2 h.p. Moto-Rêve), C. A. Palmer (5 h.p. Roc, two-speed), W. Newman (4 h.p. Roc, two-speed), A. D. Powell (3½ h.p. B.P., two-speed), H. B. Lewis (3½ h.p. Triumph), A. M. Tatham (3½ h.p. Matchless-Jap), P. Weatherill (3½ h.p. Zenette, variable gear), F. W. Barnes (3½ h.p. Zenette, variable gear), A. F. Wilding (6 h.p. Bat-Jap), A. D. E. Craig (5 h.p. F.N.), H. D. Seale (3½ h.p. Triumph), and H. R. Dougal (5 h.p. Vindec Special).

A fully illustrated description of the trial will be published next week.

Richford and Co. guarantee all terminals of their accumulators to be absolutely non-corrosive, and if any they may have supplied are found to be faulty through creeping of acid, they are open at any time to replace with a brand new accumulator.

In "Occasional Comments" last week, under the heading, "A Magneto Tip," "Ixon" referred to a Simms magneto. We are asked to point out that the magneto referred to therein was a Simms-Bosch, now known as a Bosch.

**Wakefield M.C.**

At a meeting held on the 3rd inst. it was decided to hold the first reliability trial on Saturday, July 25th, starting from headquarters, George Hotel, Kirkgate, Wakefield, at two o'clock. Motor cyclists in and around Wakefield are invited to join in any of the runs.

Manchester M.C.

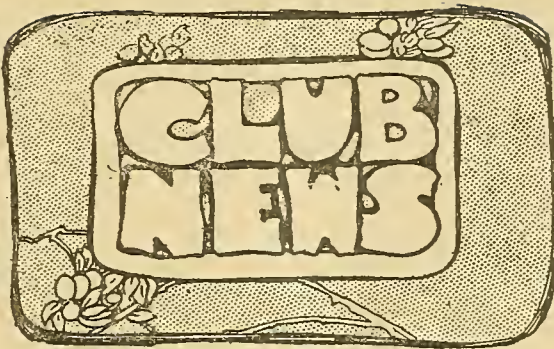
The second speed judgment test during 1908 was held on Saturday last. The weather was very stormy and wet, with the result that only nine members competed. The course measured between seventeen and twenty miles, and was by way of Mere Corner, Plumbley, Northwich, turning left there for Rudheath Corner, and thence to Lower Peover by the Holmes Chapel, Knutsford Road. Each competitor, starting at intervals, was informed of the speed to be travelled, which varied between fifteen and eighteen miles per hour. Result: Motor cycle section.—1, J. E. Rees, 132 $\frac{3}{4}$ s. fast; 2, Otto Gross, 258 $\frac{3}{4}$ s. slow.

Western District M.C. and North-west London M.C.C.

An inter-club competition between the above clubs took place on Saturday last. The course was a circular one from Gerrard's Cross, a total distance of 100 miles. The opposing members were paired off as near equal h.p. as possible. Any rider making a stop of any sort other than traffic conceded one point to the opposing club. The riders who made non-stop runs and completed the 100 miles were: R. Canham (3 $\frac{1}{2}$ h.p. Brown), W.D.M.C., opposed to W. G. Barton (3 $\frac{1}{2}$ h.p. Triumph); H. Vowler (3 $\frac{1}{2}$ h.p. Triumph), W.D.M.C., opposed to S. Winkworth (3 $\frac{1}{2}$ h.p. Triumph); F. Ritchie (5 h.p. Rex), W.D.M.C., opposed to H. G. Cove (4 h.p. Jap). The N.W. London M.C.C. won the event by two points. Quite a large number of members from both clubs attended. Thanks are due to Messrs. H. V. Davidson (N.W.L.) and C. N. Gould (W.D.), who arranged the details of the competition.

Essex M.C.

On Saturday last the club held its second annual gymkhana, and although the weather was threatening the rain held off, and the sun showed itself occasionally. The sports were held at High Beech, Loughton, Essex, in one of the prettiest parts of Epping Forest. The ground was prettily decorated with flags, and there was a good number of spectators.

ESSEX M.C. GYMKHANA, JULY 11th.

Event I. was called a plug-changing competition. Competitors had to ride one lap, then stop and place their machines on stands, remove the sparking plug, change it for one in the hands of an official, replace, and ride one lap to finish. Event II. comprised tilting at the rings, lemon cutting, and Turk's head cutting. There were six rings, three lemons, and one Turk's head, which had to be dealt with by the riders. Event III. went under the name of apple bobbing. A row of pails filled with water was placed near the finishing line, and each had an apple floating on the water. Entrants had to ride to a point thirty yards from the finish, dismount and place their machines on stands, then run to the pails and remove the apple with their mouths, then return to machine and ride to finish with the apple still in their mouths. Event IV., potato picking. Competitors had to pick up three potatoes with a net and deposit them in a pail, the rider doing it in the shortest time winning. Event V. was potato changing, and was an event for sidecars and forecars. The passenger had a potato, which he had to change at each of four points on the track. Machines had to come to a standstill at each change, the first one round to be the winner. Event VI. was the same, only for cars with lady passengers. Event VII. was the old game of musical chairs, only on motor bicycles. A small track was marked out in flags on the grass, and riders were started and stopped by the band. Machines had to be placed on stands at each stop. The results were as follows:

Event I.—1, F. G. Smith; 2, R. M. White; 3, A. Curtis. Event II.—1, R. M. White; 2, A. G. Reynolds; 3, F. W. Applebee. Event III.—1, F. W. Applebee; 2, A. P. Howard; 3, R. M. White. Event IV.—1, A. G. Reynolds; 2, F. W. Applebee; 3, R. M. White. Event V.—Frank Pershke. Event VI.—Will Pershke. Event VII.—1, F. G. Smith; 2, R. M. White; 3, A. G. Reynolds.

Immediately after the last event a party left for Paddington, en route for Land's End and the End-to-end run.

The club run next week is an all-night run to Yarmouth, leaving Barnard's Hotel, Chelmsford, at eleven o'clock on Saturday night. Those intending to take part are requested to let Mr. Summers know, so that he can arrange for breakfast at Yarmouth. The captain's address is "Southernhay," Loughton, Essex.



Changing sparking plugs against time. An interesting occupation, especially when the engine is hot!



The musical chairs event for motor cyclists, which caused much amusement.

Club News.—

Hull and East Riding A.C.C.

The reliability run to Scarborough and back was held on Saturday, and there were fifteen starters. The run was most enjoyable. Competitors were met at Scarborough by members of the local motor cycle club, and dined with them at the



Mrs. Thomlinson being started on the Hull A.C.C. Reliability Run to Scarborough and Back last Saturday. She came through the trial successfully.

Pavilion Hotel. Results are not yet announced, but all got through successfully except two.

The Hull club regrets to announce that the chairman, Capt. J. A. Foster, and the late captain, W. G. Pickles, have resigned the club. Mr. E. W. Forward, the hon. solicitor, has been appointed chairman of the club.

A general meeting will be held on Friday, July 17th, at 8.30, at the White House Hotel, to consider the question of removing the headquarters of the club.

Walthamstow M.C.

A non-stop run to Clacton-on-Sea will be held on Saturday next, starting from the Castle Hotel, Woodford, at 3.30 p.m. sharp.

The second trial for the 100 miles cup competition has been arranged for July 26th, starting at 7 a.m. from Thornwood, near Epping. The following members are eligible: Messrs. O. C. Godfrey, F. A. Applebee, J. W. Percival, G. West, A. H. White, L. Beckess, and J. Meads.

Newcastle and District M.C.C.

A handsome cup has been presented by the N.S.U. Motor Co., Ltd., of London, to the Newcastle and District Motor Cycle Club for its annual 400 miles reliability trial, which event is to take place on August 2nd and 3rd over a course in the North of England and South of Scotland. Valuable prizes are also given for second and third places, while gold medals are given to every competitor finishing between minimum and maximum times. A large entry is expected. Any motor cyclist wishing to compete can join the club and take part in this event. Good weather is all that is necessary to make the event one of the most successful in the provinces. The cup is on view in the windows of the Percy Cycle Co., Ltd., Northumberland Street, Newcastle-on-Tyne.

Barnoldswick M.C.

The above club held the first of a series of reliability trials on the 4th inst. The course chosen was Barnoldswick to Gisburn, Hellifield, Coniston Cold, Gargrave, Skipton, and back to Barnoldswick—a rather short, but very hilly course. There were thirteen entrants, and eleven took part in the run. The power of the machines ranged from $1\frac{1}{2}$ to 6 h.p. Seven got through without a stop or loss of marks, which was very good for a first attempt. One special feature of the trial was the splendid performance of the two lightweight machines, $1\frac{1}{2}$ and 2 h.p. Clément-Garrards, both of which got through without stops and made exactly minimum time. The two 6 h.p. machines did not show up as well as the lightweights, both having three stops to record, although making good time. The local bicycle club kindly assisted in marshalling the course. The trial was watched by a crowd of people, and created a very favourable impression. The success of the trial was due to the hon. sec., Mr. F. Baldwin, who acted as timekeeper and starter. The next event will be a hill-climbing competition, on the 21st inst.

Leeds M.C.C.

The second annual invitation run from Leeds to London and back in twenty-three hours was held on Saturday last. All Leeds members were eligible to compete, and invitations were sent to all the premier Northern clubs to send teams of three to try if possible to take the trophy (a thirty guinea shield provided by the L.M.C.C.) from the Leeds members for the year. The following clubs sent teams: Manchester, Middlesbrough, Hartlepool, Bradford, and Barnsley. Sheffield were unable, but hope to do so next year, and Hull, unfortunately, had a competition on the same date. The run was held in conjunction with the Bradford M.C.C. Last year there were two winners, i.e., F. W. Greenwood ($3\frac{1}{2}$ h.p. Rex) and P. H. Cockcroft ($3\frac{1}{2}$ h.p. Triumph). The former ran again this year, but the latter had left Leeds for the End-to-end run. The winner is awarded the shield, gold medal, and certificate; second and third, gold medal and certificate. The club's standard bronze medal will be awarded to all competitors who completed the course in twenty-three hours, and in accordance with the conditions of the trial. In addition to the above, Messrs. Walker and Hall will give a special prize of a valuable solid silver cigarette case to the rider losing fewest marks, who is not in the first three, and who is not in any way connected with the motor cycle trade. Two and a half hours before the start it was raining heavily. The competitors (forty in number) met at the John-o'-Gaunt's Hotel, Pontefract Road, at about 7.30 p.m., and the first rider, G. Horner, was despatched at 8 p.m. Meals, petrol, oil, etc., were provided at the hotels at Newark and Biggleswade on both outward and homeward journeys, and petrol was also procurable at the turning point at Highgate. The results cannot be declared until the various checkers' sheets have been examined, but we hope to receive them in time for publication next week. The names of the entrants were: G. Horner, G. E. Tennant, F. A. Scriven, J. Hoffman, T. Wake, A. Moorhouse, F. C. Bagshaw, A. Barraclough, A. Thorpe, Lacey, T. G. Bullus, H. Wheeler, S. L. Gjertsen, E. Slater,



Leeds M.C.C. Competitors assembling for the 23 hours' run to London and Back.

Tytler, J. A. Leyland, T. Ikin, J. Lawn, F. Abram, B. Siffkin, T. Briggs, W. B. Durant, W. Jowett, A. E. Bagshaw, J. Wild, E. S. Myers, C. E. Kettle, G. MacLouchlan, A. H. Forbes, H. Greaves, H. Shaw, P. Dyett, J. Dale, W. Grinstead, A. A. Scott, F. W. Greenwood, and E. Slater.

Sunderland and District M.C.C.

At the kind invitation of Mr. B. Grimshaw, weather permitting, members and friends will meet at High Barnes, Chester Road, on Wednesday, July 22nd, at 3 p.m., and proceed to Finchale Woods, one of the most attractive beauty spots in the district, to enjoy their annual picnic. Further details may be had by applying to the secretary, T. Jameson, 11, King Street, Sunderland.

The result of the third annual competition for the Vaux challenge cup, run over a course of 220 miles to Doncaster and back, in which three members scored full marks, has now been decided by Mr. Russell Jackson magnanimously retiring, and the committee have agreed to present silver medals of equal value to Messrs. E. J. Tiffin and S. Wilson, the cup to be held in turn by each for a period of six months.

Club News.—

Middlesbrough and District M.C.C.

A 200 miles reliability trial will shortly be held for a gold medal given by Mr. Stanley L. Gjertson, also for a Triumph and Rex gold medal.

Eastern District M.C.

Members are requested to put in a good attendance at headquarters at the meeting to-day (Wednesday) at 8.30 p.m. to discuss how the trophy shall be run off. Several new members will be elected. The committee has under consideration a new proposal for making associate members and another joint run.

Newcastle and District M.C.C.

A penalty run under A.C.U. rules (for these trials) was decided on the 5th inst. over the same course as the inter-club competition of last year. The following finished with clean sheets: L. Rosenvinge ($3\frac{3}{4}$ h.p. N.S.U.), D. Mallett ($3\frac{3}{4}$ h.p. N.S.U.), A. D. Nicholson ($3\frac{1}{2}$ h.p. Triumph), T. Smith ($2\frac{1}{2}$ h.p. Triumph), and C. Reinhart (4 h.p. N.S.U.). A number of competitors failed through tyre troubles. The timekeepers were Messrs. Robson Crosier and S. W. Carty; marshals, J. Moule, W. H. Outwin, R. W. Holmes, and W. P. Robinson.

Coventry M.C.

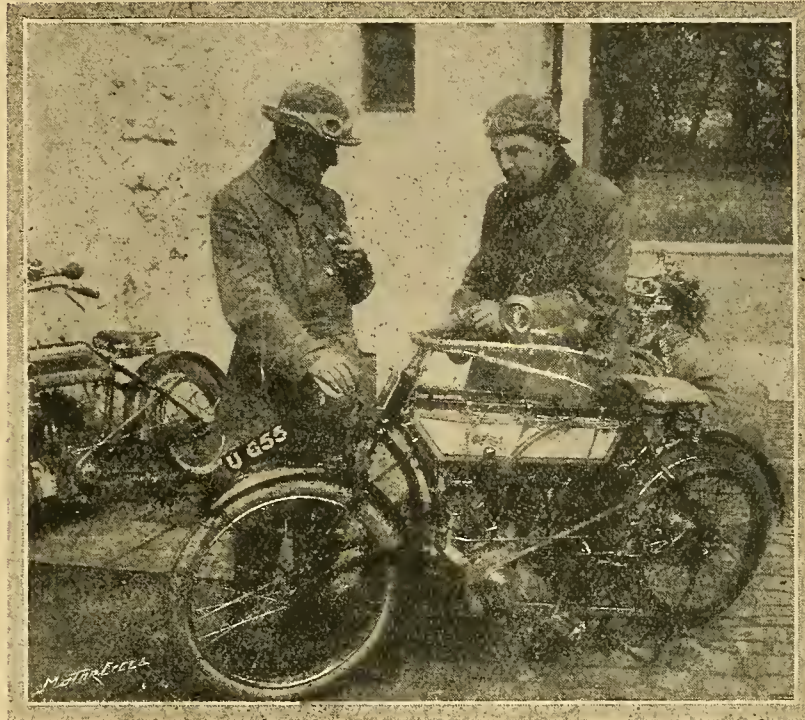
The open hill-climb to be held at Newnham on August 15th. will include five classes, viz., (1) lightweight machines with engines having a cubical capacity not exceeding 350 cubic inches, maximum weight of machine to be 100 lbs.; (2) single-cylinder machines, any size; (3) twin-cylinder machines, any size; (4) open to any touring motor bicycle; (5) passenger motor cycles. No practising whatever will be allowed on the hill. A gold medal will be presented for best placing on A.C.U. formula in each class, and a prize for fastest time in each class. The entrance fee for members is 5s. each event, but if one machine is entered in two events, 7s. 6d. Non-members of the Coventry Club pay double. Standard touring machines fitted with metal mudguards, lamp, toolbag, with tools, and hooter must be used in each case. Entry forms and particulars will be ready in a day or so, and can be obtained from the hon. sec., E. W. Walford, 19, Hertford Street, Coventry.

Blackpool and District M.C.C.

The annual hill-climb was held early this month on the Delph Road, and on time the placings were as follows:

	Time.
{ J. G. Warburton (4 h.p. Roc)	60 $\frac{1}{5}$ s.
{ Dr. Reid ($3\frac{1}{2}$ h.p. Triumph)	60 $\frac{1}{5}$ s.
W. Taylor ($3\frac{1}{2}$ h.p. Triumph)	65 $\frac{3}{5}$ s.
J. Stanworth ($3\frac{3}{4}$ h.p. N.S.U.)	66 $\frac{1}{5}$ s.
Dr. Baker ($3\frac{3}{4}$ h.p. N.S.U.)	66 $\frac{1}{5}$ s.

The results will be worked out on the A.C.U. formula and announced next week.

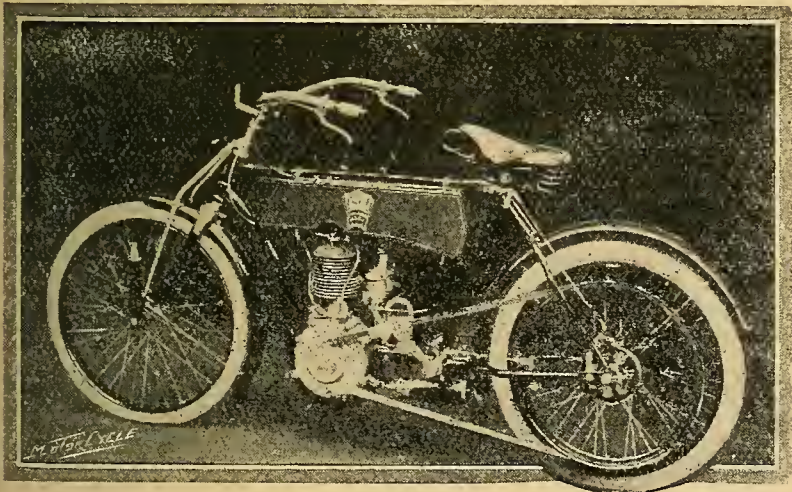


Mr. Geo. E. Tennant, who was for some time Trials Hon. Sec. of the Leeds M.C.C. He is depicted with his new mount, a 5 h.p. twin-cylindered two-speed Vlndee fitted with Palmer tyres and Brooks saddle

New Laurin and Klement Machines.

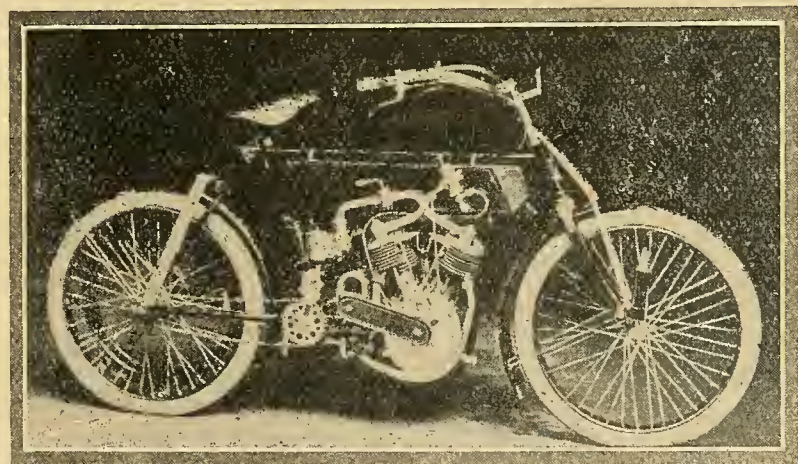
THE Laurin and Klement Motor Agency, 255, Tottenham Court Road, W.C., have lately introduced two fresh models, specially suited to the British public, of their well-known motor bicycles, which have always acquitted themselves well in many Austrian competitions and in not a few held in

bars are longer, and Bowden wire control is used in place of levers and rods. The magneto has a metal cover to protect it from wet and dirt. The other new model is a 5 h.p. twin, the engine dimensions of which are 75 by 90 mm. The carburetter is of the spray type and of large size, and has an automatic



The new pattern $3\frac{1}{2}$ h.p. single-cylinder L. & K.

this country. The $3\frac{1}{2}$ -4 h.p. single cylinder, the engine having a bore and stroke of 80 by 100 mm., is fitted with a Longuemare spray carburetter, a sleeve throttle working in a ratchet, spring forks of exceedingly good design, and a powerful brake working on the rim operated by a long foot lever, in addition to a good hand controlled band brake. The handle-



The latest model twin-cylinder is quite up to date.

air valve. In most other respects it resembles the model we have just described. The engines of both machines are fitted with the well-tried Laurin and Klement low-tension magneto ignition, which is capable of being advanced and retarded. We sincerely hope that these two machines will meet with the success in England that they deserve.

Questions & Replies.

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used; the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, must be accompanied with a stamped addressed envelope for reply.

Wire Stretched.

? My machine, a $1\frac{1}{4}$ h.p. Moto-sacoche with magneto, continues firing very weakly, but sufficiently to run the machine on level after the exhaust lifter is raised. Can you explain why? I have not noticed it doing this before. There is no doubt but that the exhaust is properly raised, as it works all right for starting.—H.B.B.

The trouble can be easily cured, as it is perfectly obvious that the exhaust valve lifter is not working properly, as were the valve fully raised an explosion could not occur. The wire operating the lifter should be slightly shortened.

Saddle and Belt Slip.

? Please advise as to choice of suitable saddle for $2\frac{3}{4}$ h.p. machine to carry 13 stones weight, and which is low and without the long projecting spring in front. Messrs. Brooks advertise a spring seat, but I understand it is not well suited for pedal work. Is there a cure for belt slipping on my machine, gear $4\frac{3}{4}$ to 1 (19in. and 4in. pulleys)?—K 1144.

There is no better motor cycle saddle than Brooks's B 105, which is specially made for giving a low riding position. The best cure for belt slipping is to see that the belt and the pulleys are of the correct angle of 28° . All first quality belts are made to this angle.

Size of Belt. Effective Silencers.

? My cycle is a heavy $3\frac{1}{2}$ h.p., and the pulley wheel and belt rim will only admit of a $\frac{1}{2}$ in. belt being used, and I find the belt stretches rather much. I have tried both the Lycett (leather) and Dermatine. Could you tell me the best belt to get under the circumstances? As regards a silent silencer, I notice you mention Sharp's in a recent issue. Could you tell me the price of this, and does a quiet silencer cause much back pressure?—A.C., Southsea.

Nothing less than a $\frac{1}{2}$ in. belt will stand for long on a $3\frac{1}{2}$ h.p. bicycle. We should recommend you to obtain new pulleys of the correct angle, viz., 28° . The price of Sharp's silencer can be obtained from the makers. We do not quote prices in these columns. An effective silencer does not cause back pressure provided it is properly designed.

Route from Glasgow to London.

? Would you kindly inform me which is the best route from Glasgow to London for a novice? Time is no object, and I would like to avoid as many towns as possible.—L. McN. W., N.B.

Your best route is as follows: Glasgow, along the Carlisle Road to Beattock and Lockerbie. At Gretna Green turn to the left and proceed through Longtown and continue through Brampton, Alston, Middleton-in-Teesdale, Barnard Castle, Boroughbridge. This lands you on to the Great North Road, which you follow through Wetherby, Aberford, Doncaster, Retford, Newark, Grantham, Stamford, Stilton, St. Neots, Biggleswade, Baldock, Welwyn, Hatfield, Regent's Park, and London.

Paraffin Tap and Care of Rubber Belts.

? (1.) There is no device for injecting paraffin into cylinder of my motor cycle. Ought there to be one? (2.) Do rubber belts require any dressing, and should they be left on the pulleys at night, or does this strain them?—L.R.

(1.) Undoubtedly a means of injecting paraffin would be an advantage. Probably you could fit an ordinary lubricator cap into the induction pipe immediately over the inlet valve, which will serve the purpose of a "compression tap." (2.) Rubber belts require no dressing, but they should be kept from oil and petrol. It is not necessary to take the belt off the pulleys, but if a machine is intended to be left standing for a few days it would be a good plan to do so.

A Beginner's Preparations.

? I have just ordered a 1908 5 h.p. motor bicycle. (1.) Can you recommend a book which thoroughly explains the details of mechanism of the motor cycle? (2.) Also can you give me a list of spares that it would be wise for me to carry, and (3) is it advisable to have the tyres provided with non-skid covers at once? (4.) Where am I to apply for my license? and (5) is it necessary to have the machine with me when applying for number?—H.D., London, W.

(1 and 2.) We can thoroughly recommend the new edition of "Motor Cycles and How to Manage Them," and in it you will find a list of the

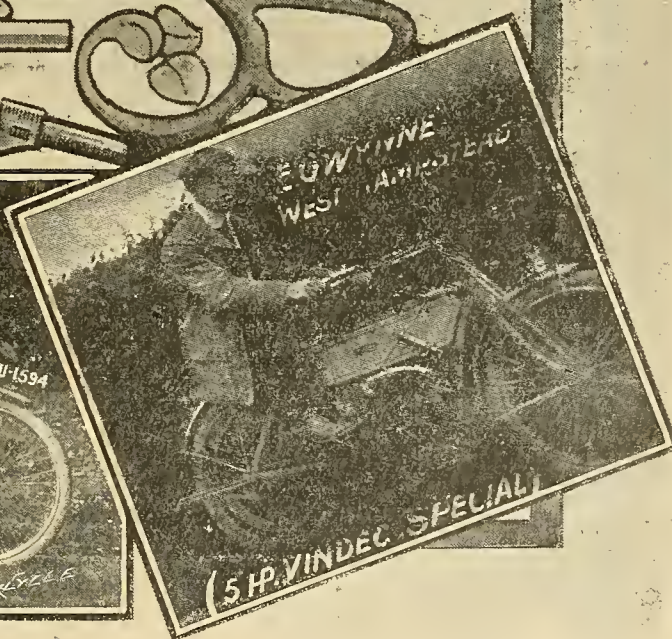
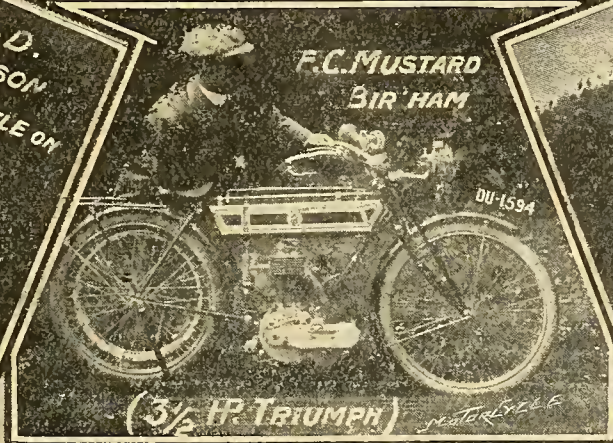
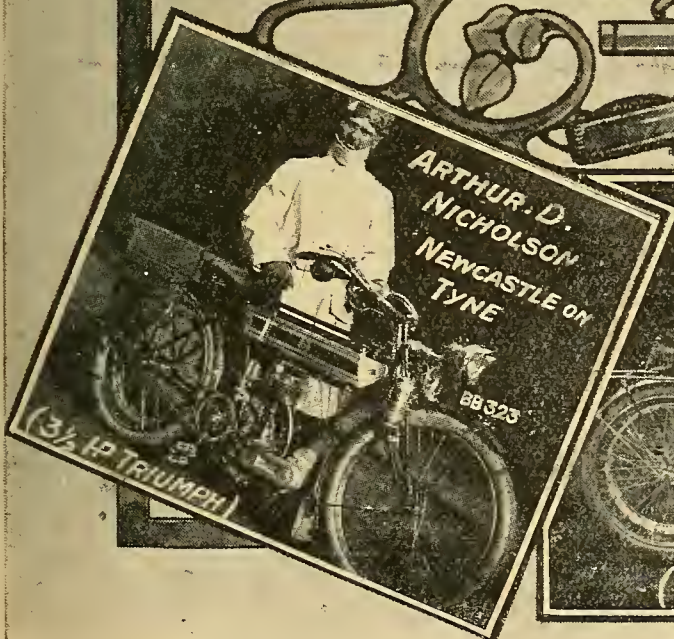
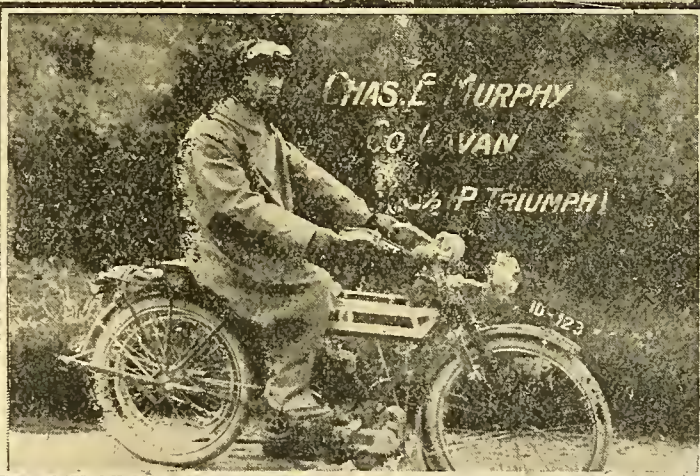
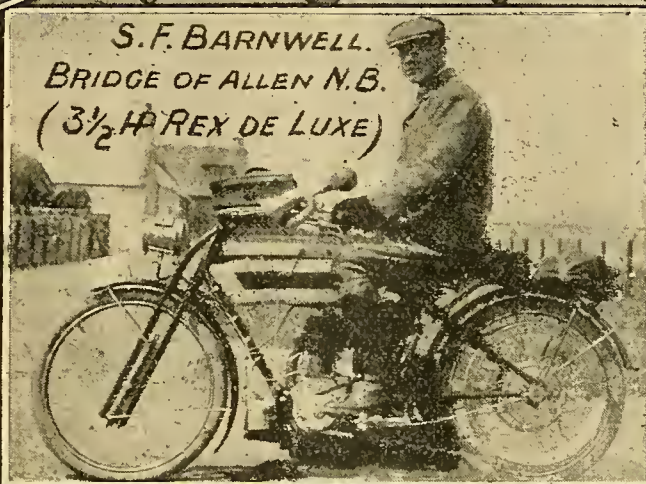
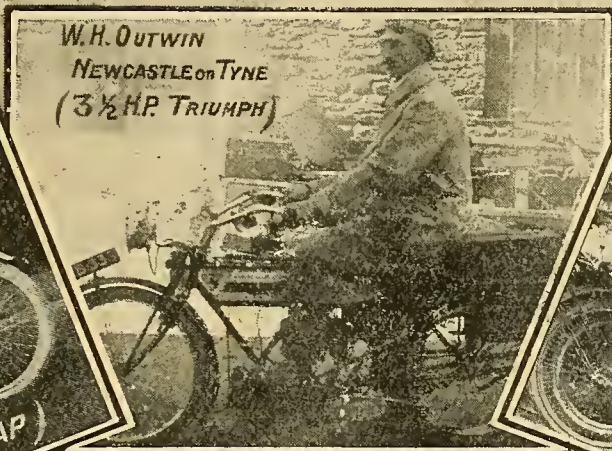
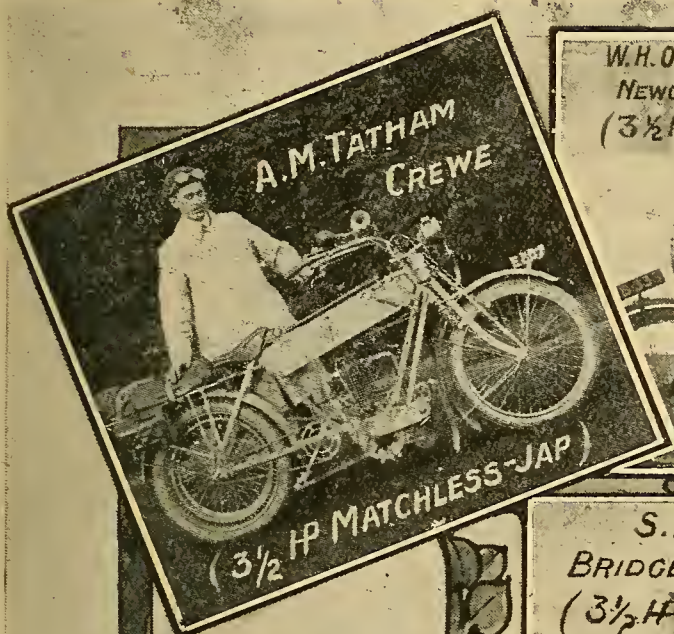
spares it is advisable to carry on a motor cycle. (3.) Non-skid covers should not be necessary in the summer time. (4.) You get your license from the County Council Offices, Spring Gardens, Trafalgar Square, S.W. (5.) When the machine is on the point of delivery apply for the numbers either personally or by letter, enclosing 5s. and stamp for reply.

Cannot Start with Spark Retarded.

? My $3\frac{1}{2}$ h.p. Brown is always somewhat difficult to start. My practice is to always run engine on stand before taking machine on the road, but neither on stand nor on the road will the engine start unless the ignition (accumulator with make and break and trembler) is fully advanced. The position of lever is such that immediately I hear the first explosion I have to retard, otherwise the engine stops through a backfire. When once started the machine runs splendidly. Upon taking plug out and laying on top of cylinder a good spark occurs in any position of the contact breaker. The engine does not misfire. Altering the timing of the inlet makes no difference to the starting. The platins on both contact breaker and trembler are in perfect adjustment. Carburetter Model H Longuemare has an 11 jet and 21 funnel. Surely a $3\frac{1}{2}$ h.p. should not require so large a jet. The petrol consumption is only approximately 60-65 miles to the gallon. Although the consumption is high and the jet large, I cannot give full extra air until the engine is running very fast. The engine does not get very hot, and the carburetter does not flood. Can you suggest a remedy?—H.H., Chiswick.

Probably the best plan would be to fit a slightly smaller choke tube, which would enable easier starting. Then overhaul the wiring and make sure none of the insulation has chafed through. All the platinum points should be perfectly clean and flat, and the contact breaker free from oil and dirt. We are inclined to think the contact breaker points are adjusted too close together. It should not be necessary to advance the spark at all when starting; in fact, it is inadvisable. As regards the consumption, you should manage ninety miles to the gallon. Check the level of the petrol in jet. It should come to within $\frac{1}{8}$ in. of the top of the jet orifice.

More Competitors in this week's End-to-end Trial.



Misfiring at High Speeds.

? I have a $3\frac{1}{2}$ h.p. Quadrant, 1906 pattern, which misfires at top speed, and is hard to start. Lately it won't take any air except what it gets automatically. Also the platinum points pit very rapidly. I have to tap them up every 100 miles. A lot of oil gets on them. Perhaps this has something to do with the trouble.—A.H.P., Birmingham.

It looks uncommonly as if the petrol pipe or jet were partially stopped up. See that these are clear, and if you get no improvement write to us again and give us as full details as you can. Pitting of the platinum points is due to the coil being fitted with an inefficient condenser. If you fit a really good coil, which, as a matter of fact, is an expensive item, you should run your platinums for 1,000 miles without attention. Oil on the points will cause misfiring, so either fit a cover on the contact breaker or attend to the bearing which must be worn.

Caused by Wear of Fibre Ring.

? My $3\frac{1}{2}$ h.p. machine has lately refused to climb hills at the pace it used to do; in fact, on the last run it commenced backfiring badly and refused to attain any speed at all. As I could not open the air lever as usual, I took down the carburetter and thoroughly cleaned it, and also washed the magneto contact breaker with petrol. It still ran peculiarly, and I noticed on inspection that the magneto contacts hardly separate at all. Would one of the small screws have moved, do you think, or can you suggest a probable cause of the trouble? I have ridden the machine almost 2,000 miles with no trouble at all.—F.D.H.

We have had a similar experience to yours, and the engine immediately ran as well as ever when a new fibre ring had been fitted. It is wear on this ring that has reduced the amount the magneto contacts separate, and the break at the points is not sharp enough. Filing the ring to cause a more sudden break will effect a temporary cure.

A Novice's Queries.

? Kindly give me some advice as to my motor cycle stopping dead on hills. It is a $2\frac{3}{4}$ h.p. De Dion-engined cycle, F.N. carburetter, plain coil, make and break contact. I can get a good spark, and the compression is good. It will stand my weight (twelve stones) on the pedals. The pulleys measure $4\frac{1}{2}$ in. and $20\frac{1}{2}$ in. Is the gear too high? I do not want pace, but I should like to be able to climb all hills. I might add I bought it second-hand two months ago.—W.A.

You will be able to get better results out of your machine after more riding experience. When approaching a hill increase your speed, and as soon as the gradient causes the machine to slow down retard the spark lever gradually, and also close the air lever gradually. You may with advantage reduce the gear to $5\frac{1}{2}$ to 1. You would be well advised to have the engine overhauled and properly tuned up. It will not cost much.

A Question of Carburetter Adjustment.

? I have lately purchased second-hand a $4\frac{1}{4}$ h.p. Phoenix Trimco with magneto, and find it hard to start. Can you tell me whether it is the carburetter, which is a Longuemare, that is the cause? I cannot throttle it down when on free engine or even on either of the two gears. Can you tell me a way to remedy, as I think it is wasting petrol, because I generally have to put in the low gear when going through towns, and then the engine races. Would it facilitate starting to have an accumulator fitted, and if so, would it cost much?—B.B., N.B.

It seems to us quite obvious that the trouble is due to the carburetter receiving too much air at slow speeds. This would account for it starting with difficulty and not running slowly. The cure is a slightly smaller choke tube. You might get some advantage through fitting an accumulator which would



Miss Blanche Roscoe, New York's pioneer lady motor cyclist.

render starting slightly easier, but the expense incurred would not make it worth while. Once the carburetter is adjusted properly, and provided the spark is in order, the engine will start without difficulty, as the starting handle is geared up. You can prevent the engine racing by using the exhaust valve lifter.

Route from London to Scarborough.

? Kindly advise me as to the best route to Scarborough from London, and do you think three days sufficient time for this journey? I ride a $3\frac{1}{2}$ h.p. N.S.U., accumulator ignition, which is reliable in every way.—LN 9292.

The best route to Scarborough would be as follows: London, Barnet, Hatfield, Hitchin, Baldock, Biggleswade, and then straight up the Great North Road to Stilton, Stamford, Grantham, Newark, and Doncaster; here turn to the right and proceed through Thorne, Howden, Market Weighton, Great Driffield, Willoughby to Scarborough. The journey would be rather over 200 miles, and could be done in a day if you are physically fit and the machine is running well.

Irregular Sparking.

? My 1908 $3\frac{1}{2}$ h.p. magneto Brown motor cycle misfires when running fast, but is all right up to 15-20 m.p.h., and starts easily even with a side-car attached. Carburetter is all right, petrol supply clear, and takes half the auxiliary air with throttle open. I have not touched magneto (Simms Bosch) except to look at the platinum points, which are clean. I have tried different plugs, but it has misfired since I had it. For experiment, I put a close set spark intensifier on the plug and ran machine on stand for a few minutes and the misfiring was quite obvious. Can you suggest a remedy?—L.C.C.

The spark intensifier has proved that either the magneto, wire, or plug are at fault. Have you a cover on the magneto? If so, try the engine running without it. If you have a magneto switch fitted take this off also. The high tension wire may be defective, so try another length. You had better fit a new fibre ring to the magneto, and also notice if the rocking arm which carries one of the platinum points is badly worn. If this is the case, it will also require to be replaced.

READERS' REPLIES.**Misfiring at High Speeds.**

Replying to "Novice," Burnley, page 496, I have a $3\frac{1}{2}$ h.p. Minerva which was fitted with a trembler coil, which used to misfire on the level when only slightly advanced. Everything else being in order, I tried several trembler coils, always with the same result. As a last resort I put on a plain coil, after which I never had a misfire, had far more range on the advance, and the engine was much faster. I am told that all Minervas work best with plain coils. My engine, like "Novice's," pulled well on hills with trembler coil.—JOHN L. BROWN.

Grinding-in Valves.

Re Mr. Sommerville's note under this heading, may I remind him of an old tip? Fit an a.o.v. or similar spring on stem of exhaust between head and guide when proceeding to grind in. This obviates the tedious lifting, and both hands may be used for the grinding part, as the valve will rise spontaneously on pressure being diminished. In reply to "S.H.A., N.B.," on page 490, you advise him to file ends of exhaust valves. If it is not too late may I suggest that he disconnect the valve lifter? I have an identical machine, and had the same trouble. I filed the valves, but the engine overheated and did not have much power. I then found out that the valve lifter did not fully release when I thought it did. When I adjusted the Bowden wire I found the valves much too short, and my little mistake cost me the price of two new valves, not to say anything of time and trouble. I trust "S.H.A." will read this, as well as other 1907 Rex de Luxe riders. The machine runs about 20 m.p.h. faster, and does not overheat.—W. D. HENDERSON, Dresden.

BE UP-TO-DATE

by having your machine converted into the genuine **Roc Clutch and Roc Gear** system with **live** back axle and hand starting.

The Roc conversion set includes: The combination pedal-operated clutch and speed gear under Roc patents Nos. 472/03 and 25054/06.

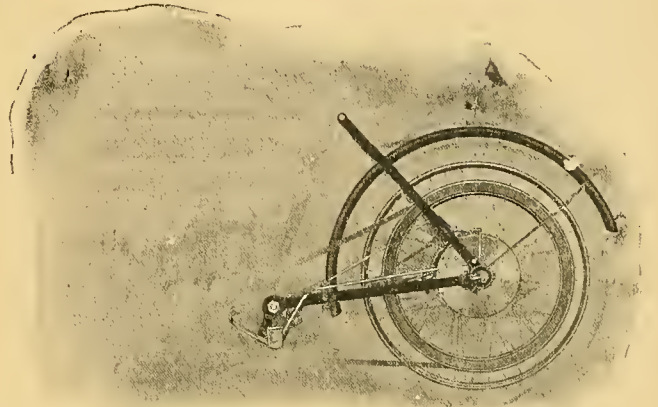
New back frame members with outside ball-bearings.

Metal to metal brake-work.

New 7/8 or 1in. spoked rim pulley.

Footrests and operating levers.

Starting handle.



Cost of complete conversion, £10 10 0.

Time required about 3 days from receipt of machine.

Testimonials from private users all over the Kingdom on application.

Efficiency absolutely guaranteed.

Daily demonstrations.

NOTE.—The same gear precisely is used on these conversions as on the famous Roc military models, and the same warranty applies.

The **Roc** system is adaptable to **ANY** make of belt driven machine.

Send for booklet and leaflet of Roc Specialities.

A. W. WALL, Ltd. (Clutch Dept.) **ROC Motor Cycle Works, BIRMINGHAM.**

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END TO END

—FAULTLESS IN CONSTRUCTION—

THE

BAT

SPRING FRAME & FORKS.

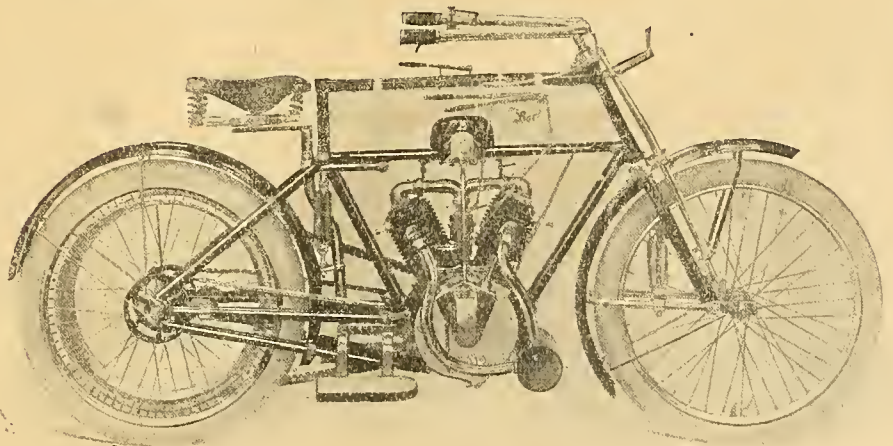
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The Bat Motor Mfg. Co.

PENGE, LONDON, S.E.

6-7 and 7-9 h.p. twin cylinders. J.A.P. engines.

Bosch magneto ignition, driven by gears running on ball bearings. Magneto protected in tank away from dirt and wet. Comfortable foot-boards. Automatic lubrication.



MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London, by the Thursday afternoon previous to the date of publication.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE.

HALIFAX.—6 h.p. twin Rex, spring forks, long bars, guaranteed running order: £17 17s.; exchanges made.

HALIFAX.—2½ h.p. Coronet, 26 by 2 tyres, light, low, free engine clutch; £14 10s.: smart mount.

HALIFAX.—4 h.p. Roc, with Roc clutch and two-speed gear; had trials only; £35.

HALIFAX.—Twin Antoine, R.O.M. ignition, good and reliable for sidecar work; £22.

HALIFAX.—3½ h.p. Simms, vertical engine, magneto ignition, easy starter, reliable; £17 10s.

HALIFAX.—2½ h.p. Clyde, vertical engine, magneto ignition, splendid condition; £16 10s.

HALIFAX.—Powerful 3½ h.p. Rex, 22 frame vertical engine, aluminium finish; £11 10s.

HALIFAX.—3 h.p. Fafnir, special low frame, 26 wheels, vertical engine; £13 10s.

HALIFAX.—1908 3½ h.p. N.S.U., magneto, 26 wheels, 2½ tyres, long bars, only done 100 miles, and guaranteed perfect; £34 10s.

HALIFAX.—1908 Rex Featherweight, magneto, Duplex frame, done 250, almost equal new.

HALIFAX.—5-6 h.p. twin Rex, spring forks, low frame, R.O.M. ignition; £19 10s.

HALIFAX Motor Exchange.—Cash, exchange, or extended payments. High-grade machines purchased for spot cash.—16, Westgate, Halifax. Telephone, 766. Telegrams, Perfection.

THE . .

PREMIER MOTOR AGENCY

The best house in the Trade for **NEW AND SECOND-HAND MOTOR CYCLES** of all makes, and for **REPAIRS, CONVERSIONS, OVERHAULING**, etc. Best workmanship and most modern plant.

NEW MODELS.

TRIUMPH 3½ h.p., 1908, magneto, new.....	£48 0
TRIUMPH 3½ h.p., 1907, magneto, new.....	39 0
N.S.U. 3½ h.p., 1908, magneto, new, 26" wheels	40 0
N.S.U. 3½ h.p., magneto, new, 1908, 24" wheels	40 0
N.S.U. 3½ h.p., 1908, twin, magneto, new, 24" wheels	45 0
N.S.U. 6 h.p., 1908, twin, magneto	54 0
N.S.U. 1½ h.p., 1908 lightweight, magneto	34 0
REX DE LUXE 3½ h.p., 1908, magneto, two-speed gear, new	50 0
REX 3½ h.p., 1908, magneto, tourist	33 0

Also various other new models, Motosacoché, F.N., Roc, Vindec, Warwick, etc., all in stock.

SOILED AND SECOND-HAND

N.S.U. 3½ h.p., 1908, accumulator, shop-soiled, cost £36	£28 0
G.B. ZEDEL 5-6 h.p., 1908, engine magneto, two-speed, spring forks, fan, footrests, perfect, cost over £70, will accept	35 0
TWIN ROC 5 h.p., Peugeot engine, magneto, free-engine	30 0
ROC 4 h.p., 1907, magneto, free-engine, Druid spring forks	25 0
ROC 3½ h.p., magneto, clutch, good running order	12 0
N.S.U. 3½ h.p., 1907, magneto, new Roc two-speed gear, spring forks	30 0
N.S.U. 6 h.p., 1908, new May, Roc clutch, improved gear, cost £75	55 0
REX TWIN TOURIST, magneto, '08, as new	27 0
VINDEC SPECIAL 5 h.p., twin, magneto, Truffault spring forks	28 0
JAP, 6 h.p., magneto, '08, Chater Lea frame, not run	27 0
VINDEC 5 h.p., twin, magneto, Truffault spring forks	25 0
VINDEC SPECIAL 3½ h.p., magneto, Truffault spring forks	26 0
REX 5 h.p., twin, guaranteed in perfect running order	17 10
WHITLEY 3½ h.p., spray carburetter	8 10
JAP, 6 h.p., Twin, Chater Lea frame, grand condition	20 0
QUADRANT 3½ h.p., 1906, perfect order, overhauled	20 0
KERRY 5 h.p., twin, two-speed, hand-starting	20 0
ANTOINE 4 h.p., low frame, free-engine	15 0
N.S.U. 5½ h.p., magneto, overhauled	25 0
REX 3½ h.p., John-o'-Groat's model	10 0
F.N. 1½ h.p., 1907, lightweight, magneto, spring forks	20 0

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Let us give you details of the

WARWICK CAR-STYLE MOTOR CYCLE.

Hand-starting, ball bearing 4 h.p. engine, Bosch magneto, spring forks, Roc (licensed) clutch, epicyclic two-speed gear, started and driven like a car; several seasons in advance of ordinary motor cycle design.

Price 45 guineas.

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BRITISH-MADE. Sent on four days' actual TRIAL.

Specially heavy plates—do not disintegrate.

16 amp. 9/6 } List on application.
20 amp. 12/6 }

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Telephone: 4310.

Telegrams: "Primus," B'ham

MOTOR BICYCLES FOR SALE.

2½ h.p. Minerva, 1908, as new, not ridden 50 miles; £27 10s.

5 h.p. Twin Antoine, spring forks, new batteries, coil, R.O.M. synchronised contact breaker, horn, lamps, etc., in fine order; £15.

2½ h.p. Excelsior, surface carburetter, Palmer back tyre, Clincher front, in good order; £8.

2 h.p. Minerva, float carburetter; £6.

1½ h.p. Werner; £5.

2½ h.p. Werner; £7.

THE Above Cycles are to be seen at W. J. Randall's Garage, 3, High Street, Andover.

3 h.p. Clarendon, new; £25.—Stour Motor Cycle Depot, Coventry.

3½ h.p. 1907 Rex, many spares; £15.—Rex, 35, Oakdale Road, Streatham.

2½ h.p., perfect, fast machine; bargain, £8.—Berry, 125, Canal Road, Mile End.

SOUTH Shields.—Werner Motor Cycle, in good condition; £10 10s.—163, Stanhope Road.

2½ h.p. Riley, in perfect running order; £15 10s.—Stour Motor Cycle Depot, Coventry.

1907 Triumph, magneto, bought new, hardly used; £22.—Fox, 28, Rye Lane, Peckham.

2½ h.p. Rover, splendid condition, belt drive; £16 10s.—Stour Motor Cycle Depot, Coventry.

1½ h.p. Ariel, free engine, warranted in fine running order; £7.—84, Queen's Road, Peckham, London.

NEW 1907 3½ h.p. N.S.U., magneto, Peter-Union tyres; bargain, £22.—Woodall, Builder, Old Hill.

N.S.U., 3½ h.p., splendid condition, 1907, all accessories; offers wanted.—Frankham, Solicitor, Wednesbury.

£8 10s.—3 h.p. Antoine, long bars, splendid order; trial; bargain.—134, Highgate Road, Kentish Town.

1906 Twin Rex, in splendid condition; £19, or offer.—Channon, 11, Oberstein Road, Clapham Junction.

TALBOT, 2½ h.p. Stevens engine, Clipper tyres, spray carburetter; sell £8 10s.—12, Bull Ring, Birmingham.

4½ h.p. Twin Minerva, 1906, Advance pulley, Whittle belt, spring forks, 2½ tyres; £17.—Southey, Berkhamsted.

2½ h.p. Humber, guaranteed perfect working order; £12.—Teale, Heathfield Terrace, Headingley, Leeds.

MINERVA, 2½ h.p., guaranteed perfect condition, with accessories; £12 12s.—3, Meteor Road, Westcliff, Essex.

3½ h.p. Quadrant, long bars, very fast, perfect condition; £20; no offers.—A.C.T., 11, Shalimar Gardens, Acton.

TRIUMPH, magneto, 3 h.p., in splendid running order; price £25.—Hodgson, The Chestnuts, Orpington, Kent.

4 h.p. Military Model Roc, handle starting, magneto, new condition; £23 10s.; any trial.—Marsh House, Leominster.

KERRY, 2½ h.p., excellent condition, new piston and rings, tyres good; bargain, £12.—H., 1, Madeley Road, Ealing.

WERNER, 2 h.p., spray carburetter, 26 wheels, low built, light; bargain, £6 15s.—12, Bull Ring, Birmingham.

2½ h.p. Brown, magneto, Palmers, good condition, and in running order; £10.—Verney, 9, Jesson Street, Coventry.

3½ h.p. Rex, good condition, splendid climber; no reasonable offer refused.—Saunders, Upper Langford, Somerset.

2½ h.p. Noble, new condition, any trial, climb anything; £12 10s., or exchange.—549, Seven Sisters Road, Tottenham.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

MAUDE'S.—All the undermentioned motor cycles are in guaranteed good running, and can be seen on the road at the address.

MAUDE'S.—Zenith Bicar, two speeds, handle starting, newly enamelled and done up by the makers; £27.

MAUDE'S.—Zenith Bicar, 4 h.p., free engine, new rear tyre; £21.

MAUDE'S.—N.S.U., twin, magneto, two speeds, spring forks, with sidecar, £35.

MAUDE'S.—Sarolea, new tyres, Davison tanks, perfect order and condition; £22.

MAUDE'S.—Rex, 1907 model, 3½ h.p., just been overhauled; £18.

MAUDE'S.—Roc, 1908 model, ball bearing engine, spring forks, two speeds, non-skid to rear, and Dunlop 2½ in. to front, both perfect, in lovely order throughout; £38.

MAUDE'S.—Ariel, 26 in. wheels, B. and B. carburetter, Palmer and Continentals, splendid throughout; £13.

MAUDE'S.—Werner, twin, 26 in. wheels, spring forks, spray, accumulator ignition; £20.

MAUDE'S.—Minerva, 3½ h.p., vertical, M.O.V., spray carburetter, splendid puller; £17.

MAUDE'S.—Minerva, 3½ h.p., 26 in. wheels, low built; £15.

MAUDE'S.—Minerva, 2½ h.p., vertical, new tyres, saddle, silencer, and pedals, thoroughly overhauled and re-enamelled; £12.

MAUDE'S.—Sarolea, twin, Chater-Lea frame, spring forks; £23.

MAUDE'S.—Rex, 5 h.p., 1907 twin, good tyres; our price £18.

MAUDE'S.—Minerva, 4½ h.p., footboards, absolutely complete with horn, carrier, etc., a lovely mount; £26.

MAUDE'S.—Clarendon, 3 h.p., vertical engine, spray, very good tyres; £11.

MAUDE'S.—Rex, 5 h.p., twin, 50 guinea model, perfect order; £18 18s.

MAUDE'S.—Rex, 50 guinea model, non-skid to rear, Palmer front; £10 10s.

MAUDE'S.—Humber, 2½ h.p., good condition and order throughout; £8 10s.

MAUDE'S.—Bat, 3½ h.p., Bat engine, Longuemare spray, with sidecar, £25; without, £20.

MAUDE'S.—Quadrant, 3 h.p., spring forks, spray; £12.

MAUDE'S.—Rex, 22 in. frame, trembler, 50 guinea model; £10 10s.

MAUDE'S.—Lloyds, 2 h.p., vertical engine, footrests, spray, 26 in. wheels; a beauty, £12.

MAUDE'S.—Rex twin, 6 h.p., cantilever seat, 50 guinea model; £17.

MAUDE'S.—Humber, spray, trembler, 2½ h.p.; £8.

MAUDE'S.—Zedel, 2 h.p., vertical engine, low built, 26 in. wheels, as new; £11; to be recommended as a lightweight.

MAUDE'S.—Jap, Phoenix built, good tyres; £9.

MAUDE'S.—Minerva, 2 h.p., M.O.V., spray; £7.

MAUDE'S.—Rex, 26 in. wheel, low built, spray carburetter, footboards; £14 14s.

MAUDE'S.—Bayliss, 3½ h.p., very good tyres; £11.

MAUDE'S.—Another Bayliss, 3½ h.p., special price £8, good running order

MAUDE'S.—Humber, 2 h.p., trembler coil, chain drive, good running order; £7.

MAUDE'S.—Singer, 2 h.p., magneto, Singer carburetter; £7.

MAUDE'S.—45s. down and twenty-four weekly payments of 7s. 6d. secures 3½ h.p. Excelsior, 3 h.p. Rex, 2 h.p. Humber, 2½ h.p. Humber, 2½ h.p. Jap. or 2 h.p. magneto Singer. Delivery upon first payment.

MAUDE'S Motor Mart, Powell Street, Halifax (behind the Victoria Hall), offer without doubt the very best bargains in motor cycles, all of which are guaranteed in good running order before despatch. Write us and let us have your requirements, and we will quote you best terms for exchange or cash.—Nat. tel. 433.

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Classy Machines at low figures.

ROC, 4 h.p., two speeds.....	£38	0	0
MINERVA, 4½ h.p., perfect	26	0	0
N.S.U., 6 h.p., and sidecar.....	35	0	0
SAROLEA, 6 h.p., spring forks..	22	0	0
REX DE LUXE, 5 h.p., free engine	30	0	0
WERNER, twin, 4 h.p.	20	0	0
REX, 5 h.p., twin, '07 machine..	18	0	0
ZENITH, 3 h.p., two speeds....	27	0	0
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NEW MACHINES.

2½ h.p. ARIEL, coil and accumulator.....	32	guinea	.
2½ h.p. ARIEL, magneto	37	"	.
3½ h.p. VINDEC	£48	10	0
5 h.p. VINDEC	53	0	0
5 h.p. TOURIST	52	0	0
2¾ h.p. MINERVA	20	0	0
3½ h.p. MINERVA	32	0	0
4½ h.p. MINERVA	39	0	0
7-8 h.p. MINERVA	45	0	0
1¾ h.p. F.N.	35	0	0
4½ h.p. F.N.	50	0	0
3½ h.p. SILVER	39	0	0
3½ h.p. BROWN	37	0	0

Let us quote you for Exchange for any of the above.
Prices rock bottom. Cash or Exchange.

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HUMBER tricar, chain drive ..	£12	0	0
REXETTE, 8 h.p., twin tyre, two speeds and reverse, water-cooled, wheel steering	60	0	0
HUBBARD, water-cooled, two speeds.....	20	0	0

ACCESSORIES.

1908 Bosch Magneto (new), single	£4	0	0
1908 Bosch Magneto, twin	5	0	0
Long Carburetter, perfect	15	0	0
VARIABLE PULLEYS, try one on appro. State engine only	10	6	
Trailer, suit tradesman	1	10	0
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Cover.	Tube.	Cover.	Tube.
26 x 2, 43/6	10/-	28 x 2, 50/3	10/-
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¾ in. 7d., ¾ in. 8d., ¾ in. 9d., 1 in. 10d. per foot

Maude's Motor Mart,
POWELL ST., HALIFAX.

National Telephone 433.

MOTOR BICYCLES FOR SALE.

STOCKPORT.—3½ h.p. Bradbury, 26 in. Clinchers, very fast and powerful, looks new; £12.

STOCKPORT.—2½ h.p. lightweight, 26 by 24 Clinchers, unscratched, enamel, etc., perfect; £12; very reliable.

STOCKPORT.—5 h.p. Vindec Special, 1907, magneto, Truffault, Kempshall 2½ in. tyres, excellent machine; 30 guineas.

STOCKPORT.—4 h.p. 1907 twin N.S.U., magneto, two-speed gear; Peter-Union tyres; 26 guineas.

STOCKPORT.—2 h.p. Minerva, 2½ in. Clinchers, almost new; £8; only wants seeing.

STOCKPORT.—1½ h.p. Excelsior, Clinchers, good machine; £6 10s.; just done tour in Scotland.

STOCKPORT.—Why not remain clean and comfortable, and ride a Midget Bicar, the all-weather machine, built like a car; write for catalogue; easy payments and exchanges arranged.—Lund and Davies, Heaton Lane.

2 h.p. Minerva, spray, M.O.I.V., spring seat, light, low; £8.—Sconce, Lynn.

1906 Rex, 3½ h.p., Dunlops, good condition; £16 10s.—Sharpe, High Street, Caistor, Lincs.

2 h.p. Minerva, perfect running order, just overhauled; £9.—46, Windsor Road, Ilford.

£10.—2½ h.p. Genuine De Dion, perfect condition; bargain.—39, Arngask Road, Catford.

F.N. 2 h.p. Motor Bicycle, perfect order; £8.—5, Charleston Road, Rathmines, Dublin.

3 h.p. Scout, grand touring machine; £7 15s.—J. May, 111, Larkhall Lane, Clapham, S.W.

TRIUMPH, 3 h.p.; genuine bargain, £16, with accessories.—5, Heath Street, Hampstead.

TRIUMPH, 2½ h.p. Jap. low build; £8, bargain; first cheque has it.—112 Standishgate, Wigan.

3½ h.p. Bat, Palmers, Shamrock-Gloria; sacrifice £17 10s.—Clarke, Chemist, Surbiton, S.W.

£7.—2½ h.p. Noble, splendid condition throughout, Palmer tyres.—39, Arngask Road, Catford.

3 h.p. Juno, Fafnir, good condition; £14; approval, deposit.—Alan, Rectory, Norwood, Southall.

3 h.p. Werner, fast, powerful, faultless; £7 10s.—F. Robertson, 49, Jeffries Road, Clapham, S.W.

GENUINE 3½ h.p. Minerva, spring forks, grand climber; £18 10s.—Cross, Jeweller, Rotherham.

6 h.p. Antoine, Matchless, spring frame, good tyres, condition; £20.—129, High Street, Croydon.

2½ h.p. Minerva-Excelsior, Clinchers, very reliable; £11, or offers.—764, Seven Sisters Road, N.

2½ h.p. Motor Cycle, £5; 1½ h.p. Clement-Garrard, £5.—Letters, 25, Raglan Street, Coventry.

3½ h.p. Excelsior, guaranteed perfect; £14; good push and £10.—59, Church Street, Stoke Newington.

3½ h.p. Camber-Peugeot, built to order; £35.—Bright and Hayles, 73, Church Street, Camberwell.

BARGAIN, £12.—Minerva, 2½ h.p., good as new, guaranteed perfect.—46, Greenside Road, Shepherd's Bush.

3½ h.p. Minerva, fitted with footboards, fast machine, in perfect condition.—L., 44, Abbott's Road, Southall.

3½ h.p. Minerva, magneto, 1908, not ridden 300 miles, footboards and pedals; £30.—Glew Bros., Howden.

TRIUMPH, 3½ h.p., 1907, magneto, nearly new condition; sacrifice £31, bargain.—45, Parade, Leamington.

3-4 h.p., M.O.V., engine nearly new, adjustable pulley, Montgomery sidecar; £20; offers, or separate.—Jackson, Alrewas, Burton-on-Trent.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

HAMPSTEAD.—5½ h.p. twin Peugeot, Truf-fault spring forks, non-skid, new condition; £25; guaranteed.

HAMPSTEAD.—2½ h.p. Minerva, 1907, variable pulley, new belt, Palmer tyre, lamp, horn, tools, almost new; bargain, £14, guaranteed.

HAMPSTEAD.—Four-cylinder F.N., magneto and spring forks, grand condition, all spares; £18.

HAMPSTEAD.—3 h.p. Rover; £12; M.O.V., vertical, Brooks 105 saddle, all spares; bargain.

HAMPSTEAD.—1½ h.p. F.N. lightweight, 1907, magneto, and spring forks, grand condition; £18.

HAMPSTEAD for Bargains.—Sole agents for Griffons, F.N.'s, Triumphs, Minervas; liberal allowance on exchanges. — Rey, 5, Heath Street Motor Works, Hampstead, close to Tube Station. Telephone, 2678, P.O.

3½ h.p. Minerva, Phoenix forecar attached, 32 new tyres, all sound condition; £25.—337, Ewell Road, Surbiton.

1908 Triumph, not run 500 miles, and Montgomery sidecar; £50, or separate. — 34, All Saints Street, Bolton.

LIGHTWEIGHT Rover, practically new, 2½ h.p., 100 lbs. weight, Clinchers; photo; £21.—31, Oxford Road, Liscard.

3½ h.p. White and Poppe, Chater-Lea 32 frame, very low, grand condition; £15.—5, Heath Street, Hampstead.

1907 3½ h.p. N.S.U., magneto, two-speed, free engine, perfect condition; £29.—W. Francis, 24, Vernon Road, Leeds.

N.S.U., twin, 6 h.p., magneto, spring forks; any trial; £30.—Marshall, 267, Slade Road, Gravelly Hill, Birmingham.

F.N., 1908, 1½ h.p., lightweight, magneto, and spring forks, brand new; £30.—Box 308, The Motor Cycle Offices, Coventry.

MINERVA, 3½ h.p., new November, 1907, magnificent condition; £22, with accessories.—5, Heath Street, Hampstead.

£8 10s.—Lurquin and Coudert, 2½ h.p., in good running order, new tyres.—Rose, 28, Frith Street, Shaftesbury Avenue, W.

3½ h.p. Excelsior, M.M.C. engine, re-bushed, 34 and sidecar, in good condition; £19 10s., or offer.—17, Station Road, Wood Green.

KERRY, 2½ h.p., develops 3½ h.p., climb anything, footboards, low; £13 10s., bargain; offers; letters.—44, Gopsall Street, N.

REX de Luxe, 1907, as new, twin-cylinder, magneto, free engine, twin tyres, perfect; £26.—Lloyd, Victoria Terrace, Leamington.

31 h.p. Kynoch, in splendid order, new 32 tyres, £12; also forecarriage, suit above, £4.—McDonald, 11, Dunn Street, Paisley.

BARGAIN, unforeseen circumstances.—Minerva, 3½ h.p., new, in crate, as delivered, guaranteed; £27 10s.—Tuson, jun., Leominster.

£8.—2 h.p. Minerva, Clincher tyres, Stanley belt, Longuemare carburetter; a bargain.—Booth, Wotton Grange, Bedford, Middlesex.

3½ h.p. Chater, complete machine, condition excellent, best running order; £15, or nearest.—Garaged, 123, High Road, Tottenham.

MINERVA Twin, many expensive improvements, faultless, also sidecar; first offers considered.—215, Coldharbour Lane, Brixton.

2 h.p. Minerva, new tyres, Brooks saddle, two brakes; seen any time; going perfect; bargain, £6 10s.—76, Southill Street, Poplar.

3½ h.p. M.M.C. Motor Cycle, condition as new; genuine bargain, £15 10s.; inspection invited.—Johnson, 18, Vaughan Road, Birkdale, Southport.

£5 15s.—2½ h.p. Motor Cycle, Chater-Lea frame, Longuemare, two-way switch, trembler, running order.—35, Upham Park Road, Chiswick.

REX, 5 h.p., cantilever, spring forks, Longuemare, Clincher, Brooks saddle, absolutely new condition; any trial; £22.—McKee, Ilkeston.

WAITING

is no use at these prices. Buy new, Twin Rex, £17 17s. or £4 and '07 Single Rex, or £8 and '05 Single Rex.

SPECIFICATION.—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

Cash, Credit, or Exchange.

2½ h.p. **REX** (new) 1908 £26 5

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5 h.p. **REX DE LUXE** (new) 1908 52 10

3½ h.p. **N.S.U.**, magneto (new) 1908 42 0

5½ h.p. **N.S.U.**, magneto (new) 1908 52 0

N.S.U. Lightweight (new) .. 1908 34 10

5 h.p. **Twin VINDEC**, magneto .. 35 0

6 h.p. 1906 **Twin REX**, 26" wheels 17 17

5½ h.p. **Twin REX**, black finish .. 17 17

5½ h.p. **REX DE LUXE**, magneto 27 10

Twin REX, black finish, new tries 18 18

6 h.p. **Twin REX**, non-skids 18 18

5½ h.p. **Twin REX**, 2½ Peter Unions 19 19

3½ h.p. **REX**, 1907, 2½ tyres.... 17 17

4 h.p. **ROC**, 2-speed, like new... 35 0

3½ h.p. 1906 **REX**, spring forks 15 0

3½ h.p. **Magneto REX RACER** .. 25 0

3½ h.p. **REX**, spray, 21½ frame 11 10

3½ h.p. 1906 **REX**, spring forks 15 0

3½ h.p. **REX**, spray, fine climber 11 10

2½ h.p. **Magneto REX**, 1908 23 10

6 h.p. **Twin ANTOINE**, spg. fks. 22 0

4½ h.p. **Twin MINERVA**, magneto 27 10

5 h.p. **Twin ONAWAY**, very low 22 10

3½ h.p. **MINERVA**, M.O.V. 16 10

3 h.p. **GIVAUDAN**, nearly new 16 0

3 h.p. **ROVER**, 26 × 2½ Palmers 13 10

3 h.p. **LLOYD'S**, 26 × 2½ Palmers 13 10

4 h.p. **ANTOINE**, spring forks .. 16 0

2½ h.p. **MINERVA**, Palmer tyres 17 10

4-5 h.p. **Twin ALCYON**, two speeds 23 10

4 h.p. **Twin WERNER**, fine machine 19 19

5 h.p. **Twin SAROLEA**, long frame 18 13

2½ h.p. **CLYDE**, magneto 15 0

4 h.p. **ANTOINE**, 26 × 2½ tyres .. 16 10

3½ h.p. **SIMMS**, mag., 2½ Palmers 17 10

3½ h.p. **QUADRANT**, 1906 18 10

6 h.p. **Twin ANTOINE**, R.O.M... 22 0

3½ h.p. **CENTAUR**, free engine .. 16 0

2½ h.p. **PHENIX**, spray, 26" whls 10 10

3 h.p. **HUMBER**, spray 10 10

3 h.p. **FAFNIR**, very low, spray 13 10

2½ h.p. **CORONET**, free engine .. 10 10

2 h.p. **MINERVA**, magneto 13 10

3½ h.p. **REX**, 22 frame 11 10

2½ h.p. **MINERVA**, 26 × 2, spray 11 10

3 h.p. **BROWN** 12 10

2½ h.p. **CLEMENT**, very low 11 0

2½ h.p. **KERRY**, spray, low 10 10

2 h.p. **SIMMS**, magneto 7 0

1½ h.p. **MINERVA** 5 15

2 h.p. **RALEIGH**, spray 8 0

2 h.p. **PRINCEPS** 6 0

2½ h.p. **SINGER**, magneto 8 10

MISCELLANEOUS.

Light Car steel Frame, with front axle wheels and tyres, £7 10s.; Bat Tricar (spring frame) Chassis, £7; 8 h.p. Fafnir Engine, £9 10s.; three speeds and reverse Gear Box, £4; two-speed Gear Box, £2 10s.; pair solid tyre Motor Van Wheels, nearly new, £3 5s.; Forecarriage, fit Rex, £5; Osborne Four-speed, fit Rex, 50/-; N.S.U. Pulleys, 5/-; Brooks Broo, 11/-.

SNIPS.—45s. deposit and six monthly payments of 29s. 6d. secures 2½ h.p. Excelsior, 3 h.p. Humber, 2½ h.p. Minerva, 2½ h.p. Hobart, 3 h.p. Lloyds, 2½ h.p. Minerva, 3½ h.p. Rex, 2½ h.p. Aurora, 2½ h.p. Kerry, 3 h.p. M.M.C.; all guaranteed running order.

"PERFECTION" Leather V Belting—¾ in. 9d., ¾ in. 10½d., ¾ in. 1/-, ¾ in. 1/1.

"SERRATIN" Rubber Canvas Belting, Best on test—¾ in. "d.", ¾ in. 1/-, ¾ in. 1/4, 1 in. 1/8 per foot.

THE HALIFAX MOTOR EXCHANGE,
16, WESTGATE, HALIFAX.

Telephone 766

Telegrams, "Perfection."

MOTOR BICYCLES FOR SALE.

ACTON.—4 h.p. N.S.U. Twin, 1908, magneto ignition, lin. belt, 24 by 2½ Peter-Union tyres, two-speed gear and free engine, perfect condition; £35.

ACTON.—3 h.p. Triumph, excellent condition, two accumulators, Gloria belt, 24 tyres, spare parts; £18.

ACTON.—3½ h.p. Centaure, M.O.V., vertical, low built, long handle-bars, ¾ in. belt; £12.

ACTON.—3 h.p. N.S.U., magneto ignition, 26 by 2½ Continental tyres, new condition; £22.

ACTON.—3½ h.p. Automotor, vertical engine, low built, long handle-bars, good running order; £8 10s.

ACTON.—Any of the above can be had on approval; deposit system.

ACTON.—West London District Agency for the famous N.S.U., latest pattern models in stock, two-speed gears, spare parts, liberal allowance for your old machine in part payment.—Eagles and Co., 275, High Street, Acton. Telephone, 556, Chiswick.

6 h.p. **Twin Rex**, spring forks, takes sidecar easily; £17 17s.; any trial.—16, Westgate, Halifax.

F.N., four-cylinder, 4½ h.p., in splendid condition; owner going abroad 1st August; price £30.—Motor Cycle, 66, Southampton Row, W.C.

3½ h.p. Minerva, spring forks, brand new 32 Palmer cord, new belt, splendid condition; £22.—G. Dale, 21, Lansdowne Road, Old Charlton, Kent.

3½ h.p. Jap. Chater sidecar, perfect condition, numerous spares; £28, or near offer; 3 h.p. Fafnir, in good order.—Fletcher, King Square Avenue, Bristol.

REX, 6 h.p., new tyres, Watawata, stand, lamp, two accumulators, running order, new Millford sidecar (rigid), bad health; £20.—Hood, Clover Mill, Rochdale.

3½ h.p. N.S.U., magneto, 24 by 2½ wheels, 32 perfect order; £20; 3 h.p. Kerry de Luxe, spring forks, 26 wheels, £18; photos.—E. H. Clarke, Johnstown, Ruabon.

3½ h.p. Durkopp, 2½ tyres, ball bearing 32 engine, trembler, spring forks, spray; £15, or best offer; splendid condition.—11, Avenue Road, Goldhawk Road.

3 h.p. Eadie-Minerva, not run 500 miles, tyres, plating, etc., perfect condition, do 45 easily; cash wanted; £10.—Usher, Gothic Lodge, Chiswick Mall, London.

25 **GUINEAS.**—1908 Rex, 2½ h.p., magneto, new, only ridden three times, guaranteed splendid order; must sell; £16, or nearest offer.—Williams, Bazaar, Corwen.

3½ h.p. Two-speed Chain-drive Raleigh, 32 spring handle-bars, 26 in. wheels, Palmer tyres, in new condition, suit sidecar; £22 10s.—Tyler, 85, Morant Road, Colchester.

2½ h.p. F.N., Chater-Lea frame, tyres in 24 good condition, a reliable machine; will sell, or exchange for cycle and cash; price £12.—Elis, 159, Plashet Road, West Ham.

3 h.p. Quadrant, spring forks, perfect running order very reliable, low, comfortable; accept £12 for quick sale; no offers.—Motor, 86, Colvestone Crescent, Dalston, London.

2 h.p. Fafnir, spray carburetter, vertical engine, low built, in splendid running order and condition; bargain, £8, or push bike and cash.—85, Pedro Street, Lower Clapton.

3½ h.p. Rex, 1907, capital condition, non-skid 32 back, nearest offer £20; 2 h.p. riet-Minerva, new, £16; forecar attachment, £6; wanted small car. — Hill, Motor Garage, Pocklington.

2½ h.p. Triumph, splendid condition, Clincher tyres, as new, Dermatine belt, two accumulators, Longuemare carburetter; genuine bargain, £10 19s. 6d.—73, Church Street, Camberwell.

2½ h.p. Alldays, B. and B. carburetter (la-test), Clipper tyres, Watawata belt, low, fast, long bars, guaranteed perfect; £11, or take push bike and cash.—84, Church Street, Lozells, Birmingham.

4 h.p. Roc, Druid forks, Bosch magneto, Palmer tyres, as new, two-speed, start on any hill, fit for a tour; any examination; new last September; £33. — W. L. Thorne, 21, Gold Street, Tiverton.

MOTOR BICYCLES FOR SALE.

4 h.p. Antoine, Chater-Lea, good running order; £15.—F. White, 234, Clapham Road, S.W.

2 h.p. Quadrant, good condition, low, 26in. Clinchers; offers, or sell £8.—Weale, Leominster.

31 h.p. Twin Peugeot, magneto, plated torpedo tank, Chater-Lea; seen any time; £28.—6, Hill Crest Road, South Woodford.

ENFIELD-JAP, 2½ h.p., good condition, spares, new back tyre; £9, nearest offers.—Address, Claremont, Bishop Monkton, Leeds.

LOOK.—Kerry Model de Luxe, 1908, 75 by 85, as new, all refinements; cost 36 guineas, £12 15s.—26, Church Gate, Loughborough, Leicestershire.

1908 Griffon, 2½ h.p. Zedel engine, bevel drive, magneto, in tank, spring forks, perfect condition; £25.—Harry Shutes, 9, Cannon Place, Hampstead.

31 h.p. Genuine Minerva, scarcely soiled, 32 spring forks and seat-pillar, footrests, Continentals; £18, or exchange smaller power and cash.—Hall, Richard Street, Northwich.

F.N., four-cylinder, late 1906, engine just overhauled, perfect running order, dropped saddle-pin, do 52 miles an hour, complete; £22.—Firth, Post House, Wynd, Darlington.

3 h.p. Fafnir, Chater-Lea, Palmers, excellent condition; £11 10s. cash, or exchange Dursley-Pedersen, or spring frame B.S.A. push bike and cash.—Drifill, 51, Hutt Street, Hull.

31 h.p. Minerva, 1907, unscratched, not ridden 200 miles, magneto, spring forks, butted tubes, horn, tools, spares, and set of Holland overalls; bargain, £25.—T. Minchin, Binfield, Berks.

QUADRANT, 3½ h.p., excellent condition, little used, splendid hill-climber, tyres nearly new; any trial; £22, or exchange lower power, or push bike and cash.—W. E. Sneezeum, 14, Fore Street, Ipswich.

FOR Sale, 5½ h.p. twin Rex de Luxe, free engine, splendid running order, enamelled black, gold lines, tyres as new; trial given; 25 guineas; reason selling, bought car.—Atkings, Longmoor Camp, Hants.

5 h.p. Peugeot Cycle, magneto, Oppermann two-speed, free engine, Druid spring forks, 2½ tyres, also coach-built tricar attachment, almost new; £40 lot, or separate.—Appleby, Lozells Garage, Birmingham.

23 h.p. Bat, De Dion engine, in good condition, new Palmer tyre back, fast machine, and good climber, will start at walking pace, most reliable cycle on the road; sacrifice 14 guineas.—Topp, Arcade, Goole.

4 h.p. Oracle, No. 6 Chater-Lea frame, Grose and Clincher tyres, Brooks saddle, Brown and Barlow, Fuller accumulator and syntonio coil, Dermatine belt, footboards, absolutely new; £25.—Motor, 5, Temple Road, Croydon.

KERRY, 3½ h.p., smart little machine, speedy, climb anything, excellent condition, Brown and Barlow, Clincher A Won, 26in. plated wheels; £13 10s., immediate cash; after seven.—Browning, 25, Gloucester Street, Clerkenwell.

1908 Triumph, complete, lamp, spares, Shamrock-Excelsior back tyre, Brooks No. 3 carrier, bag, not ridden 500 miles, condition exact as new; full particulars; seen by appointment.—Gilling, 101, Fitzwilliam Road, Rotherham.

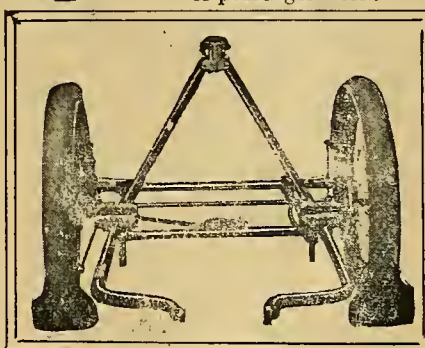
SEVERAL Bargains, including 4 h.p. Roc, £20; four-cylinder F.N., £20; Ariel lightweight (unridden), £25; two-speed Anglian, spring forks, Palmer cord tyres, etc., practically new, £35.—Rose, 28, Frith Street, Shaftesbury Avenue, W.

23 h.p. F.N., throughout, perfect, little used, two accumulators, Brooks saddle, N.A.B. seat-pillar, spring forks, footrests, stand, lamp, horn, spares; exchange push bike and cash, or sell £12 10s.—M., 318, Kentish Town Road, London.

TRIUMPH, 3½ h.p., magneto, late 1907, new machine, not ridden 200 miles, fitted with Mabon free engine clutch, lamp, horn, spare pulley, etc.; price, nett cash, £39 10s.; no exchanges entertained; seen any time.—66, High Street, Sutton, Surrey.

2 heads are better than 1
3 wheels are better than 2

The Phoenix attachment will convert your motor bicycle into a safe and pleasurable three-wheeler for single or passenger work.



Tricycle Attachment, £12 10s.
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6HP. Rexette, water cooled, two speeds
good order. Price £25.

3½HP. N.S.U., magneto, low frame,
new. Price £35.

3HP. Rover, good order, stand,
carrier, etc. Price £17.

3½HP. N.S.U., magneto, low frame,
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BRIDGE GARAGE
169 BRIGGATE, LEEDS.

ADVERTISERS—Please note
that **Friday** is the latest day we
can receive advertisement copy
for the following week's issue.

MOTOR BICYCLES FOR SALE.

6 h.p. Twin Rex, spring forks, takes sidecar easily; £17 17s.; any trial.—16, Westgate, Halifax.

BRADBURY, 2½ h.p., good order, Longue-mare carburetter, nearly new Continental tyres and tube unpunctured, Dermatine belt, few spares, tools, carrier; £15, or exchange 4 h.p. Roc, cash adjustment.—James Holmes, Leck, Kirkby Lonsdale.

31 h.p. Rover, 22½ frame, 26in. wheels, new saddle, 3in. belt and pulley, first-class condition, £12, or sidecar part payment; 22 h.p. Clarendon engine, with Fuller coil, both new, £2 10s.; Chater tandem attachment, 7s. 6d.—Elliott, 9, Argyle Street, Gateshead.

QUADRANT, 1907, 3½ h.p., splendid condition; cost £50, will accept good offer; Palmer cord tyres, Michelin butted tubes, two accumulators, two Bowden brakes, spring forks, Brooks B100 saddle, Dermatine belt, lots spares, tools.—Ryder, Orpington.

LIVERPOOL (Rex Agency).—Before buying your new mount come and have a look at our machines. The largest stock of new and second-hand machines for 50 miles round; anything taken in part payment.—F. C. Jones and Co., 3, Redcross Street Liverpool.

23 h.p. Excelsior, long bars, footrests, 24 latest Minerva spray, engine re-bushed and new piston fitted, two new tyres and tubes, very fast, and a good climber, Lucas lamp, and new horn, new Shamrock-Gloria belt; a bargain at £13.—Woodman, High Street, Halstead, Essex.

TWIN Vindec, 1908, 5 h.p., model F., just six weeks old, used for trials, hill-climb and gold medal winner, in new and perfect condition, Truffault spring forks, magneto, starts at walking pace, very powerful hill-climber; £43.—Alexander's Motor Exchange, Lothian Road, Edinburgh.

N.S.U., 6 h.p., two-speed gear, spring forks, 2½in. tyres, Shaw non-skid back, spare inlet and exhaust, complete, tools, and lamp, Liberty sidecar, 2½in. tyre, machine not run 1,000 miles, good reason for selling; trial by appointment; £42 10s.—Taylor, Victoria Cafe, Central Beach, Blackpool.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chester Road, Old Trafford.

1907 3½ h.p. Minerva, magneto, spring forks, Wright's drop footrests, stand, spare pulley, valves, etc., special large saddle, only run 900 miles, guaranteed perfect, tyres, plate, enamel as new; £24; wheel steering runabout wanted.—Rowland Moody, Nightingale Grove, Shirley Road, Southampton.

GET Your New Machine through me, whether it be a Triumph, Rex, F.N., or any other make, every make supplied on most favourable terms; write for list of second-hand machines, in genuine condition, going cheap; state requirements.—Stanton, 86, Colvestone Crescent, Dalston, London.

BROOKLANDS Racing Machine, the machine illustrated in *The Motor Cycle*, May 27th—7.9 h.p. Peugeot engine, fitted with K.C. perfectly synchronised ignition, all latest improvements, equal to new, will do over 70 an hour; £37 10s.; no offers.—E. Kickham, 46, Cleeve Road, Knowle, Bristol.

L.M.C., 3½ h.p., single, Clincher A Won, magneto ignition, in perfect condition, ridden only two months, tyres unpunctured; sole reason for selling, present owner going abroad; price, complete with lamp, horn, all spares and accessories, £35.—Apply, R.R., 11, St. Peter's Road, Handsworth, Birmingham.

1906 3 h.p. Triumph, spring forks, absolutely perfect throughout, plating brand new, two reliable accumulators, Palmer cord and Clincher tyres, one of the very best machines ever manufactured, full kit of tools; £26; greatest bargain this week.—Motorist, 86, Colvestone Crescent, Dalston, London.

31 h.p. Vindec Special, Truffault suspension spring forks, magneto and accumulator ignitions, 2½in. by 26in. Peter-Union studded, and Clincher tyres, absolutely perfect, and equal to brand new throughout, very little used, complete with all spares and accessories; £30, no offers, worth £40.—Motor Cycle, 86, Colvestone Crescent, Dalston, London.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

3½ h.p. Light Low Rex, splendid condition, Peter-Union tyres; £11 10s.

~ h.p. Twin Rex, spring seat and handle-bars, new condition; £18 10s.

~ h.p. Twin Hamilton, fast, racy machine, suit passenger work; £15.

3½ h.p. Werner Twin, very light and fast machine; £15.

h.p. Rex Light Motor Cycle, smart machine; £8.

2½ h.p. Humber Lightweight, climb almost any hill, splendid condition; £8 10s.

3 h.p. Trent, in excellent condition; £11 cash, bargain.

2½ h.p. Bradbury, fast, powerful machine; £10 15s.—128, High Road, Tottenham.

1907 1½ h.p. Lightweight F.N., magneto; £19, or offer.—Fulwich Hotel, Dartford.

£13.—Triumph-Jap, 2½ h.p., reliable, splendid condition.—W., 15, Rectory Road, Barnes, S.W.

MIDGET Bicar, 3½ h.p. Fafnir, beautiful low machine, almost as new; 20 guineas.—Wilkins, Eversley, Hants.

GENUINE 3½ h.p. Minerva throughout, M.O.V., vertical, low, excellent condition; bargain, £16 15s.—Below.

F.N. 2½ h.p. Lightweight, vertical, 26in. wheels, splendid condition; £8 10s.—41, Skelbrook Street, Earlsfield.

MOTOSACOCHE, standard, 1½ h.p., not yet delivered; sacrifice £27.—L2,839, The Motor Cycle Offices, 20, Tudor Street, E.C.

3½ h.p. M.M.C., £10; 2½ h.p. Kerry, £10; 3½ h.p. Rover, £15; all in good condition.

—For further particulars, apply, Issott, Hitchin.

WERNER, 2½ h.p., splendid condition, tyres as new, Dermatine; expert examination; £9.—2, Douglas Road, Canonbury, London, N.

FOR Sale, 1907 3 h.p. Bradbury, Advance pulley, 3in. Dermatine, good tyres, spares and accessories; £18.—Lambe, Seymour House, Chatteris.

5½ h.p. Twin N.S.U., ridden only about 250 miles, everything absolutely perfect; what offers?—A.A., Box L2,837, The Motor Cycle Offices, 20, Tudor Street, E.C.

3 h.p. Triumph, 26in. Clincher A Wons, splendid machine, all accessories, as new; £14 14s., good bargain.—6, Gascoyne Road, South Hackney, London.

N.S.U. 3½ h.p. Motor Cycle, magneto, two-speed gear, spare non-skid; £20, or nearest offer.—Carnforth Cycle and Motor Co., 6, Lancaster Road, Carnforth.

THIS is your chance, don't miss it.—Clarke's 2½ h.p. Givaudan New Century Racer, perfect; trial; giving up racing; £25.—New Century Motor Co., St. Albans.

3½ h.p. Humber, free engine clutch, new 2½ Dunlops, long bars, low seat, cut-out, good condition, take sidecar, climb any hills; £12 10s.—75, Manor Street, Chelsea.

3½ h.p. Phelon and Moore, two-speed gear, Chater-Lea sidecar, perfect condition; any trial; £30.—Wheelwright, Boar's Head Hotel, Manchester Road, Bradford, Yorkshire.

LIGHTWEIGHT Magneto N.S.U., 1908, very little ridden, girder and spring forks, perfect in every respect; £24; no dealers.—Box L2,841, The Motor Cycle Offices, 20, Tudor Street, E.C.

1908 Triumph, all accessories, Goodrich non-skids, Rich inner tubes, spare cover and two inner tubes, spare magneto parts, etc., little used; £42 10s.—Kennedy, Finsbury, Bath.

3 h.p. N.S.U., magneto, spring forks, free engine, complete, spares, £16; Montgomery sidecarriage, £2 10s.; take £18 together; letters only.—Rotom, 9, Cannon Place, Hampstead.

3½ h.p. White and Poppe, practically new, 3in. belt, Longuemare carburetter, trembler coil, wipe, B.S.A. fittings throughout, good tyres; £13 10s., bargain.—Stored at 143, Well Street, Hackney.

PHENIX, 3½-4½ h.p., two-speed, free engine, fan, Chater spring forks, Palmers, petrol and oil gauges, fitted with every Phoenix refinement; seen any time; £22.—Jennings, 268, Hornsey Road, Holloway.

The Best is Good Enough.

Compare our prices. Remember, we only advertise what we can supply, and the goods carry the manufacturers' full guarantee. The best is the cheapest; we offer the best at lowest prices.

**TOP BAR CONTROL.**

Easily fitted.

Price—2-way 3/6.

1-way 2/9.

Post 2d.

**Handle-bar Control.**

Thumb slides.

Clips on handle-bar.

Dual control, 3/8.

Single control, 2/8.

Post 2d.

**CONTACT FILES.**

Invaluable for magneto or accumulator ignition. Price 9d. Post 1d.

**Double-ended Spanners.**

Six sizes. From 8d. each, or 3/3 the set. Post 4d.

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Price, dummy, 1/3 pair.

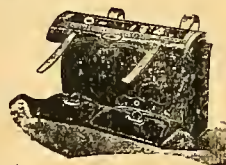
Post 2d.

HANDLE-BAR MIRRORS.

Strongly made to withstand any vibration. Fixed in any position. Note our price, 5/-, carriage paid; larger mirror, 6/-, carriage paid.

**THE SERVICE STAND.**

For high-powered machines. Very strong. Easily fitted to chain stays. Automatic action. Price complete, 10/9. For oval stays.

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As illustrated.

Size 9" x 6" x 4"; 7/6.

B model, with registered number-plate, metal lined, 5/10.

SERVICE PATTERN TOOLBAGS.

Best quality. To fix on carrier. Price 8/6.

**SYRENS.****THE SERVICE VELO.**

Attracts attention at once.

Price complete 10/6, carriage paid.

**SERVICE FOOTRESTS.**

Can be fitted in 2 minutes.

Rubber matting.

Price 15/-.

**SERVICE Round Terminal Ends.**

3/8" hole, 2½d. doz.

1/2" " 3d. "

Post 1d.

**Patent Terminal Ends.**

Fixed instantaneously.

High-tension .. 2½d. each.

Low-tension .. 1½d. "

Post 1d.

**MUDGUARD FLAP.**

Large size. Strongly made. Price 2/-.

Post 2d.

INNER TUBES.—The Service stout heavy tubes give universal satisfaction.

Price—26 x 2" 6/6

26 x 2½" 7/- Post 2d.

26 x 2¾" 7/6

THE AMATEUR'S VALVE LIFTER.—A useful tool.

Price 2/6. Post 2d.

MAGNETO COVERS.—Specially made for Triumphs.

Price 2/3. Post 1d.

MINIATURE ADJUSTABLE WRENCH.—Carried easily in pocket. Very strong, handy, and beautifully made. Price 2/6. Post 2d.

TYRES.—Good medium weight. Direct from rubber mills. Good non-slipping tread. Beaded or wired edge.

26 x 2", 15/6. 26 x 2½", 16/6. 26 x 2¾", 17/6.

Tee Bee Specialities Stocked. Send for complete list.

THE SERVICE Co., Ltd.,

292, HIGH HOLBORN, LONDON, W.C.

MOTOR BICYCLES FOR SALE.

LEEDS.—3½ h.p. 1907 Triumph, 2½ tyres, good running order; £32.

LEEDS.—4 h.p. 1907 Roc, magneto, two speeds and free engine, good order; £30.

LEEDS.—2½ h.p. Minerva, good order, girder forks; £11 10s.

LEEDS.—2½ h.p. New Hudson, Palmer tyres, good order; £12.

LEEDS.—5 h.p. twin Rex, spring forks, 2½ tyres; £17.

LEEDS.—2 h.p. Minerva, M.O.V., girder forks, running order; £7.

LEEDS.—Exchanges on above entertained.—The Leeds Motor Exchange, 28, Dock Street, Leeds.

MOTOSACOCHE, practically new, not ridden 400 miles, spring handle-bars, extra thick tyres, Brooks B100 saddle, luggage carrier, special stand, spares; £25, or near offer.—S., c/o Daniels, newsagent, Epsom.

13 h.p. F.N., little used, just back from makers, so in perfect condition, brand new back tyre and tube, bicycle with stand, carrier, tools, bag, footrests, and other extras; £20, quick sale.—310, The Motor Cycle Offices, Coventry.

TWO-SPEED (Fital) 3½ h.p. 1905 Rex, Longuemare, Shamrock-Gloria, Palmer tyres, splendid condition, Rich detachable tube, Fuller accumulator, many spares; seen, tried; offers.—Wyatt, 8, Bedford Way, Eastbourne.

FOUR-CYLINDER F.N., 4½ h.p., 1908 model, practically new, only ridden 200 miles including electric headlight, electric horn and large trailer; owner getting car; £40 the lot.—A. J. Munday, "Russellton," Graham Avenue, Mitcham.

TWIN Magneto Minerva, driven some 1,600 miles, very fast and tractable, new belt and tyre, guaranteed condition; sell £35, or offer; wanted, 1907 or 1908 Triumph or F.N., light or four-cylinder.—Forster Eamont Bridge, Penrith.

TRIUMPH, 3½ h.p., magneto ignition, spring forks, bought late 1907, perfect, good as new, pump, toolbag, tools, spares, gas lamp, spare Palmer cover; sacrifice £20, or exchange lower power and cash adjustment.—Simpson, insurance agent, 3, Althorp Road, St. James's, Northampton.

BRAND new Midget Bicar, enamelled cream, 5 h.p. Peugeot, Bosch magneto, Whittle belt, 2½ Continentals, adjustable pulley, Chater-Lea, handle-bar control, with accessories; £40, or near offer.—Lane, 57, Britton Street, New Brompton, Kent.

2½ h.p. Scout, Chater-Lea frame, long handle-bars, low saddle, Dunlop tyres, footboards, complete with lamp, horn, stand etc., enamelling and plating as new, first class condition, magnificent hill-climber, thoroughly reliable; £12.—S., 86 Colveston Crescent, Dalston, London.

SINGER, 2 h.p., magneto, chain driven, good condition; seen any time; £7.—London Road, Forest Hill, S.E.

MOTOR Cycle, 2½ h.p. M.M.C. engine, Chater-Lea frame, two new Dunlop new Watawata belt, in first-class going order, £10, a bargain; also Milford cane trailer, little used, £3, cost £12 12s.—Palmer, tailor, Kingsway, Twickenham.

THE Best and Cheapest Bargain this week.—3 h.p. Triumph, splendid condition, thorough running order; expert examination invited; any trial; 26 by 2½ Clincher A tyres, complete with two toolbags, spare plugs, number plates, etc., plating in splendid condition; sacrifice for £15 lowest, worth £22.—Millard, Dinnington, Rotherham.

5-6 h.p. Twin Bat, J.A.P. engine, with free engine clutch, spring frame and fork accumulator ignition, Longuemare carburetter, thumb slides, Stanley-Dermatine belt, Continental tyres, Model de Course on back wheel just overhauled, plated, and enamelled, in perfect condition; price £25.—The Bat Motor Co., Kingswood Road, Penge.

3½ h.p. White and Poppe, Chater-Lea frame, splendid machine, climbs any hill, footboards, two accumulators, 20 hours, air coil, all new, new heavy Continental, 25 x 2½ (not even paid for), unpunctured Dunlop front wheel, Shamrock belt, Grose steud Dunlop spare back tyre, wants little repair, two butt-ended tubes; price £15, bargain; trial.—Apply, A.R.R., Stony Yarrow, Mayford, Woking.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TRICARS FOR SALE.

LIFAX.—4½ h.p. water-cooled two-speed Bradbury, wheel steering, open frame, best like new; £37 10s.

LIFAX.—5½ h.p. Quadrant Carrette, open frame, two speeds, good tyres, run-order; £35.

LIFAX.—5 h.p. Aster, open frame, water-cooled, two speeds, car tyres; £26 10s.

LIFAX.—3½ h.p. Rex, Mills-Fulford fore-carriage, with 26 wheels, very reliable; 10s.

LIFAX.—Twin-cylinder 8-10 h.p. Rexette, special car, two speeds, carry three where; £47 10s.

LIFAX.—4½ h.p. air-cooled Stevens tri-car, 26 wheels, very low, tyres almost new; £19 10s.—Halifax Motor Exchange, Gate, Halifax.

ERRY Three-speed Tricar; £25; exchange.—Letters, 13, Robinson Road, ing, London.

h.p. Humber Tricar, £17 10s.; free engine clutch, very fast.—Wauchope's, 9, Shoe Lane, E.C.

ICAR, 6 h.p., twin, fan-cooled, two-speed gear good order; £30.—Paul, Stanstead, Forest Hill.

h.p. De Dion Tricar, good going order; trial given; £20.—Barrett, 332, High et, Manor Park.

X Tricar, 5½ h.p., in splendid condition, do any hill; accept £35.—Stour Motor e Depot, Coventry.

h.p. Hubbard, water-cooled, free engine, in running order; £20.—Stamps, ey, Sutton Coldfield.

ICAR Chassis, light, open frame, 26 by 2½ tyres, steering and column; £5 5s.—High Road, Tottenham.

h.p. Rex Triette Tricar, in good running order, very powerful; £19 19s.—Wauchope's, 9, Shoe Lane, Fleet Street.

IN 6 h.p. Tricar, wheel steering and control, good condition; very cheap.—Villa, Knossington, Oakham.

UMBER Tricar, 3 h.p., roomy cane seat, seats lady and boy, perfect order; £16.—13, Brewster Road, Leyton.

p. Riley Tricar, with lamps and spares, identical car that won the Birdlip Hill; £70, no offers.—Read, Sheerness.

XETTE, 5½ h.p., wheel steering, two speeds, seats three, splendid order; bargain; £45.—168, High Road, S. Tottenham.

EN Frame Tricar, cost £110, three speed; will take £39 to clear; roomed.—65a, Rosendale Road, West Dulwich.

CELSIOR Light Tricar, two speeds, handle starting, very good condition; run; £18.—128, High Road, Tottenham.

p. Stevens Tricar, two speeds, sound machine; £25.—Garaged at Wauchope's, 9, Shoe Lane, Fleet Street, London.

p. 1907 Riley Tricar, perfect condition; trial; £65, or take Triumph and cash payment.—E.C., 21, Parliament Hill, Hamp.

LEY 9 h.p. Tricar, new last year, in excellent order; £70; trial by appointment.—Elwell, 52, Frederick Street, Edinburgh.

ND SOME Wicker Tricar, body new, upholstered green, 22s. 6d.; Rulux two-d gear, 20s., imperfect.—128, High Road, enham.

ICAR, 6 h.p. Quadrant, wheel steering, coach-built seats, two speeds, good r; £25.—"K.", 84, South Hill Park, pstead.

R Sale, tricar, 4 h.p., water-cooled, belt drive, climb anything; a bargain, £14.—Bartlett Bros., 125, Sheen Road, Richmond, Surrey.

GONDA Tricar 10-12 h.p., water-cooled, excellent condition, tyres as new; trial; £55.—Zenith Motors, Ltd., Stroud n Road, London, N.

h.p. Stevens W.C. Engine, coach-built forecar, Mabon clutch just fitted, id condition, very fast; £27 10s.—Stan- s, 144, Lee Road, S.E.

h.p. Twin Rex Triette, in new condition; £25 10s.; take good motor cycle in ange.—Strong, Exchange Sale Room, 7, n Hall Street, Blackburn.

200 MOTOR CYCLES
TO SELECT
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LARGEST DEALER

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MOTOR CYCLES AT SACRIFICE PRICES.

2½ h.p. HUMBER Motor Cycle ..	£5 15
2¾ h.p. JAP Pattern Motor Cycle ..	5 15
3½ h.p. HUMBER	12 10
2 h.p. QUADRANT	5 15
2½ h.p. ANTOINE Motor Cycle ..	5 15
2½ h.p. MINERVA, Chater-Lea frame	10 10
2¾ h.p. WERNER	12 10
3½ h.p. No. 1 ARIEL	8 10
2 h.p. MINERVA	7 10
2 h.p. ENFIELD	6 10
2½ h.p. NEW ARIEL, 1908 model	38 17
6 h.p. TWIN JAP	28 0
3 h.p. CLARENDON	15 0
3½ h.p. ARIEL	12 10
4 h.p. ORMONDE	6 10
1¾ h.p. Light F.N., 1907	21 0
3½ h.p. MINERVA, 1906 model ..	15 0
3½ h.p. N.S.U. magneto	16 10
2¾ h.p. BROWN	6 10
1¾ h.p. WERNER ..	5 15
2¾ h.p. BROWN	7 10
1¾ h.p. 1907 F.N. Lightweight	22 10
3½ h.p. 1907 MINERVA	19 10
6 h.p. Twin PANTHAN, Peugeot engine, magneto	25 0
2 h.p. MINERVA	6 10
1 h.p. ROC, 1907 model, two speeds	28 0
6-7 h.p. BAT, new, magneto	59 0
3¾ h.p. REX, 1907, spring forks ..	13 10
2½ h.p. FAIRY, magneto, new	27 0
3 h.p. QUADRANT	12 12
1¾ h.p. WERNER	5 15
2¾ h.p. KERRY	12 12
3¾ h.p. REX	12 12
3½ h.p. 1908 TRIUMPH	48 0
2½ h.p. ARIEL	33 12
3½ h.p. 1908 TRIUMPH	48 0
1 h.p. ROC, 1908 model	42 10
2¾ h.p. GRIFFON, magneto	22 10
1½ h.p. MINERVA	3 15
4½ h.p. Four-cylinder F.N.	28 0
3½ h.p. 1907 Second-hand TRIUMPH	29 10
3½ h.p. QUADRANT, 1907	22 10
3½ h.p. 1908 MINERVA	25 0

Subject to being unsold on receipt of cheque, first cheque secures each bargain.

WAUCHOPE'S,
9, SHOE LANE,
FLEET ST., LONDON.

Telephone—Holborn 5777.

Telegraphic Address—"Opifcer, London."

TRICARS FOR SALE.

31 h.p. Humber Tricar, wants slight repairs; £12 10s.—Haigh, The Portlands, Lindley, Huddersfield.

5-6 h.p. Humber, two speeds, water-cooled, coach-built, spares, and perfect; photo.—91, Stanhope Gardens, Harringay.

3½ h.p., as new, powerful, silent, foot-boards, accessories, many refinements; bargain, £19 10s.; after six; photo.—115, Cromwell Road, Grimsby.

3½ h.p. Raleighette, two speeds, new six weeks ago, not ridden 450 miles, perfect condition; £50, no exchanges.—Gorham, Middle Pavement, Nottingham.

TRICAR, 4½-5 h.p. Humber, free engine clutch, water-cooled, coach-built seat, fast machine; £25.—Humber, Glendene, Station Road, Leyton, London, N.E.

TRICAR, 5½ h.p., Rex twin, four speeds, Whittle belt, splendid condition; cheap for cash, or exchange cycle, cash adjustment.—Mawson, draper, Morecambe.

5 h.p. Humber, water-cooled, open frame, wheel, condition practically as new, spare cover, tube, side lamps; £50; appointment.—Hummel, Newlands, Horley, Surrey.

4 h.p. Water-cooled Rover Tricar, in condition as new, aluminium bucket seat to front, pan seat back; £28.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

4 h.p. Water-cooled Fafnir, two speeds, foot clutch, Palmer tyres, splendid condition; £20, or exchange cycle and cash.—Townsend, 162a, Dalston Lane, London.

10-12 h.p. Four-cylinder Tricar, Fafnir engine, three speeds and reverse, coach-built bucket seats, wheel steering, all wheels sprung.—S.B., 43, Berlin Road, Catford, S.E.

6 h.p. Singer Tricar, engine recently overhauled by Rileys, guaranteed in good running order; £35, rare bargain.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

MASSIVE Open Tricar Frame, with wheels and car tyres, in perfect condition, complete, with two-speed gear, brakes, rear seat, etc.; £10 10s.—Bamford Smith, Gables Horley.

TRICAR, 3½ h.p. Beeston Humber, chain drive, free engine, fitted with Oppermann's two-speed gear, in good running order; £16 10s.—Ainsworth, 94, Victoria Road, Romford.

PHOENIX Trimo, 3½ h.p. Minerva, two-speed and free engine, chain drive, 26 by 2½ Palmers, coach-built and footboards, good running order; £22.—T. Crook, 9, Hedon Road, Hull.

FOR Sale, water-cooled two-speed tricar, London built, 3½ h.p. De Dion pattern engine, Palmer tyres, in fine condition; £15, or best offer.—Central Motor Co., Langton Street, Leicester.

10-12 h.p. Lagonda, water-cooled, three speeds, extra wide forecar, perfect working order; examination invited; sacrifice £55, no exchange.—Gorham, Middle Pavement, Nottingham.

LATEST 6 h.p. Century Tricar, as new, wheel steering, water-cooled, Aster engine, two speeds, open frame, Renold silent chains; £25, or near offer.—Winkworth, architect, Pangbourne, Berks.

10 h.p. Armadale, three speeds and reverse, three lamps, spare tyre, spare valves, tools, pump, painted green, pressed steel frame, sprung all round, two accumulators.—7, High Street, Plaistow, E. £45.

TRICAR, frame and engine only, Beeston Humber, 3½ h.p., free engine clutch, chain drive, including chains, splendid condition, ready for fitting up; absolute bargain, £6 10s.—Ainsworth, Hornchurch, Essex.

4½ h.p. Kelecom, Chater-Lea two-speeded Tricar, perfect condition throughout, guaranteed; first reasonable offer has it; stamped envelope for photo.—Dall, Byron Avenue, Willington Quay, Northumberland.

RILEY, 5 h.p., as new, two-speed, water-cooled, coachbuilt seats, £10 worth spare chains, tyres, etc.; worth £65, take £45, or close offer, immediate sale; long trial run given.—124, Bridge Street, Warrington.

9 h.p. Triumph Tricar, No. 6 Chater-Lea, three-speed and reverse gear, handsome machine, and had very little wear, new September last; low price asked; climbs anything; trial.—E.A.C., 167, Victoria Street, S.W.

TRICARS FOR SALE.

REX Litette, new; exchanges can be accepted on this; gradual payments arranged.—Horner's, Store Street, W.C.

REXETTE, 8 h.p., seats three, good running order, two speeds, horn, lamps, and spares; £35.

TRIETTE, 6 h.p., twin Rex, good condition; accept 20 guineas, or near offer.—Horner's, Store Street, W.C.

TRICAR Frame, Abingdon, complete with front hubs, handle-bar, seat pin, cradle, plated, etc.; £9 10s.—Horner's, Store Street, W.C.

41 h.p. Riley Tricar, coach-built, w.c., new **42** Michelin steel studded back tyre, with extras; £42.—No. 312, *The Motor Cycle* Offices, 20, Tudor Street, E.C.

31 h.p. Minerva, Phoenix forecar, new tyres, **32** all sound condition; £25.—337, Ewell Road, Surbiton.

TRICAR, $4\frac{1}{2}$ h.p., water-cooled, two-speed gear, good condition; cheap.—Faire, Elms Road, Leicester.

61 h.p. Aster-Eagle, new gears, and **34** in. **62** tyres, as new; £29.—Hague, 24, Old Street, Ashton-under-Lyne.

41 h.p. Rover Tricar, w.c., chain drive, two **42** speeds, new car tyre back; £15.—Harrison, 2, Grove Place, Londonderry.

41 h.p. Riley Tricar, new condition, coach-built, two speeds; £35, or nearest.—Howarth, engineer, Padiham, Lancashire.

6 h.p. Rexette, to seat three, new condition; £35, motor tricycle or cycle part exchange.—10, Little Toll Street, Nottingham.

TRICAR, White and Poppe, $3\frac{1}{2}$ h.p., genuine; £15; trial; seen by appointment.—Motor, 45, Foulden Road, Stoke Newington.

8 h.p. Rexette, two-cylinder, coach-built body, seats three, copper water tank, splendid condition; any examination; £45.—Under.

3 h.p. Humber, two speeds, clutch, free engine, light forecarriage, convertible to motor cycle; £14.—Hicks, Motor Works, Truro.

TEMPLE-CROWSLEY Tricar, $3\frac{1}{2}$ h.p. Fafnir, new back tyre, almost new; £20, or near offer.—65a, Rosendale Road, West Dulwich.

8-10 h.p. Twin-cylinder Rexette, finest traveller in Yorkshire, two speeds, three-seater; £47 10s.—Farrar, Square Road, Halifax.

41 h.p. Riley, just overhauled and repainted; £35, or motor cycle, not less $3\frac{1}{2}$ h.p., and cash.—Vialls, 10a, Alexandra Road, Hendon.

RILEY Tricar, 5 h.p., 1908 model, steel studded car tyre on back wheel, perfect; £50.—Flower, 56, East Street, Baker Street, London, W.

31 h.p. Minerva, Kent two-speed, new **32** Grose, cantilever seat, bucket front, perfect; cash offer.—Tricar, 44, High Street, Wells, Som.

41 h.p. Tricar, water-cooled, two speeds, **42** Chater-Lea fittings, splendid condition; trial given; £35.—Hemsley, West Burton, Aysgarth.

CHATER-LEA, open frame, wheel steering, $4\frac{1}{2}$ h.p., water-cooled, two speeds, chain drive, wants overhauling; £19 10s.—143, Brockley Road, S.E.

31 h.p. Humber Tricar, handle starting, **32** new tyres, perfect running order; £18, or exchange cycle and cash.—101, Morning Lane, Hackney.

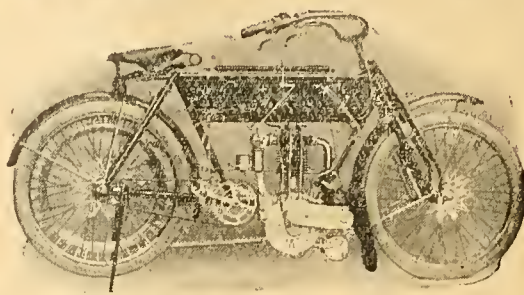
41 h.p. Genuine Coventry Eagle Tricar, **42** beautifully upholstered, equal to new; £25; private.—22, The Avenue, minute Bruce Grove Station.

41 h.p. M.M.C. Tricar, just overhauled, **42** tyres nearly new, chain drive, long footboards, very fast; £18 10s.—Ramsey, 148, Bishop's Road, Fulham.

HUMBER Tricar, $3\frac{1}{2}$ h.p., handle starting, new studded tyre back, excellent condition; £22 10s., exchange motor cycle and cash.—3, Station Road, Ilkeston.

STOCKPORT.—Runabout, 5 h.p., 1907, bucket seat, only 20 inches from the ground, very rakishly built, winner tricar class Manchester Motor Club hill-climb, fast, and easily controlled, tyres perfect; 40 guineas.—Lund and Davies, Heaton Lane.

MATCHLESS MOTORS!!



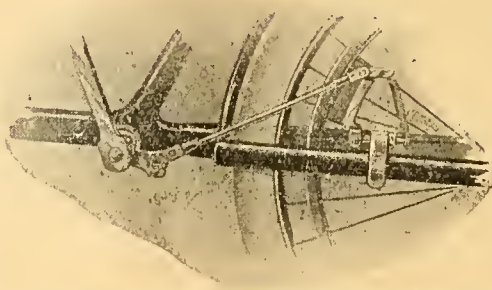
LONDON TO EDINBURGH:

3 STARTED

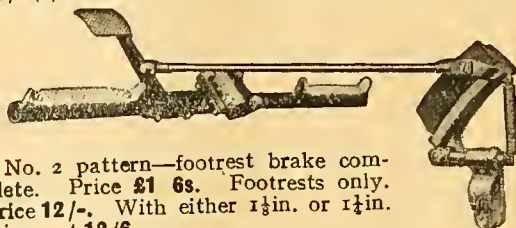
3 FINISHED.

No Trade riders—ridden by private owners only.

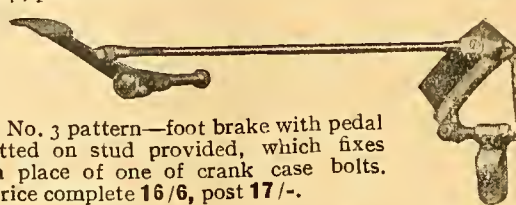
"CHASE" DRIVING RIM BRAKE.



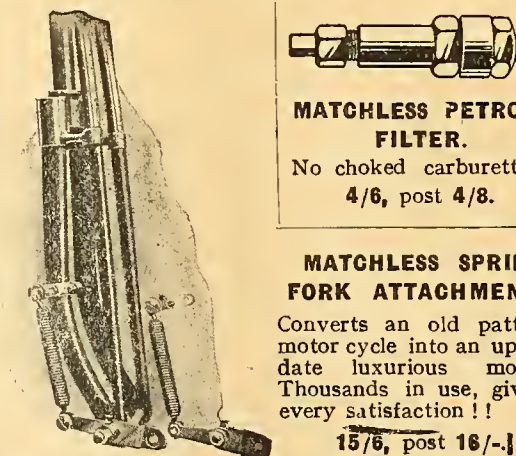
No. 1 pattern—back pedalling brake. Machine can be wheeled backwards. Extremely powerful. Price, 16/6, post 17/-.



No. 2 pattern—footrest brake complete. Price £1 6s. Footrests only. Price 12/-, With either $1\frac{1}{2}$ in. or $1\frac{1}{4}$ in. clip, post 12/6.



No. 3 pattern—foot brake with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete 16/6, post 17/-.



MATCHLESS PETROL FILTER.

No choked carburetters. 4/6, post 4/8.

MATCHLESS SPRING FORK ATTACHMENTS.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction!!

15/6, post 16/-.

THE MATCHLESS SILENCER.

Up to 3 h.p., 10/-; from $3\frac{1}{2}$ to 5 h.p., 12/-, Cut out 5/- extra. Two connections for twins with separate exhaust pipes, 4/- extra.



Catalogues of "Matchless" Motor Cycles and Accessories on application to

H. COLLIER & SONS, Ltd.,

Motor Experts and General Engineers.

Offices and Showrooms,

18, HERBERT ROAD, PLUMSTEAD

(Nearest Station: Woolwich Arsenal.

Telephone: 232 Woolwich.)

TRICARS FOR SALE.

51 h.p. Quadrant Tricar, coach body, t speeds, free engine, Longuemare carburetter, perfect condition; price £17.—E. Cocks, Sturton Street, Cambridge.

LAGONDA Tricar, 10-12 h.p. water-cooled engine, three speeds, very fast on hill, excellent condition, all accessories; a trial; price £65.—The Western Motor Agency, Sidcup, S.E.

£20.—4 h.p. Tricar, smart machine, will do 30 miles per hour, Bowden contour tyres as new, don't miss this chance.—E Ham Garage, High Street South, East Ham.

5 h.p. Water-cooled Tricar, two-speed, chain drive, wheel steering, new $2\frac{1}{2}$ in. tyres, many spares; £32, or exchange motor cycle and cash.—"The Springs," Potter Street, Harlow.

QUADRANT Tricar, $6\frac{1}{2}$ h.p. twin engine, new chains, tyres, non-skid band, everything, splendid condition; buying or sacrifice £40.—Wilcox, 84, Vyse Street, Birmingham.

TRICAR, $3\frac{1}{2}$ h.p. Minerva engine, Phoenix and Moore's two-speeds, Brooks saddle, footboards, perfect running order; trial; what offers, cash.—Mawson, 19, Watgate, York.

ROVER, 4 h.p., water-cooled, two-speed, good condition, tyres splendid, Clinch Dreadnought back, lamps, spares, etc.; to run; £16 16s.; no offers.—Hitchcock, Hudson Depot, St. Albans.

£32.—6 h.p. Water-cooled Humber Tricar, two speeds, handle starting, absolutely reliable, nothing wants touching, overhauled, re-enamelled chocolate and gold.—Wright, 8, Church Road, Forest Hill.

HUMBER Tricar, 4 h.p., two speeds, perfect in every detail; £33, no offers, or change good motor bike, 5 h.p., low budget and magneto preferred; can be seen time.—F. Mewett, 5, Shenley Road, Dartford, Kent.

6 h.p. Singer Tricar, twin-cylinder, in excellent condition, new 700 by 85 tyres, tools, accumulator, pump, jack, baggage carrier, and all spares; £45; bought four-seater.—Dentist, 25, Manchester Street, Heywood.

BARGAIN.—41 h.p. Tricar, water-cooled two-speed gear, free engine, coach-built bucket seat, chain drive, three tyres, starts like a car, climb all hills; trial; cash, £22 10s.—Herbert, 62, New Road, Plaistow, E.

RALEIGHETTE, $3\frac{1}{2}$ h.p. water-cooled engine, two speeds, handle starting, two-volt coil, four-terminal Prestolite latest Brown-Barlow carburetter, magnifying hill-climber; £35.—No. 311, *The Motor Cycle* Offices, Coventry.

31 h.p. Imperial Rover Tricar, new condition throughout, new Whittle new tyre, $2\frac{1}{2}$ non-skid back, art cane cage, spare wheel, accessories, stand, carriage; cost £65, bargain, £19 10s., or nearest.—3, York Road, Ilford.

5 h.p. Kerry-Abingdon, two speeds, chain driven, tyres and condition as thumbslides; trial and expert examination; little used; no rubbish; genuine tourist tricar; will drive purchaser home; Edge, Victoria Place, Marple.

31 h.p. Rover Tricar, free engine, just overhauled, engine exceptional, nearly new throughout, engine exception powerful, wonderful hill-climber; absolute bargain, £27, or motor cycle and cash.—car, 86, Colvestone Crescent, Dalston, don.

31 h.p. Jap Open Frame Tricar, two speeds, free engine, Chater-Lea fittings, forecar, bucket seat, splendid condition, perfect, absolutely reliable, climb anything; genuine bargain, £26, or close offer.—Stanton, 86, Colvestone Crescent, Dalston, London.

5 h.p. Twin-cylinder Kerry Forecar, splendid condition, coach-built spare wheel, two accumulators, spare two spare outer covers, one spare tube, two good lamps, luggage carrier, guineas.—Hodson, Barroway Drove, Dham, Norfolk.

5 h.p. Riley, new last year, condition excellent, three lamps, three accumulators, toolboxes on side carriers, large 85 mm. lamps, spare covers, tubes and chains, quantity of spares; cost over £100, price trial by appointment.—Startin, 30, Ra Street, Coventry.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

CARS FOR SALE.

15 h.p. Duryea Car, side entrance, tonneau, nearly new; list price £500, great bargain, £95, near offer; part exchange.—98, Potternewton Lane, Leeds.

OLDSMOBILE, 5½ h.p., tyres perfect paint unscratched, little used, two-seater, four brass lamps, horn, tools; trial, appointment; £29.—Crabbe, 10, Norland Square, Holland Park, W.

HUMBER, 5½ h.p., two-speed and reverse, spare cover and tube good condition, very reliable, £40; also Darracq. detachable tonneau, three speed and reverse, only £45.—Kerr, Sepulchre Gate, Doncaster.

LIGHT Car, 4 h.p. water-cooled engine at back, equal wheels, Dunlops, Longuemare, electric lamps, B.-M. coil, three accumulators, hood, good sound running order; photo; £25.—117, City Road, London.

6 h.p. De Dion-Swift Car, two speed and reverse, fitted with hood, good condition, coachwork like new (photo 3d.); exchange twin Vindec, or 1908 Triumph and cash adjustment.—Wray, Virginia Street, Southport.

SITUATIONS WANTED.

YOUTH wishes to learn motor business, Leicester, Nottingham, or Derby, or neighbourhood, would give two years, subsequently investing few hundreds with view to small but increasing interest in business.—Box 300, The Motor Cycle Offices, Coventry.

BUSINESSES FOR SALE.

CYCLE and Motor Business, excellent opportunity, good position, main road; takings last week over £17; well stocked and fitted; great sacrifice; must sell; £80, or exchange good car and cash.—298, The Motor Cycle Offices, Coventry.

GARAGES.

MOTOR Cycle and Tricar Garage. Repairs of all kinds. Open 8 a.m. to 9 p.m.—New Century Co., 8, Greville Street, London, E.C. Back of Gamage's.

WHAT the Motor Cyclist is looking for!—Excellent garage near Oxford Circus, every convenience; moderate charges.—Apply, Borland, 2, Lowndes Court, Carnaby Street, Regent Street, W.

BRIGHTON.—Black Lion Garage, back of Sea View Hotel, Black Lion Street, fifth turning from Aquarium on right, along front; specially for motor cyclists; repairs on Sunday.

ACCUMULATORS.

NEW 27 Hour Dinin, 20s.; new Humber size Premier, 8s. 6d.; new 40 hour Singer, 21s.—Exchange, 16, Westgate, Halifax.

CELLULOID Accumulator Repair Outfits, useful for all celluloid repairs; full directions; post free, 1s.—Osborne Works, Forest Hill, London.

VOLTOO Coils work on two volts, extremely economical and efficient; send for lists.—Ajax Electrical Engineering Co., 291, High Road, Ilford.

STARCLIFFE Accumulators, 25 amp. size, 4½ by 2½ by 6½, sent charged, 15s. 6d.; 40 amp., 4½ by 3½ by 6½, 25s., charged; repairs a speciality.—Works, Loxham Street, Bolton.

THE Famous Ajax Accumulator, absolutely the finest it is possible to make (see advertisement in Spring No. "Motor Cycle"); specially protected terminals; 20 amp. size will run 2,000 miles with Voltoo coil.

ACCUMULATORS, Accumulators, celluloid.—Buy direct from manufacturer, and save middlemen's profits; sample 4 volt 22 ampere hour, sent packed, 10s.; repairs of every description.—Works, 17, Landeroff Road, E. Dulwich.

ACCUMULATORS are our Speciality.—6 amp., 5s. 9d.; 10 amp., 8s. 3d.; 12 amp., 8s. 6d.; 20 amp., 11s.; write for list of accumulators, plates, coils, instruments, etc.; accumulators promptly and thoroughly repaired.—Archibald J. Wright, Ltd., Leyton Green Road, London, N.E.

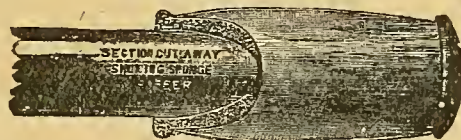
ACCUMULATORS Repaired promptly, any make; reasonable charges, best work; estimates given; full value for your old accumulator in exchange for our new "Mayfair" accumulators; special 15 amp., 10s. 6d.; 20 amp., 15s.; guaranteed one year.—Fellows, 49, Hertford Street, Mayfair.

PLEASE NOTE

We can supply all parts for 2½ and 3½ h.p. F.N. Engines.

"VINDEC" Adjustable Pulleys for 2½ h.p. F.N. Engines, 10/- each.

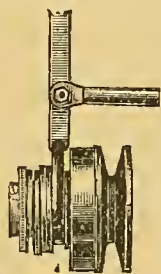
"VINDEC" Adjustable Pulleys for 3½ h.p. F.N. and 3½ or 5 h.p. Peugeot Engines, 15/- each.



"KUMFO" Sponge Rubber Grips, ¾ in. or 1 in. bars, 2/6 per pair.

South British Trading Co., Ltd.,
13-15, Wilson St., London, E.C.

Mr. H. G. BELL, author of
"The Future of Motor Cycling,"
writes:



"Dear Sir,—After exhaustive tests with your Multiple Disc Clutch and Free Engine Pulley on a 'Triumph' motor bicycle, I have nothing but praise for the device, which has converted the orthodox untractable athlete's machine into a handy and safe mount. Until one actually tries the device, its many advantages cannot be recognised. It would be hard to say under what conditions its merits are most appreciated; but if only for the facilities it gives for starting in a safe manner (viz., from a standstill), and crawling along in traffic and treacherous roads, it is a veritable boon. I found it extremely useful in the London to Edinburgh run, especially getting in and out Newcastle and Berwick.

"Yours faithfully,
"HARRY G. BELL."

Send for particulars.

MABON MOTOR WORKS,
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Additional to Tyres, we offer

GNAVITER

BRITISH-MADE INDIARUBBER AND
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CIRCUMSPICE!

Insist on the Brand **GNAVITER**.

Plain or serrated. The product of a leading
British manufacturer.

Good as gold—strong as steel.

¾ in., 8½ d.; 1 in., 11½ d.; 1¼ in., 1/3; 1½ in., 1/6 per ft.

True and deep section. Usual trade terms.

Sole Agents for Wholesale and Retail:

DEFIANT NON-SKID TYRE CO.,
1, Farnival Street, LONDON, E.C.

OUR NICKEL STEEL VALVES
are the best.

All sizes in stock. No waiting. Orders for large quantities to any model or drawing can be executed at the shortest notice.

A. BINET & CO.,
99, Great Eastern Street LONDON, E.C.
Telephone 9024 London Wall.
Telegrams: "Binetique, London."

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IRIDIUM "Champion" Contacts, any parts fitted; returned same day; 1s. 3d. each.

IRIDIUM "Champion" Contacts, warranted pure; trimmers for polishing iridium, 9d.; no filing required.

IRIDIUM "Champion" Contacts. — Williams, 16, Wellington Street, Woolwich. Pure platinum fitted, to order, from 1s. 9d.

JEBRON Contacts, registered, 291289, vastly superior to platinum, cures misfiring; is reliability and efficiency.

JEBRON, best contact obtainable for blades, screws, cranks, rockers, plungers, magnetos, coils.

JEBRON, prices, 2s. 6d. each rivet fitted; special trimmers for polishing Jebron, 9d.; remittance with order ensures prompt attention; write for particulars and testimonials, too numerous to publish.

JEBRON Magneto Screws, complete, for Bosch magneto, DA2, will fit contact breakers, 5A, 5B, 5C, 5s. 9d. pair; old screws fitted with Jebron, 2s. 6d. each; everlasting wear, requiring no attention.

JEBRON, the King of Contacts, fitted per return post; no delay; post free home or abroad; liberal trade terms.

JEBRON.—From the Inventor, J. Edwards Brown, 38, Herbert Road, Plumstead, Kent.

COUPLINGS.

ARIEL Coupler, perfect, nearly new; 27s.—Steer, 70, Deacon Road, Willesden Green.

ENGINES.

4-5 h.p. Simms Engine, M.O.V., water-cooled, quite new, and fitted high tension magneto; £11.—Farrar.

2½ h.p. Quadrant Engine Sets, cylinder, piston, connecting rod, crank cases, flywheels, exhaust valve, 37s. 6d. per set; 3 h.p. Quadrant sets, as above, 45s. set.—Farrar.

2½ h.p. King Engine, vertical, fitted contact breaker, driving pulley, good puller; £3.—Farrar.

3½ h.p. De Dion Pattern Engine, fine condition, £3 10s.; 2½ h.p. ditto, 50s.—Farrar.

3½ h.p. Standard Engine, vertical, will take trailer up most hills; £3 15s.—Farrar.

3 h.p. Quadrant, just overhauled, £3 10s.; 1½ h.p. Minerva set, engine, carburetter, tank, etc., £3 10s.—Farrar.

3 h.p. Minerva Pattern Engine, M.O.V., £3; 3 h.p. N.S.U., crank case, complete, perfect, 25s.—Farrar, Square Road, Halifax.

h.p. Twin Peugeot air-cooled engine, carburetter and coil; what offers?—28, Dock Street, Leeds.

6 h.p. Two-stroke Petrol Engine, ball governed, perfect, as new; £5.—Matthews, pawnbroker, Croydon.

FOR Sale, J.A.P., 1907, 3½ h.p., better than new, with Matchless silencer; £8.—Griffin, Filton, Bristol.

3½ h.p. Allard, with Longuemare carburetter, guaranteed. — Langham, 163, Shaftesbury Avenue, W.C.

MOTOR, Peter-Union, Longuemare, just re-bored; £6 10s.—Blunden, 40, Broomhouse Road, Fulham. After 8.

MINERVA Twin, with or without clutch and gear, as new, and faultless, seen running.—215, Coldharbour Lane, Brixton.

4 h.p. Water-cooled N.S.U. engine, including carburetter; £6 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

6½ h.p. Twin Stevens Engine and magneto, new, only run a few times; cost £26 13s.; what offers? — Gill, Dromore, Marton, Blackpool.

70 by 80 Engine and Carburetter, £2; 70 by 75 De Dion, 30s.; 1½ h.p. Minerva crank case, complete, 10s.—M., 10, Aristotle Road, Clapham, S.W.

FOR Sale, small gas engine, dynamo, shafting, pulleys, bracket bearings, strikers, for charging and driving small lathe; cash £6 10s.—Apply, Brock's, Motor Works, Stanmore.

ENGINES.

GENUINE 2½ h.p. De Dion Engine and coil, both as new.—Harker, Chertsey.

21 h.p. Noble Engine, 40s., or exchange for 26in. by 2in. Goodrich, or pair A Won Clinchers.—17, Mildmay Street, Lincoln.

GENUINE De Dion Air-cooled Engine, with spares, perfect. £3 15s.; Castle plain coil, perfect, 9s.—H. Langlands, Clacton-on-Sea.

23 h.p. New Fafnir Water-cooled Engine, with silencer, carburetter, coil; £6.—Roberts, 30, St. George's Square, Regent's Park, London.

TYRES.

BOOOTH.—New rubber studded cover, 26 by 2, 25s.; ditto, 26 by 2½, 27s. 6d.

BOOOTH.—Peter-Unions, 24 by 2½, 28 by 2½, 15s. 6d.; Royalty covers, 26 by 2, 12s. 6d.; 2½, 13s. 6d.

BOOOTH.—Ten shillings allowed for old cover in exchange for Shamrocks, Palmers, Goodrich's.

BOOOTH.—Tyres, best make, 26 by 2, 16s.; 2½, 17s. 6d.; 2½, 21s.; 28 by 2, 16s. 6d.

BOOOTH.—Best tubes, 26 by 2, 7s.; 2½, 7s. 6d.; 2½in., 8s. 6d.; 28 by 2, 7s. 6d.

BOOOTH.—All tyres sent on approval.—Booth's Motor Exchange, Wade Street, Halifax.

26 by 5 Dunlop Inner Tube, with car valve, new; 12s.—Oliver, 154-157, Fleet Street, London.

MAUDE'S—Fully guaranteed tubes, 26 by 2in., 6s.; 2½in., 7s.; 2½in., 8s.; 28 by 2, 7s.; 2½, 7s. 6d.; 2½in., 8s.; approval willingly.

MAUDE'S—Covers, 26 by 2in., 16s.; 2½, 17s. 6d.; 28 by 2in., 17s.; 2½in., 18s.—Maude's, Powell Street, Halifax.

RICHE'S Tubes, two 26in. by 2½in., excellent condition; for sale, 8s. 6d. each.—P. James, 1, Trafalgar Square, London, W.C.

DUNLOP, 26in. by 2in. Beaded Cover, 9s.; Continental ditto, used once, 13s.; brand new 28 by 2½in., 15s.—6, Poulton Road, Southport.

PALMER Cover, brand new, no job lines, 26 by 2, £1 9s. 6d.; 26 by 2½, £1 14s.; 4s. allowed on old cover; approval.—Reynolds, Broadway, Dorset.

CLINCHERS—Special 2½in. covers, to fit 2in. or 2½in. rims, 23s. each; don't be under-tyred. It's false economy.—Farrar.

SPECIAL Line.—Clincher tubes, 26 by 2 and 28 by 2, complete with valves; 5s. 1d. each, post free.—Farrar.

OS. Allowed for old covers in exchange for Goodrich, Palmers, Shamrocks.—Farrar, Square Road, Halifax.

50 Per Cent. off usual prices.—Clincher A Won brand new covers, 26 by 2, 18s. 1d.; 26 by 2½, £1; 28 by 2½, heavy tricar, 15s.; 26 by 2, extra heavy, 21s.; 26 by 2½, extra heavy, 22s.; all ribbed non-skid treads.—Farrar.

TWO Clincher Tricar Covers, 650 by 65, in perfect condition, 25s. each, approval; tricar headlight, 12s. 6d. — 115, Boundary Road, St. John's Wood.

CLINCHER A Won, extra heavy, 28 by 2, and tube, new and perfect, 23s.; extra heavy A Won, 28 by 2, 12s.; A Won, 7s.; used, at good.—Outram, Laurel Grove, Southport.

NE 810 by 85 Dunlop Tube and Cover, as new, run about 60 miles, £3 the pair, approval, deposit; also three 750 by 80 Continental heavy tubes, brand new, 16s. each.—Glendene, Station Road, Leyton, London, E.

FRESH Delivery of beaded covers, all Calmons, guaranteed and beaded; by 2½ covers, 15s.; 24 by 2½, 15s.; 26 by covers, 15s.; 26 by 2½ covers, 15s.; 28 by covers, 15s.; 28 by 2½, 15s.—Wauchope's, 9, Roe Lane, Fleet Street, London.

HALIFAX—Brand new inner tubes, best make, 26 by 2, 6s. 6d.; 26 by 2½, 7s.; 28 by 2, 7s.; 28 by 2½, 7s. 6d.; 28 by 2½, 8s. 6d.; genuine Calmon covers, fit Palmer rims, with non-slipping tread, 26 by 2½, 15s. 9d.; by 2, 15s. 9d.; 28 by 2½, 16s. 9d.; 28 by 2½, 16s. 6d.; all beaded edge.—Halifax Motor Exchange, Westgate, Halifax.

COMPRESSION**Cylinders Rebored**

and new Pistons fitted complete with Rings and Gudgeon Pin.

Compression means Power.

Please send for our booklet, which gives prices for this work and other repairs.

Repairs and alterations to all makes of motor cycles.

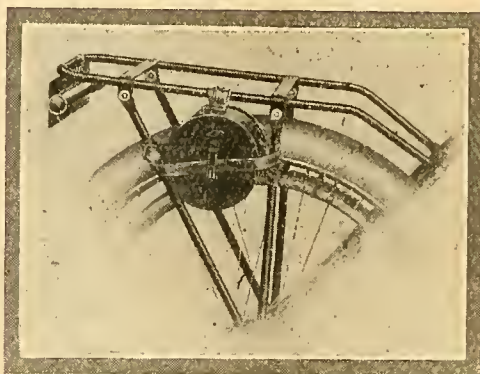
The Laystall**Motor Engineering Works, Ltd.,**

AUTOMOBILE REPAIRERS.

27 & 29, Laystall Street, Rosebery Avenue,

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THE PREMIER TUBE CASE.

An air-tight metal case. Preserves tube from dust and damage. Perfect prevention of perishing. Complete with straps to fit to any part of machine. Aluminium or black finish, **5/6**. Delivery from stock.

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A TREMENDOUS SAVING

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VOLTOO 2-Volt COILS

For MOTOR CYCLES and CARS.

Write to the Sole Manufacturers:

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Any make of MOTOR CYCLE or CAR OVERHAULED. COMPRESSION RESTORED. NEW CYLINDERS, PISTONS, RINGS, BUSHES, etc., FITTED. NEW PISTON COMPLETE & RE-BORE CYLINDER 14/- up to 2½ h.p. Larger sizes in proportion. Gear Wheels and Cams made and Cut. Prices given by return of post. We are the **ACTUAL MANUFACTURERS.** 4½ h.p. Noble for sale, Winner Essex Hill Climb, price £27. 10. 0. **NOBLE & CO., 9, SURREY ROW, BLACKFRIARS ROAD, S.E.**

REPAIRERS.

MAGNETOS Repaired and re-magnetised, coils tested.—New Century Co., Grey Street, Holborn.

£5 any motor cycle we cannot repair.—Whites, 22, Brook's Alley, Church Street, Liverpool.

GRIFFIN and Sleat, Eastbourne.—Cylinders re-bored, and new pistons fitted, or engine completely overhauled; let us quote you.

CRACKED Water Jackets of motors successfully repaired by Lea's metallurgical process.—Lea and Son, engineers, Runcorn.

COMPRESSION.—Cylinders rebored, fitted with pistons, rings, gudgeon pins.—Liverpool Engineering and Motor Co., 12, Hart Street, Liverpool.

SEND us the motor cycle or car that won't go; moderate prices; best work, by engine expert; engines and parts bought.—Maurice Liming, engineer, Crookham, Fleet.

LEICESTER and County Riders should look up the Central Motor Co., Langton Street, Belgrave Gate, Leicester, for repairs, tyres, accessories, and accumulator charging.

CCCCCCCCC Compression means power.—Cylinders re-bored and new pistons fitted; guaranteed fit 41,000in.; bears 13 stone on pedal; write for list.—Gradior Machine Co., Compression Specialists, Stafford.

TO West of England Motorists.—Car and motor cycle repairs, prompt and reliable; cylinders re-bored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Works, Bridgwater.

REPAIRS and Overhauling.—We have the finest repair works in London for motor cycles, with up-to-date machinery; estimates free; new cylinders for any make of engine, pulleys, valves, gears, and all replacements; send for our new booklets, with prices.—Laystall Motor Engineering Works, 27 and 29, Laystall Street, Rosebery Avenue, E.C.

EXCHANGE.

EXCHANGE, Steam Car for motor cycle (twin).—25, High Street, Ryde, I.W.

RALEIGHETTE Tricar; £36, or exchange for good twin, or 4½ h.p. F.N.—315, Hessele Road, Hull.

EXCHANGE Trailer for handle-bar watch, or speedometer; sell 50s.—Baker, 59, Reads Road, Blackpool.

IMPERIAL Rover Push Cycle; cost £12, take £6, or exchange for 1½ h.p. motor cycle.—151, Knight's Hill, West Norwood.

WANTED, motor cycle; exchange chest tools, gas engine, and great variety.—Prance, St. Budeaux, Devonport.

10-12 h.p. Argyll Tonneau, lamps, wind screen, for two-seater and cash.—Thompson, Victoria Terrace, Durham.

WANTED, your present mount in part payment of any 1908 make, keen quotations.—Farrar, Square Road, Halifax.

GENT'S Three-speed, perfectly new, £10 10s., green enamel, cycle and small cash in exchange for good motor cycle.—Millard, Dinnington, Rotherham.

MOTOSACOCES, 1908 models; second-hand motor cycles, foreign and British stamps taken in part exchange.—Motors, 41, Green Street, Cambridge.

EXCHANGE 3½ h.p. Centaur, chain drive, two accumulators, long bars, Palmers, M.O.V., for belt drive, or sell £15.—Humphreys, 3, Ridgeley Road, Harlesden.

EXCHANGE 6 h.p. Starling Two-seater Car, brand new few months ago, lamps, tools, spares, for good motor cycle and cash adjustment, or sell £95.—King, Alfreton.

EXCHANGE, Vindec Special, two-speed gear and free engine, and new Millford castor sidecar, for small two-seater car, about 1 h.p.—49, Hurst Road, Eastbourne.

EXCHANGE, summer suit, unsoiled, 5ft. 10in., for 26 by 2½ Clincher, or similar heavy cover and butted tube; approval both sides.—292, The Motor Cycle Offices, Coventry.

SINGLE-SEATED Car, Aster engine, Bozier gears (light), for Minerva twin, Alldays Traveller, or 4½ h.p. De Dion car, or exchange offers.—Needham, Shalesmoor, Sheffield.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

THE MOTOR CYCLE

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Can Motor Bicycles Climb Hills?

By "IXION."

AT the recent Sutton Bank hill-climb some magnificent performances were accomplished by various crack riders, mounted on machines that to all appearance were standard models, as sold to the public. Mingling with the crowd of experienced competition riders were a number of very irate and dissatisfied private owners of apparently similar machines, many of whom had entirely failed to ride up even to the top of the Trough. In fact, one individual approached the rider of a well-known firm mounted on a sister machine, and angrily said he would give him his own mount for nothing if he could induce it to climb the terrible Bank within an hour at any speed, however low. Such facts as these are repeated in motor cycling circles throughout the country, and lead the uninstructed to imagine that the only thing in common between the two nominally identical machines, one of which the trade rider sells to you and the other of which he rides himself, consists of the engine dimensions—that yours is a roughly finished model, hastily rushed through the works with the minimum of attention; and that his is perhaps made of better material, and is certainly a far better finished machine.

There is only the barest modicum of truth in these notions, and I desire, therefore, to state a few facts, which will perhaps reconcile the amateur to the fact that there are perhaps a dozen hills or so in the country which his machine will not climb. We will picture Mr. Jones, the crack rider of the ——— Manufacturing Co., and two machines, ticketed A and B. Machine A is his own travel-stained mount, machine B is the

spick and span new machine due for delivery to you, dear reader, next week-end.

1. Under the practice of nearly every firm (there are one or two less honourable exceptions), machines A and B are absolutely identical when they leave the works—same specification, same material, same workmanship, same efficiency.

2. Machine A is entered for a hill-climb. Mr. Jones alters all its adjustments—carburation, compression, etc.—till it will ascend the fearful hill in question at forty miles an hour.

3. Machine A is entered for an A.C.U. 1,000 miles. Mr. Jones prepares his machine for the trial. He goes through without losing a mark. But if the trial included that aforesaid famous hill, he would fail to ascend it all; the adjustments which spell a furious ascent of a colossal hill are not calculated to ensure a 1,000 miles non-stop with a cool engine, and no trouble. Moreover, if they were so calculated, it would be impossible for that delicacy of veneer to be maintained without constant attention.

4. We will now imagine that Mr. Jones has piled up machine A against an unlighted waggon on a dark night. Two important trials are looming in the near future. The ——— Co. accordingly keep you waiting a week or two longer for delivery, transferring a third machine C to your name on their books, and handing over machine B to Mr. Jones for his own riding.

5. The first event is a speed trial up Sutton. Thanks to Mr. Jones's skilled tuning, machine B ascends Sutton at a speed $\frac{1}{5}$ s. faster than machine A originally did.

Can Motor Bicycles Climb Hills?

6. The second event is an A.C.U. 1,000 miles. Machine B goes through non-stop in the clever hands of Mr. Jones, but it fails on one or two hills less formidable than Sutton, and for two reasons:

(a) It is not tuned for climbing exceptional hills.

(b) It has lost a shade of "tune" in the preceding 700 or so miles it has run.

7. Most probably, dear reader, if Mr. Jones handed over either machine A or machine B in the same tune as it had when he climbed Sutton on it, you would not be able to get it up Sutton; and this for two reasons:

(a) You do not possess the same delicacy of driving skill as Mr. Jones has.

(b) You have not the pluck to take sharp corners and fearful surfaces at the necessary speed.

We now arrive at certain conclusions:

1. There are about a dozen hills in England which standard machines will not climb unless—(a) tuned in a way that spoils them for touring; (b) tuned to a pitch which cannot be maintained in touring; or (c) geared ridiculously low; or (d) driven at a speed which is risky.

2. On the other hand, these machines will—

(a) Undoubtedly climb any hill in the country bar a dozen notable exceptions.

(b) By careful selection of route avoid these hills.

And if you, my dear sir, obstinately demand the ability to climb these said dozen hills, you have a very simple alternative. You must fit one of the several excellent two-speed gears now marketed, by the aid of which you can climb Sutton, and, what is more, (a) climb it at a slow and comfortable pace; (b) climb it every time; (c) climb it twenty times running; (d) climb it without any special preparation; (e) climb it when your engine is far below par; (f) climb it when your engine is heated by a previous 100 miles non-stop; (g) climb it when it is blocked by traffic; (h) climb it when it is liberally smeared with grease; (i) climb it when you are an absolute novice; (j) climb it though you are an unspeakable duffer.

On the other hand, supposing you were to assault our friend Mr. Jones at the foot of Sutton on a race day, and by main force deprive him of machine A, and compel him to exchange it for machine B, even with the aid of machine A you would—

1. Fail once in three times from sheer funk.
2. Fail once in three times from driving errors.
3. Fail altogether a month hence.
4. Fail to get home without several road stops.
5. Wish you had kept your more comfortable machine.

SAROLEA ENGINES FOR 1908

THE sole agents for these engines in Great Britain are the Tormo Manufacturing Co., H. and D. Friedenhai, 67, Bunhill Row, E.C. These engines are better known to our readers as the Kerry, being fitted exclusively to Kerry

motor bicycles. They have been on the market since 1903, and their consistent running and the excellent workmanship apparent in their construction have rendered them deservedly popular.

One of the chief points about the engine is the splendid casting of the radiating fins, which are about as thin and clean as can be found anywhere. No less than four different types of engines are constructed,

and we will deal with each separately.

The 2 h.p. has an automatically operated valve and a bore and stroke of 66 by 72 mm. The engine weighs about 29 lbs. An additional bracket can be supplied for carrying a magneto, which is then driven off the half-time shaft by a chain. This engine is highly suitable for lightweight motor bicycles.

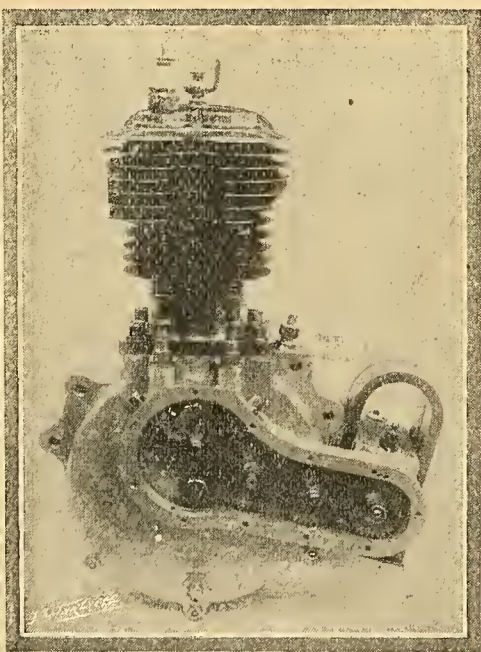
The next model which we have to consider, the 3 h.p., is made in two types—one type with automatic valve and the other with mechanical. When a mag-

neto is fitted to this engine, a neat form of enclosed gear drive is supplied for the purpose, together with an additional bracket for carrying the magneto. The 3 h.p. engine has a bore and stroke of 76 by 85 mm.

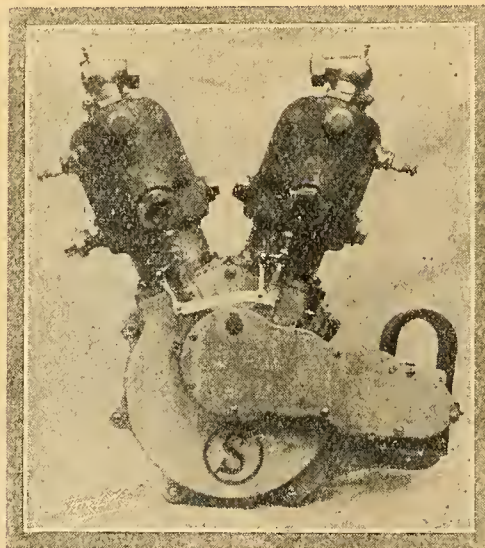
We now come to the twin-cylinder engine, and here again we have three distinct types of engines—4 h.p., 5 h.p., and 6 h.p. The first-named has a bore and stroke of 66 by 72 mm., the second 70 by 80 mm., and the last-named 76 by 80 mm., which is highly suitable for passenger work. Provision is made for fitting a magneto, the drive being transmitted by means of enclosed gear wheels.

The 6 and 8 h.p. Sarolea engines can also be obtained water-cooled for tricars. The type of carburetter usually fitted to these engines is the Model E Longuemare, and these carburetters and their parts and accessories may be obtained from the company.

The two types of Sarolea engines illustrated here are the 6 h.p. water-cooled and the single-cylinder 3 h.p., with mechanically operated valves and magneto ignition. It will be seen that the cover has been removed from the timing gear case, showing the well-arranged valve-operating mechanism and the magneto drive. An idea can also be formed of the excellence of the cylinder casting.

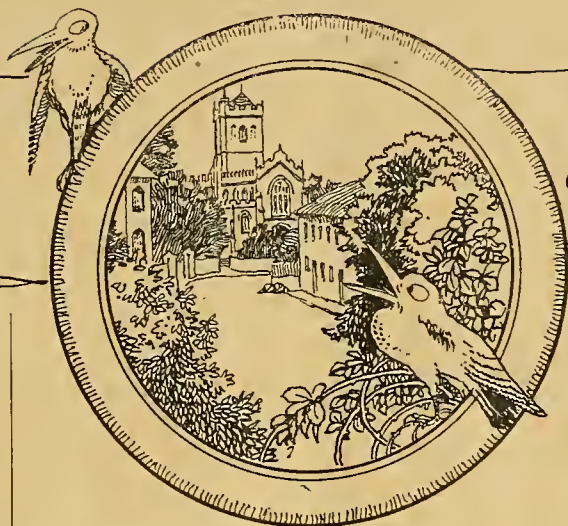


1 h.p. Sarolea engine with m.o.i.v. showing the magneto transmission.



A Sarolea twin-cylinder water-cooled V type engine with automatic inlet valves.

CURRENT CHAT



Special Features

THE A.C.U. END-TO-END RELIABILITY TRIALS.

Fully Illustrated Description.



first, and frequent dismounts had to be made for soft patches of sand. But when I got to the hill country I found that without a two-speed gear progress was impossible. The machine itself, with spares and petrol, weighed 265 lbs. After pushing and riding alternately I arrived within a few miles of Jerusalem, when I was too exhausted to continue, as six or seven hundred miles of hilly country lay before me. I realised that I could never hope to get over it in the time available, so reluctantly returned to Jaffa. I afterwards walked partly over the route I intended to ride; perhaps it was lucky I did not persevere, as I was robbed twice by Bedouin Arabs. I may be accused of foolishness in attempting this ride without a speed gear, but it must be remembered that I had intended originally to have started from Baghdad, and by this route I would have avoided the hills to a great extent, and would not have been encumbered with so much weight, as I had forwarded supplies of petrol."

Police Traps.

On the Birmingham-Evesham Road, north and south of Alcester.

Between the White Hart and Hook Church, on the Leatherhead Road, Surrey.

At Bromley, Kent. The operations extend from the Swan publichouse (at the top of Swan Hill) to the station garage at Mason's Hill. Drivers who exceed 15 m.p.h. are stopped.

By Motor Cycle from India.

Lieut. Edward Noel, who, it will be remembered, was to attempt to ride a motor bicycle overland from India, writes that he had perforce to give up the idea, as he was unable to make headway. He says: "I landed with my motor cycle at Jaffa, and started towards Jerusalem, although the road has never been repaired since the railway was opened some twelve years ago. Nevertheless, I was able to make fair progress. The constant bumping and scraping as the crankcase hit the ground was rather disconcerting at

Where are the Scouts?

We cannot congratulate the A.A. on its scouting arrangements on the Maidstone and Sevenoaks Road. At present the police are very busy on the Sevenoaks Road, and no sign of a scout is to be seen, whereas on the eighteen miles stretch from Ashford to Folkestone no less than four of the A.A. men were seen on a recent week-end.

527 Miles in One Week-end.

One of the best rides on a motor bicycle we have heard of lately is one by W. T. Walton, of West Hartlepool, who rode 527 miles in 26h. 27m. during the week-end before last. He left West Hartlepool at 1 p.m. Saturday in order to compete in the Leeds M.C.C. twenty-three hours' London and back ride, arrived at Leeds (75 miles) 6 p.m., left Leeds 8.33 p.m., arrived London (188½ miles) 7 a.m. Sunday, arrived at Leeds 7.12 p.m. Sunday, arrived at West Hartlepool 11 p.m. Sunday. The total time occupied on the long journey was thirty-four hours, but after deducting control times the total riding time was 26h. 27m.

Track Racing at Berlin.

The meeting organised by the Berlin members of the German Motor Cyclists' Association at Steglitz was a great success, but the tremendous heat—95° Fahr. in the shade—wrought such havoc with the pneumatics that the managers decided to replace the hour race by one over thirty kilometres. The four events resulted as under:

Ten kilometres (open to touring machines up to 4 h.p. and any branch member having participated in three official branch tours this year).—(1) A. Knoechel (3½ h.p. Phänomen), 7m. 12s.; (2) Oskar Schubert (2 h.p. Magnet); (3) Z. von Grabla (3½ h.p. Phänomen).

Ten kilometres (open to light touring machines up to 2 h.p., and all members of association).—(1) A. Colombo (Motosacoche), 9m. 42½s.; (2) B. Gregory (Motosacoche); (3) Oskar Schubert (2 h.p. Magnet).

Twenty kilometres record race for racing and touring machines of any h.p. and all members of the association.—(1) G. Retienne (5.4 h.p. Progress), 12m. 26s.; (2) M. Dietz (4 h.p. Magnet); (3) A. Knoechel (3½ h.p. Phänomen); (4) O. Schubert (3½ h.p. Magnet).

Thirty kilometres race for machines of any h.p. and all members of the association. The large number of entries for this event necessitated two preliminary heats and a final, the latter resulting thus: (1) G. Retienne (5.4 h.p. Progress), 18m. 11½s.; (2) Fr. Kuehn (5½ h.p. Magnet); (3) A. Knoechel (3½ h.p. Phänomen); (4) O. Schubert (3½ h.p. Magnet); (5) W. Ebstein (3½ h.p. Brennabor).



A.C.U. competitors afloat off St. Michael's Mount, Sunday, July 12th. A little water trip before the more important land journey.

The Automobile Association.

Striking evidence of the ever-increasing popularity of the A.A. is afforded by the fact that at the last meeting of the executive committee no fewer than 452 new members were elected.

Police Timing Pedal Cyclists.

The police are timing pedal cycles as well as motor cycles and cars on the London Road, Bromley. A batch of pedal cyclists has already been fined, and on Sunday several more were stopped in addition to motorists.

Essex Motor Club.

This club's third annual race meeting is booked to take place at the Stadium, Shepherd's Bush, on Saturday, August 8th, and bids fair to be even a greater success than the two last meetings, at both of which records were broken. The splendid DuCros Cup for the hour race, in which Messrs. Colver and Collier both have a share, will again be competed for, and should provide a most interesting tussle. Attempts on record will also take place. A tourist event will be included in the programme, and with the large number of enthusiastic road riders a big entry is looked for. The trials hon. secretary, Mr. Ernest Bass, Ongar, Essex, has the arrangements in hand, and entry forms are now ready.

The M.C.C. Team Competition.

We are pleased to announce that the donors of *The Motor Cycle Challenge Cup* have signified their intention of presenting (subject to acceptance) to the Motor Cycling Club another trophy of similar value to the one which has been won by the Coventry M.C. Further details will be announced shortly.

Champion Lawn Tennis Player a Motor Cyclist.

Lawn tennis players will be interested to note that Mr. A. F. Wilding, the champion lawn tennis player, was a competitor in the End-to-end Trials last week, riding his 6 h.p. Bat-Jap twin-cylinder. A photograph of Mr. Wilding with his machine is published on page 574 of this issue.

Harrogate Meeting of the Motor Union.

The eleventh provincial meeting of the Motor Union will take place on Saturday, July 25th, at Harrogate, by invitation of the Yorkshire A.C. and the Harrogate and District A.C.

Motor Cycling in South Australia.

For the second time the first place in motor cycling events of the annual sports meeting at the Adelaide (South Australia) Oval has been won by the rider of a N.S.U. motor bicycle.

Coventry M.C. Open Motor Cycle Hill-climb.

The above event will be decided on August 15th at Newnham Hill, near Daventry. There will be six classes, including variable geared and passenger

Won on a "Mattress."

A correspondent informs us that a prominent Birmingham daily paper, in describing some races at Villa Park, Aston, states that Mr. H. C. Colver won the light-weight mile race on a "Mattress" in 1m. 19s., and our correspondent suggests that this reflects great praise on Mr. Colver. Most of our readers will doubtless guess that Matchless was the word intended. Winning a motor cycle race is a little more strenuous than lying on a mattress, as many riders can testify.

A Severe Punishment.

Mr. Reginald G. Mundy, a young Croydon motor cyclist, and one of the competitors in the London to Edinburgh twenty-four hours' run on June 6th, had the misfortune to come under the notice of the Durham County Police while riding through the village of Chester-le-Street, which lies between Sunderland and Durham. In consequence he has had his present license, which would have expired in February next, suspended, while the Bench has also forbidden him to hold another license for a year after that date. This seems a severe punishment, seeing that the estimate the police gave of his speed was not more than twenty-five miles an hour. It is true a crowd was said to be in the street at the time, but if that be so, something unusual must have been taking place, for crowds are not common in the village. We are no champions of reckless driving, but motor cyclists know well enough how easy it is, especially for the police, to make mistakes as to speed.

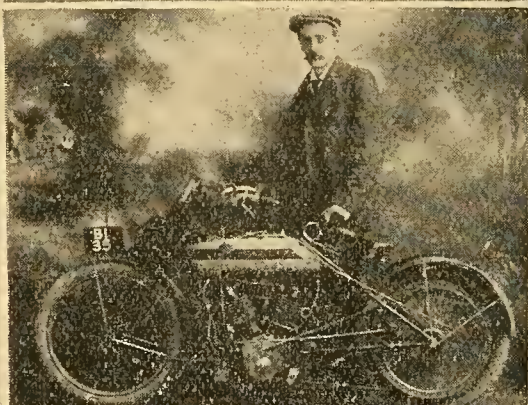
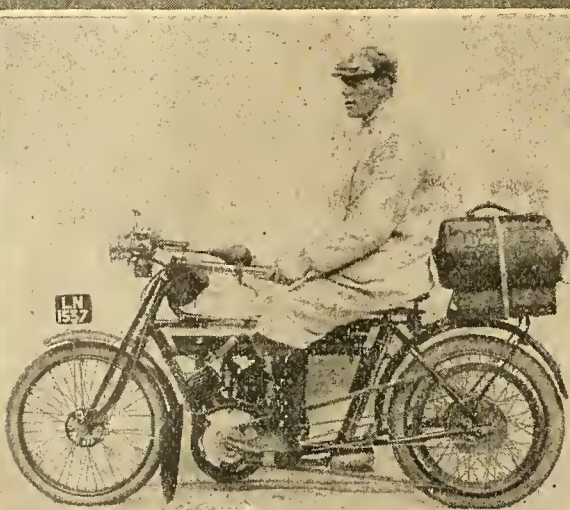
FUTURE EVENTS.

- July 25—Motor Cycle Races on Portmarnock Beach promoted by the Dublin and District M.C.C. and M.C.U.I.
- Aug. 3-4—Motor Cycling Club Run to Land's End and back for Charles Jarrott Cup.
- " 7—A.C.U. 24 Hours' Ride, London to Plymouth and back.
- " 8—Essex M.C. Open Race Meeting at the Stadium.
- " 15—Coventry M.C. Open Hill Climb for Motor Bicycles and Passenger Motor Cycles at Newnham Hill, Daventry.
- " 22—A.C.U. Annual Race Meeting at the new Stadium, Shepherd's Bush.
- " 29—Essex M.C. Open 200 Miles Non-stop Run for Motor Cycles.
- Sep. 12—Motor Cycling Club Petrol Consumption Tests.
- " 23—The International Auto Cycle Tourist Trophy Race in the Isle of Man.
- " —Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.
- Oct. 3—A.C.U. Council Meeting at Warwick.
- Nov. 20-28—Thirty-second Annual Stanley Show.

machines. Special prizes will be given for best performances by private owners on formula and on time. Particulars and entry forms are ready, and can be obtained from the Trials hon. secretary, W. Grew, 19, Hertford Street, Coventry. The event being open all competitors must obtain the A.C.U. racing license from the secretary, F. Straight, 18, Down Street, Piccadilly, W.

90 mm. x 54 mm.

G. Gerhard, of the S.E.A.A., a motor cycle prize winner at the opening race meeting at the Stadium, is having an entirely novel engine built by the Advance Co. for the Essex Motor Club's meeting on Aug. 8th. It is a single cylinder automatic inlet, 90 mm. bore with an exceptionally short stroke, viz., 54 mm. It is being built purely as an experiment.



Competitors who took part in the A.C.U. End-to-end trial last week. 1, H. R. Dougal (5 h.p. Vindee). 2, C. A. Palmer (4 h.p. Roc two-speed). 3, F. W. Applebee (5 h.p. Rex).†

Questions & Replies.

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and, whether intended for publication or not, must be accompanied with a stamped addressed envelope for reply.

Wiring Up a Coil.

? I am fitting up a motor cycle. The coil is a Fuller Midget non-trembler, marked +, c, e, and s.p. Engine is a $2\frac{3}{4}$ h.p. genuine De Dion with two terminals on contact breaker. Kindly advise me how to wire it?—F.S., Manchester.

The following is the meaning of the letters on your coil: c, contact breaker; e, earth; s.p., sparking plug; + to positive terminal of coil. The wire to contact breaker should connect on screw terminal. The other terminal should be connected to frame.

Gear for Sidecar Work.

? I have a 1907 $4\frac{1}{2}$ h.p. twin Minerva, to which lately I have had fitted a sidecar. It is good for the flat and undulations, but will not take ordinary hills. It is fitted with $4\frac{1}{2}$ in. engine pulley, 19 in. rim pulley, 26 in. wheels, making a gear of about $4\frac{1}{4}$ to 1. Shall I get the requisite power by changing my engine pulley for one 4 in., and if I did, would the engine be likely to overheat?—W.G.N.

You had better reduce the gear to about 5 to 1, and the machine will go better. Of course, the only real solution is the fitting of a good two-speed gear. We do not think you will be troubled with overheating if you oil frequently.

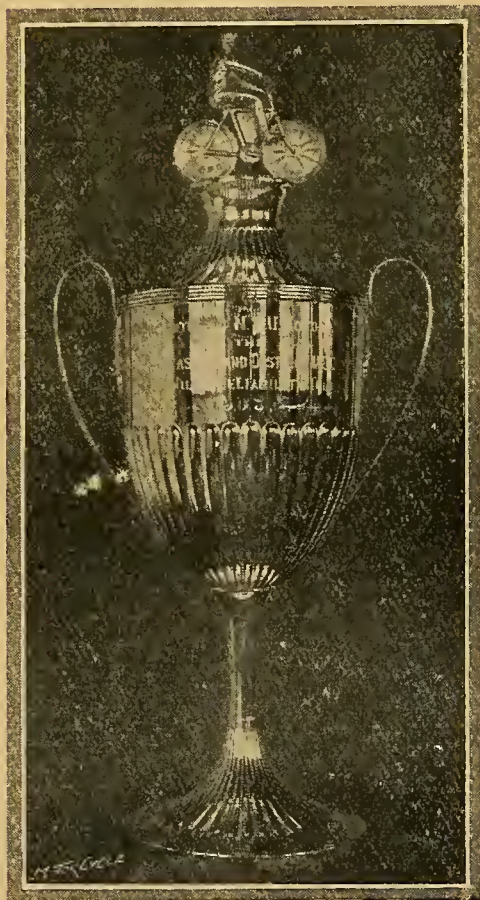
Pulleys out of Alignment.

? When I wheel or ride my motor cycle ($3\frac{1}{2}$ h.p. Minerva) the $\frac{7}{8}$ in. Whittle belt persists in rolling over and running off. It generally does this commencing from the bottom of the back belt rim pulley. It acts just the same with a $\frac{7}{8}$ in. Dermatine. I've ridden many miles with both belts before they began to act so. It runs all right with a $\frac{3}{4}$ in. Dermatine. Should I do any good (or harm) if I bent out the edges of the belt rim? The wheels and pulleys seem to be in perfect alignment, but the bottom edge of the rim seems to cut the outside edge of the belt as it comes round to the bottom, and then twists and throws it off.—FLABBERGASTED.

The pulleys are evidently not intended for a $\frac{7}{8}$ in. belt. Nothing else would make the belt come off in this manner if it fits the pulleys properly. You can do it no harm by bending the edges of the belt rim provided you preserve the correct angle of 28° .

Spares for a Magneto.

? (1.) What is likely to go wrong with a magneto on the road? (2.) What spares is it advisable to carry for magneto when on tour? (3.) What effect will dust have on magneto if left uncovered? (4.) My twin Rex de Luxe occasionally travels thirty or forty yards with muffled explosions and no power, and then suddenly jumps forward with full power and loud normal explosions. I may say this generally occurs when machine has not much way on. Can you explain this?—A.H.S.



The N.S.U. Cup, presented by the N.S.U. Motor Co. to the Newcastle and District M.C.C., for its Reliability Trials on August 3-4.

(1.) For the first month or two nothing at all, provided you keep the contact breaker, the brass cover and spring, quite clean. All that goes wrong is wearing of the fibre ring and rocking arm and spares should be carried. (2.) One spare platinum point should be enough, as these parts rarely give any trouble. On a very long tour carry a spare contact breaker complete. (3.)

The presence of dust, of course, increases wear, and may cause short circuiting. (4.) The trouble may be due to a temporary stoppage in the carburetter.

Accumulator and Magneto Plugs.

? (1.) Why are ordinary sparking plugs not equally suitable for accumulator or magneto? (2.) Please mention any makes which are? (3.) Are magneto plugs equally good for accumulators?—E.S.

(1.) Some points are more easily fused by the fierce spark produced by a magneto. Sparking plugs for magnetos are usually better made than those for accumulators. (2 and 3.) L.M., Oleo, and many other plugs are suitable for both ignitions.

The Amount of Oil for an Engine.

? Don't you think a pumpful of oil every five miles is too much to give a 6 h.p. twin-cylinder tricar engine? I find a good deal of oil comes out at the pulley spindle, and a little of it gets on to my rubber belt if I give engine a pumpful every five miles.—W.N.C.

Yes, it seems as if you are lubricating too frequently. No hard and fast rule can be made, as naturally it depends on the size of the pump, the amount of low gear work the engine is doing, the quality of the oil, and various other factors. If your engine smokes at all, reduce the amount to a pumpful for ten miles or half a pumpful for five miles. If oil leaks out of the bearings and joints try a thicker oil.

Strain caused by Sidecars.

? I ride a 5 h.p. two-speed machine with rigid sidecar (fixed wheel), and have had two front spindles ($\frac{3}{4}$ in.) broken in 500 miles. Have written the makers, who say that with some sidecars there is undue strain on front wheel when turning corners. Have noticed this strain at corners, but have not heard of anyone having spindles break. At first attempt I steered the machine without any difficulty, so think the car properly attached. Sidecar is $\frac{3}{4}$ in. wider than usual.—J.A., Glasgow.

The only thing to do is to get a specially strong hub and spindle, and have the whole wheel re-built. Evidently the existing spindles are not strong enough for the work.

Adjusting Magneto Driving Chain.

? The chain which connects my magneto to the camshaft has stretched and slips off when I pedal vigorously to start machine, or when engine starts firing. It is a $3\frac{1}{2}$ h.p. Peugeot, and I have taken magneto oh. I find when I turn armature with hand it offers resistance in one place, and after passing that spot it seems to spring round. Should this be so, because I have not taken it off before? —Dr. F. E.

You will have to adjust the chain. This can be done by loosening the bolts underneath the magneto and slipping it forward slightly. Do not have the chain too tight. The resistance referred to is quite in order. It is caused by the "pull" of the magnets.

Grinding In New Valves.

? (1.) I want to know if new exhaust valves should be ground in, as, after fitting a new Druid exhaust valve, I have lost nearly all compression. What is the simplest method of grinding in a valve, and when shall I know it is sufficiently ground in? (2.) The compression escapes past the valve cap. I can feel it escaping with my hand. (3.) Ought both valves and tappets to have exactly same clearance?—J.S., Ayr.

(1.) New valves should always be ground on to their seatings until the compression will stand the rider's weight on the pedals for half a minute. The best thing you can do is to purchase a copy of "Motor Cycles and How to Manage Them," which gives you full instructions regarding valve grinding. (2.) Thoroughly clean the joint and fit a good washer. If this does not cure the leak paint it over with fish glue. (3.) Both valves and tappet should have the same clearance, i.e., slightly less than 1-32nd of an inch.

Oil Escaping from Cylinder.

? My engine is a 2 h.p. Minerva, 1903 pattern inclined, and I am continually troubled with oil spraying out of the release valve, which, as you will probably remember, is situated just above the 2 to 1 gear cover. It is very troublesome, as the oil collects on the contact breaker case and runs into it, and also all over the side of the engine (to say nothing of covering my boots and trousers). At the beginning of this year I fitted new piston rings, and the trouble first commenced after they had been in for about fifty miles. If you can suggest a means of curing or preventing it I shall be most grateful, as in all other respects the engine gives me extreme satisfaction, and is far and away the most reliable I have ever had.—FO 77.

Fit a small copper pipe on to the orifice of the relief valve, and lead it away from the engine so that it passes what oil there is on to the ground. It will make a wonderful difference to the cleanliness of the machine. Probably thicker oil would stay in the engine better.

One Cylinder Firing in the Silencer

? Could you explain the following difficulty which I have with my twin-cylinder Minerva with Eisemann magneto? The front cylinder runs perfectly, but the back one very often fires in the silencer. Result, useless on hills. Compression in back cylinder is perfect, spark is beautiful, and occurs even at very low speeds indeed. Perhaps some of your readers may have had similar symptoms.—I.M.D.

A twin-cylinder Eisemann magneto is so set that the maximum positions obtained by the armature occur at different intervals in the two cylinders, so that it is just possible that the lines of force are cut so far away from the maximum position in the case of the back cylinder that the spark is inefficient, or perhaps non-existent when the magneto is fully advanced. The only thing that can be done is to advance or retard the position of the driving pinion or the sprocket on the armature spindle in relation to the existing position of the armature.

Explosion Every Other Cycle.

? My $2\frac{3}{4}$ h.p. motor cycle only fires every other time, and as regular as if it was made to do so. I have ground in valves, had carburetter down, put on an earth wire and every other thing I could think of. Do you think that it might be the high tension part of the coil, seeing the trembler seems to work all right? But again, when I have the plug out and place it on the frame it sparks quite well then. Would the inlet valve have anything to do with it? I might say it is a De Dion engine and carburetter. Nilmelior coil and wipe contact.—T.A.F.

Have you tried fitting a new sparking plug? Perhaps the insulation of the latter is defective. An explosion every other cycle is generally due to imperfect mixture, either too weak or too rich in petrol. It is just possible that the high tension wiring of the coil may be giving trouble, so if a new sparking plug does not cure the difficulty it would be as well to have the coil tested by an expert electrician.

Break of Magneto Points. Piston Rings.

? (1.) Is it of any consequence how much lift there is on make and break of magneto fitted to the 1906 Triumph? The platinum points seem to be separated by about one quarter of an inch when current is broken. I cannot see that it makes any difference how much the platinum points part, so long as the current is broken. I may say that magneto is working properly, but I have had some trouble with pitted platinum points. (2.) Would a set of piston rings with stepped ends instead of slotted ends be satisfactory? Are stepped rings liable to break at shoulder?—H.B.

(1.) It does not matter within reason how much break there is, but the Bosch Co. recommend that the points separate .5 mm. The fact that the platinum points get pitted is due to your not keeping the condenser connections clean. These are—the centre of the

brass cover and the point of the spring which keeps it in position, also the other connection at the top of the spring. (2.) Stepped rings are not likely to break at the shoulder, and if of the proper material are quite satisfactory.

Alterations for a Passenger Attachment.

? I have recently purchased a 5 h.p. Vindec Special, and am intending to attach a sidecar. The passenger I shall mostly take weighs eight and a half stones, and my own weight is just under ten stones. The machine is fitted with adjustable pulley giving a highest gear of $3\frac{3}{4}$ to 1, and lowest gear of $5\frac{1}{2}$ to 1. Do you think that, for riding about Hertfordshire, Beds and Bucks, I had better first try an intermediate gear of $4\frac{1}{2}$ to 1, or would you start straightaway with the lowest available gear, viz., $5\frac{1}{2}$ to 1? May I expect to surmount all ordinary hills on the low gear with the sidecar and eighteen stones with 5 h.p. and lin. rubber belt? I have a two-speed gear in view, but would prefer to wait a bit, having only quite recently purchased the machine itself, and still having the sidecar to buy?—C.S.L.

You will be able to get about quite well with a $4\frac{3}{4}$ or 5 to 1 fixed gear, but even $5\frac{1}{2}$ to 1 will not be low enough for the steepest hills; a two-speed gear would be much better.

Weak on Hills.

? My $3\frac{1}{2}$ h.p. 82 by 90 mm. engine seems to have no real life in it compared with a friend's machine of similar power. It starts quite easily after flooding the carburetter, and runs best at about twenty miles an hour with the throttle just open and the air lever almost fully open. On reaching a steep hill I open the throttle, but the engine soon dies away if the hill is steep and long. From what I have read, I fancy I cannot give the engine sufficient air. Should I increase the air supply or reduce the size of the jet? Do you think alterations to the carburetter will make the machine a good hill-climber and more speedy, or does it mean grinding in the valves, altering the timing, etc.?—NOVICE.

An improvement would be made by increasing the air supply. Whether you fit a smaller jet or a larger air funnel depends on the consumption of the engine. If it is not too high, change the air adapter, but if the consumption is excessive try a smaller spray. The alteration would no doubt effect a considerable improvement, as your engine does not appear to get sufficient air. The compression is all important in the case of hill-climbing, but if the valves and timing have not been altered there should be no need to interfere with this part of the engine.

Will W. H. Pedler send his address to the Editor, as his original letter has unfortunately been mislaid?

Readers continue to send us queries without enclosing stamped addressed envelopes in accordance with our rule. Such queries will not receive attention.



FIRST DAY, Monday, July 13th.—Land's End to Taunton, 152½ Miles.

THE competitors were early astir on Monday, the 13th inst., and the old quayside at Penzance resounded with the reverberations of motor cycle engines being warmed up on their stands. The day was beautifully fine, but over to the westward some heavy threatening rain clouds were to be seen; this, together with the fact that the barometer had been falling steadily since Sunday morning, foretold that some rain might be expected before the day was over. The tortuous and hilly road to Land's End was in quite good condition, though a trifle greasy in places under the trees. Many of the bad corners have been greatly improved to facilitate the G.W.R. motor 'bus service, and certain sections of the road have been widened. Almost continuously from 6.30 to 7.30 a.m. the competitors streamed in to the starting point, and by the time all had arrived the space in front of the Land's End Hotel presented an animated scene. In addition to the competing machines, there were many motor

The Start.

Punctually at 8 a.m. the first batch of riders were sent off as far as possible in numerical order. All got away in excellent style, especially those whose machines were fitted with change-speed gears, and in twenty minutes all had departed on this the first stage of their journey to the most distant point of Great Britain. Hardly had the Napier on which we travelled reached Sennen when down came the rain in all its fury, drenching all the occupants before the hood could be erected, and thereby causing no little inconvenience and no small amount of delay. Near Penzance the rain ceased, and there appeared to be every indication that no great amount had fallen, so that nearly all the competitors were fortunate enough to escape it. Having wasted much time, we had a good deal to make up, and so nothing was seen of the competitors till we reached the neighbourhood of Truro. For some unknown reason the men were sent through Truro this year instead of going by Zelah and Mitchell, which is the more direct route, and the one depicted



Group of A.C.U. Trials competitors photographed outside the Land's End Hotel previous to departure for John-o'-Groat's House, N.B.

cycles and cars which had borne spectators to the starting point, to say nothing of the three official cars which were to follow the competitors on their long journey to the North. These were a 40 h.p. six-cylinder Napier, which Mr. G. H. Levick (who took part in the End-to-end run two years ago as a competitor) brought to assist the officials; a 20 h.p. Rover driven by Mr. J. K. Starley, bearing Mr. Straight, the A.C.U. secretary, and Mr. A. G. Reynolds, one of the judges; and a 14 h.p. N.A.G. carrying other officials.

on the preliminary programme. Near the Cornish capital (where, by the way, the roads were very wet and greasy) W. Ridler (6 h.p. Leader) was seen to be in trouble, due, it afterwards transpired, to over-lubrication. A little farther on, Dr. Mayo (5 h.p. two-speed Vindec) was found inflating his tyres. His troubles in this direction began early, as immediately before the start he drew two nails from his back tyre. From Truro onwards the roads were fair at times, and then treacherously greasy. W. H. Wells (5 h.p.

Auto Cycle Union End-to-end Reliability Trials.—

Vindec), who rode well ahead of the others, came in for a great deal of rain, while those behind him got little or none. Out of Bodmin there is a long and very stiff hill, the surface of which was in a terribly greasy condition, causing several of the men to dismount. Then followed a remarkably fine piece of country over Bodmin Moor, where the road surface was dry and good. The hills, however, were severe, as was the case throughout the day's journey. It was in this locality that we found Nelson (5 h.p. Rex) in trouble with ignition.

Lunch at Launceston.

We were now well up with the competitors, and reached the White Hart Hotel, Launceston, in good time, where an excellent lunch was served. Most of the men reported having had an excellent run. After lunch the whole of the route continued to be very hilly, while between Okehampton and Exeter the surface was perfectly appalling, and, in addition, was abominably greasy, rendering this portion of the journey excessively fatiguing. On the whole, the machines appeared to be behaving much better on the hills than was the case two years ago, thus showing that the A.C.U. trials are having a good effect upon design and construction. Though this is the second time the End-to-end trial has been run, the interest shown by the inhabitants in the towns and villages through which we passed seems to have in no way abated. Among those seen in trouble after lunch were Miss Hind (5 h.p. Rex), who was dismounting the inlet pipe from her engine. She also had trouble later with the spokes of the rear hub.

Arrival at Taunton.

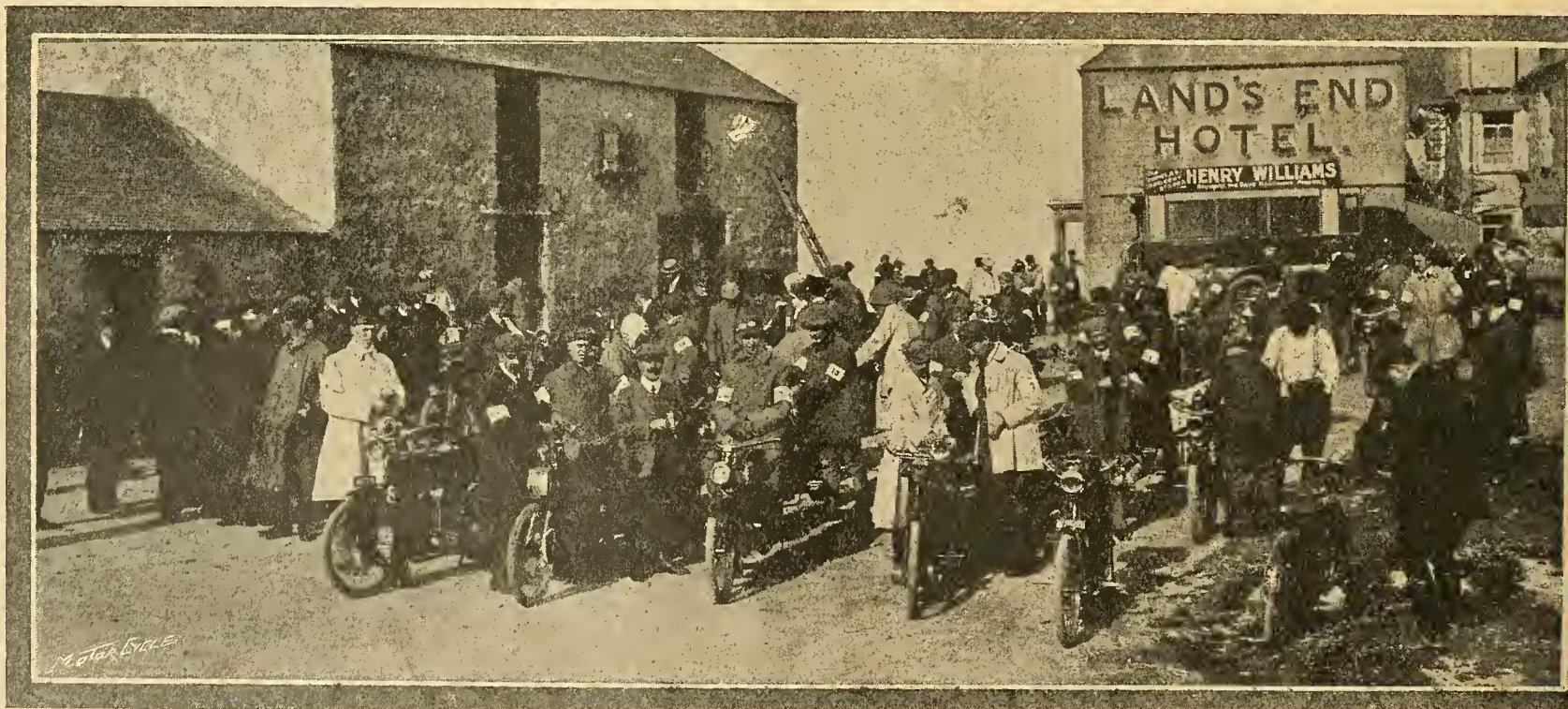
Most of the men arrived at Taunton in good time, and, despite the severity of the day's journey, the bad roads, and inclement weather, the amount of trouble experienced was small. Dr. Mayo, Gwynne, and one or two others had spills, but suffered no serious damage. At 10 p.m. the only absentees were Nelson and Miss Hind. The latter is reported to have experienced spoke troubles, and has returned to Exeter to have them replaced. She subsequently arrived at Taunton late

at night. The following competitors have reached the London Hotel, Taunton:

M. W. Randle (10 Lagonda)	A. H. Ormerod (5 F.N.)
W. H. Wells (5 Vindec)	T. K. Hastings (5 Indian)
J. Tassell (3½ Matchless)	J. O. M. Dixon (3½ Vindec)
W. Ridler (6 Leader)	R. Moore (3½ P. and M.)
S. W. Carty (3¾ N.S.U.)	W. Milnes (3½ P. and M.)
A. D. Nicholson (3½ Triumph)	H. H. Dommett (3½ Triumph)
G. Gibson (3½ Triumph)	R. King (3½ Triumph)
F. Dover (3½ Triumph)	J. Haslam (3½ Rex)
F. S. Barnwell (3½ Rex)	Capt. Sir R. K. Arbuthnot,
Dr. H. R. Mayo (5 Vindec)	Part., R.N. (3½ Triumph)
M. Geiger (6 N.S.U.)	Rev. L. Cutler (3½ Triumph)
T. F. Cox (7 Minerva)	H. Ellison (1¼ Motosacoche)
F. C. Mustard (3½ Triumph)	J. V. Robinson (1¼ Motosa-
C. E. Murphy (3½ Triumph)	coche)
W. H. Outwin (3½ Triumph)	W. F. Merritt (3½ Triumph)
E. Gwynne (5 Vindec)	J. E. Adam (3½ Triumph)
W. W. Douglas (2¾ Douglas)	G. L. Fletcher (2 Moto-Rêve)
P. Phillips (2¾ Douglas)	W. Smith (2 Moto-Rêve)
E. Clark (2¾ Douglas)	C. A. Palmer (4 Roc)
R. W. Duke (3½ Triumph)	W. Newman (4 Roc)
H. C. Hanrott (3½ Triumph)	A. D. Powell (3½ B.P.)
A. M. Lomax (3½ Triumph)	H. B. Lewis (3½ Triumph)
O. C. Godfrey (3½ Rex)	A. M. Tatham (3½ Matchless)
A. J. Sproston (5 Rex)	P. Weatherhilt (3½ Zenette)
G. Lee-Evans (3½ Rex)	F. W. Barnes (3½ Zenette)
F. W. Applebee (5 Rex)	A. F. Wilding (6 Bat-J.A.P.)
J. Slaughter (3½ Triumph)	A. D. E. Craig (5 F.N.)
J. Marshall (3½ Triumph)	H. D. Seale (3½ Triumph)
P. H. Cockcroft (3½ Triumph)	H. R. Dougal (5 Vindec)

Up to the end of the first day the following record of the performances of the riders has been published by the judges. Those that have lost no marks are:

G. Lee-Evans	J. O. Robinson	T. F. Cox
J. Marshall	W. F. Merritt	F. C. Mustard
O. C. Godfrey	J. C. Adam	C. E. Murphy
A. J. Sproston	W. Smith	W. H. Outwin
P. H. Cockcroft	C. A. Palmer	E. Gwynne
F. W. Applebee	W. Newman	P. Phillips
J. Slaughter	A. D. Powell	E. Clark
A. H. Ormerod	H. B. Lewis	R. W. Duke
T. K. Hastings	M. W. Randle	H. C. Hanrott
R. Moore	W. H. Wells	A. M. Lomax
W. Milnes	J. Tassell	A. M. Tatham
H. Dommett	S. W. Carty	S. Weatherhilt
R. King	A. D. Nicholson	F. W. Barnes
J. Haslam	G. Gibson	A. F. Wilding
Sir R. K. Arbuthnot	F. Dover	A. D. E. Craig
L. Cutler	F. D. Barnwell	H. D. Seale
H. Ellison	M. Geiger	H. R. Dougal



Lining up for the departure from Land's End on Monday morning, July 13th. Among others are W. H. Wells, A. G. Reynold, E. Nelson, and E. Gwynne.

Auto Cycle Union End-to-end Reliability Trials.—

The following riders have been penalised:

W. Ridler, 18 marks.

E. Nelson, arrived Taunton Tuesday a.m.

H. R. Mayo, 96 marks.

Miss Hind, arrived Taunton 11 p.m. Monday.

J. O. M. Dixon, 30 marks (repairs in control).

G. L. Fletcher, 42 marks (Sec. II., 19 marks late; Sec. III., 23 marks early).

It will be noticed that, despite the severity of the first day's run, the percentage of those who lost no marks was exceptionally high.

SECOND DAY, Tuesday, July 14th.—Taunton to Warrington, 199½ Miles.

A fine morning again welcomed the competitors, but the weather showed indications of being changeable. All those whose names have been recorded above left the London Hotel, the first batch being sent off at 8 a.m. In other words, all who left Land's End on Monday duly started on the second day, on which the largest number of miles in any one day's run was covered. The 40 h.p. Napier, owned and driven by Mr. G. H. Levick, bearing Messrs. Watson, J. W. G. Brooker (judge), B. H. Davies (marshal), J. Edge (*The Motor Cycle* photographer), E. M. P. Boileau (*The Motor Cycle*), and the chauffeur—a goodly load—left Taunton somewhat late, but, thanks to the efficiency of the car and the skilful driving of its owner, who made up time where the roads were clear, and yet drove without inconveniencing anyone, we forged gradually ahead, and got well in front of the men, reaching Red Hill, nine miles from Bristol, in time to see them make the ascent. From Taunton on, the roads were, in contrast to those traversed the day before, far more smooth and straight. All through the country rain had fallen, but most of the showers had been purely local, so that the surface was alternately dry and wet. During this trial the Union, wisely or unwisely, decided to have no timed hill-climbs, but it was determined to make careful observations of the performances of the men on several stiff ascents. Red Hill is approached after a severe climb over the miniature mountain pass by means of which the Mendips are crossed, then follows some undulating country, and lastly comes the hill itself. It is long, but not exceptionally steep, and consists of a long pull of one in twelve to one in fifteen or thereabouts, a short, easy portion, and finally a second steep section. Chiefly on account of its length (one mile), the hill may be called severe, and two years ago it proved to be the downfall of many of the competitors. This year, however, we are happy to be able to record that the number of failures was remarkably small, and the percentage of very successful ascents exceedingly high, proving that in two years' time the improvement in the hill-climbing properties of motor cycles has been considerable.

Red Hill, near Bristol.

Some remarks on the hill-climbing performances of the machines entered may prove interesting:

J. Tassell (3½ h.p. Matchless).—Good.

S. W. Carty (3¾ h.p. N.S.U.).—Good; changed up from lower gear as soon as gradient eased.

A. D. Nicholson (3½ h.p. Triumph).—Good.

F. C. Mustard (3½ h.p. Triumph).—Very good.

A. M. Lomax (3½ h.p. Triumph).—Pedalled; engine knocking slightly.

W. Douglas (2¾ h.p. Douglas).—Good; light pedalling.

E. Clark (2¾ h.p. Douglas).—Very good.

A. J. Sproston (5 h.p. Rex).—Fast; very good.

W. Ridler (6 h.p. Leader).—Pedalled slightly.

P. H. Cockcroft (3½ h.p. Triumph).—Good.

G. Lee-Evans (3½ h.p. Rex).—Good.

R. Moore (3½ h.p. Phelon and Moore).—Good; low speed.

W. H. Wells (5 h.p. Vindec).—Excellent; to all outward appearances the best performance.

T. K. Hastings (5 h.p. Indian).—Good.

W. Milnes (3½ h.p. Phelon and Moore).—Good; low speed.

F. W. Applebee (5 h.p. Rex).—Very good.

F. Dover (3½ h.p. Triumph).—Very good.

M. Geiger (6 h.p. N.S.U.).—Excellent performance marred by switching off as soon as he saw the officials (a failing of his).

H. Dommett (3½ h.p. Triumph).—Engine knocking.

W. H. Outwin (3½ h.p. Triumph).—Good.

Sir R. K. Arbuthnot (3½ h.p. Triumph).—Good.

G. Gibson (3½ h.p. Triumph).—Pedalled hard.

G. L. Fletcher (2 h.p. Moto-Rève).—Good; pedalled slightly.

P. Phillips (2¾ h.p. Douglas).—Good; pedalled slightly.

C. E. Murphy, J. Slaughter, and J. Marshall (all riding 3½ h.p. Triumphs) dismounted at the inn, two-thirds of the way up the hill, for refreshment. They all restarted a few minutes after on the gradient in excellent style.

H. C. Hanrott (3½ h.p. Triumph).—Good.

A. F. Wilding (6 h.p. Bat).—Excellent.

H. D. Seale (3½ h.p. Triumph).—Very good.



The only passenger motor cycle which started on the long journey from End to End. M. W. Randle (10 h.p. Lagonda) being timed away by F. Straight, the A.C.U. Secretary.

Dr. Mayo (5 h.p. two-speed Vindec).—Very good.

R. King (3½ h.p. Triumph).—Engine knocked slightly.

J. Haslam (3½ h.p. Rex).—Good.

J. N. Robinson (1¾ h.p. Motosacoche).—Pedalled.

F. W. Barnes (3½ h.p. Zenette).—Good.

W. Newman (4 h.p. Roc).—Good.

C. A. Palmer (4 h.p. Roc).—Good.

H. B. Lewis (3½ h.p. Triumph).—Good.

P. Weatherhilt (3½ h.p. Zenette).—Good.

W. F. Merritt (3½ h.p. Triumph).—Missing.

H. D. Powell (3½ h.p. two-speed Fittall).—Good; changed up when gradient eased, and then changed down for the last section.

A. D. E. Craig (5 h.p. F.N.).—Splendid.

A. M. Tatham (3½ h.p. Matchless).—Good.

L. Cutler (3½ h.p. Triumph).—Good.

H. R. Dougal (5 h.p. Vindec).—Good.

J. E. Adam (3½ h.p. Triumph).—Good.

H. Ellison (1¾ h.p. Motosacoche).—Dismounted.

T. F. Cox dismounted at the first attempt, but later rode to the foot and ascended in good style.

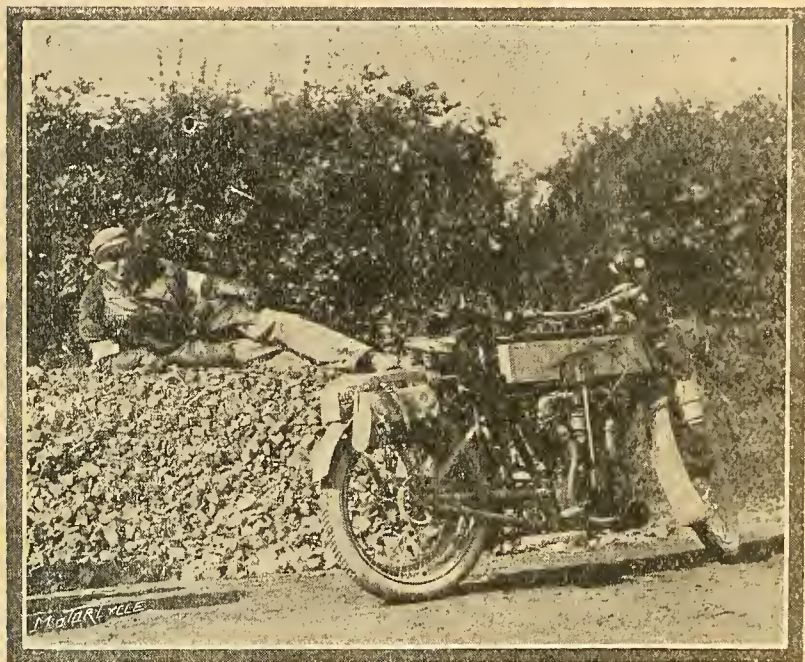
The official at the summit reported that H. B. Lewis (3½ h.p. Triumph) and one of the Motosacoche riders dismounted.

Auto Cycle Union End-to-end Reliability Trials.—

After leaving Red Hill, the men had a splendid run mostly downhill, when after a few miles a *détour* was made through a pretty winding road to the outskirts of Bristol, where there was the first check of the day.

Negotiating Bristol and its Trams.

Here the men were splendidly piloted across the Avon and along its banks, then under the suspension bridge and up the steep hill on to the Clifton downs.



A. F. Wilding, holder with M. J. G. Ritchie of the lawn tennis doubles championship, giving his 6 h.p. Bat-Jap a short rest near Exeter.

All the thick traffic was avoided, and save for a few yards, where the road was up for the laying down of tramlines, all was plain sailing. It was all splendidly managed, and Bristol, which is usually a bad town to traverse, was made quite easy. Then followed an excellent run over roads alternately wet and dry through Gloucester and Tewkesbury to Worcester. There were one or two slight showers, but, taking it as a whole, the going was good. At Worcester (256¾ miles from the start, and 104¼ miles from Taunton) a halt was made for lunch. Here a number of people came to see the men, among whom we noticed Mr. and Mrs. Schulte, and Messrs. F. Hulbert and I. B. Hart-Davies. Miss Hind had again much trouble with her clutch, and Dr. Mayo, the possessor of the unlucky number 13, had had his carburetter on fire on several occasions. J. Tassell experienced punctures, J. O. M. Dixon loose spokes and other troubles, but, on the whole, most of the *pannes* were of a trivial nature. After lunch the going to Kidderminster was excellent, but after leaving this town two severe hills had to be negotiated. The first of these, which is the steeper, had a very loose surface, and on it and its fellow many spectators had congregated. All the way along the route great enthusiasm was displayed, and through Gloucestershire, Worcestershire, and Shropshire the police gave every possible assistance, and carefully guarded the cross roads. In Cheshire, however, they were slightly inclined to treat the matter differently. From Bridgnorth onwards the same road conditions prevailed, and in Shifnal, which is approached by a steep hill, followed by a right-angle bend, part of the road was up, and nearly everyone had to dismount. Just outside Wellington a rainstorm of exceptional

severity was encountered, but from this town to the destination for the day the roads were good and wonderfully straight. Warrington turned out in its thousands to witness the arrival of the men, but some difficulty was experienced in accommodating them. The machines were garaged in the yard of the Lion Hotel. At 11.15 p.m. all have arrived except Messrs. Ridler, Randle, Nelson, and Cutler. Randle's delay is due to ignition troubles, and Cutler's to a burst tyre.

At the end of the second day's run the following competitors lost no marks:

W. H. Wells	H. C. Hanrott	L. Cutler
J. Tassell	A. M. Lomax	H. Ellison
S. W. Carty	G. Lee-Evans	W. F. Merritt
A. D. Nicholson	O. C. Godfrey	J. E. Adam
G. Gibson	F. W. Applebee	G. L. Fletcher
F. Dover	A. J. Sproston	W. Smith
F. S. Barnwell	J. Slaughter	C. A. Palmer
Dr. Mayo	J. Marshall	A. D. Powell
M. Geiger	P. H. Cockcroft	H. B. Lewis
F. C. Mustard	A. H. Ormerod	A. M. Tatham
C. E. Murphy	J. O. M. Dixon	P. Weatherhilt
W. H. Outwin	R. Moore	F. W. Barnes
E. Gwynne	H. H. Dommett	A. F. Wilding
W. Douglas	R. King	A. D. E. Craig
P. Phillips	J. Haslam	H. D. Seale
E. Clark	Sir R. K. Arbuthnot	H. R. Dougal
R. W. Duke		

Marks have been lost by the following men:

M. W. Randle and E. Nelson, not reported on Tuesday night; have probably retired.

T. F. Cox, 9 marks; section early.

Miss Hind, 83 marks; repairs to clutch in garage.

T. K. Hastings, 8 marks; section early.

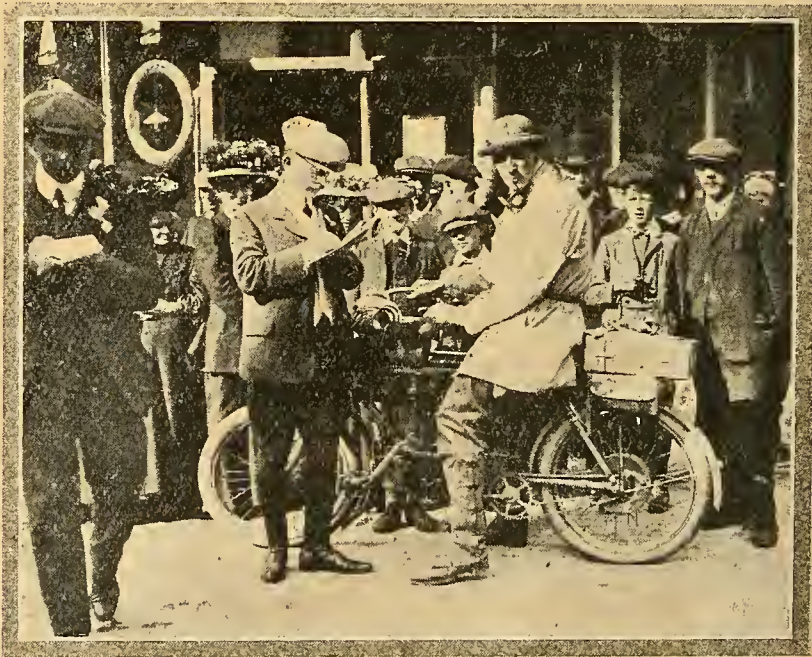
W. Milnes, 11 marks; section early.

J. V. Robinson, 13 marks; late in section.

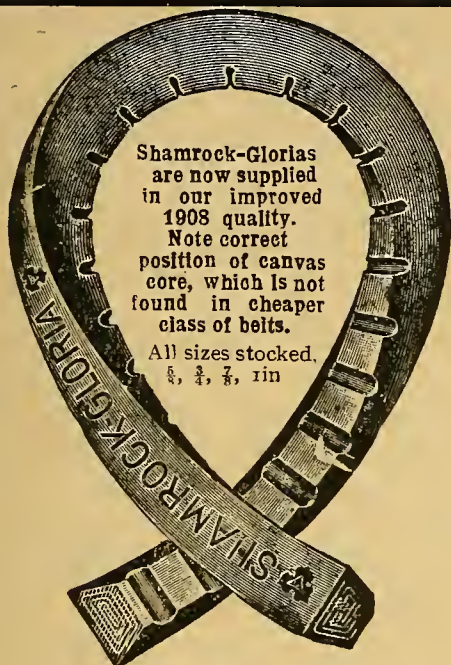
W. Newman and W. Ridler not reported. Newman arrived at 9.20, after being delayed by a choked carburetter.

THIRD DAY, Wednesday, July 15th.—Warrington to Moffat, 158¾ Miles.

After sorting themselves out from the various hotels and lodgings in this town of cobble stones and tramlines, the competitors congregated at the Lion, and left at 8 a.m. All the previous arrivals started except Ridler. For the first hour busy towns thronged with trams and other traffic had to be negotiated. The streets were paved with badly worn cobbles, and in places the surface was execrable. Between the towns, however, the going was passably fair, but Preston



In the Exeter Control. A. D. E. Craig (5 h.p. four-cylinder F.N.) being checked by the officials.



Shamrock-Glorias
are now supplied
in our improved
1908 quality.
Note correct
position of canvas
core, which is not
found in cheaper
class of belts.
All sizes stocked.
5, 6, 7, 8, 9 in

THE POPULARITY

of

Shamrock-Gloria Rubber Belts

is proved not only by greatly increased sales year after year, but still more by unparalleled successes in all long distance runs, hill-climbs, etc.

Result of London-Edinburgh Run :

63 belt-driven motor cycles gain **GOLD MEDALS**.

SHAMROCK-GLORIAS : 34 GOLD MEDALS

(6 for double journey).

3 SILVER MEDALS

Total—37 Awards,

including M.C.C. Cup, won by Mr. S. G. Frost
(remaining awards divided amongst 5 other makers)

SUTTON BANK HILL-CLIMB.

Of grooved rubber belts S.G. Belts score exclusively :
2 FIRSTS and 2 THIRDS.

BARNSELY HILL-CLIMB.

FIRST and SECOND, also Fastest Time.

WALTHAMSTOW 100 MILES RUN.

2 NON-STOP out of three.

NEW 5 MILES RECORD

by Mr. C. R. Collier, using S.G. Belt, at Birmingham.

Messrs. H. Collier & Sons, Ltd., write 9/7/08.

"We have much pleasure in informing you that at Birmingham on Saturday last our Matchless motor cycles were successful in obtaining three firsts and one second, using Shamrock-Gloria Belts.

Our Mr. C. R. Collier also succeeded in lowering the five miles track record by 27 secs., in each case your belts giving the greatest satisfaction.

The Shamrock-Gloria has no equal of its kind.

SOLE MANUFACTURERS :

The HANOVER RUBBER CO.,

29-31, Old Street, London, E.C.

PROOF

Never has a tyre gained the confidence and patronage of the public as rapidly as the

Shamrock-Excelsior Rubber-studded Tyre.

Only introduced a short time ago, we occupy to-day the

Proud Position

of gaining unequalled results in such important competitions as the London-Edinburgh Run.

21 GOLD MEDALS

(2 for double journey),

2 SILVER MEDALS

are awarded to users of Motor Cycles fitted with S.E. Tyres.
Mr. W. Chater Lea on his C.L. Carette also uses S.E. Tyres,
and gains a **GOLD MEDAL**.

(10 other tyre firms divide remaining honours.)

The reason for such unparalleled success
and patronage is not far to seek

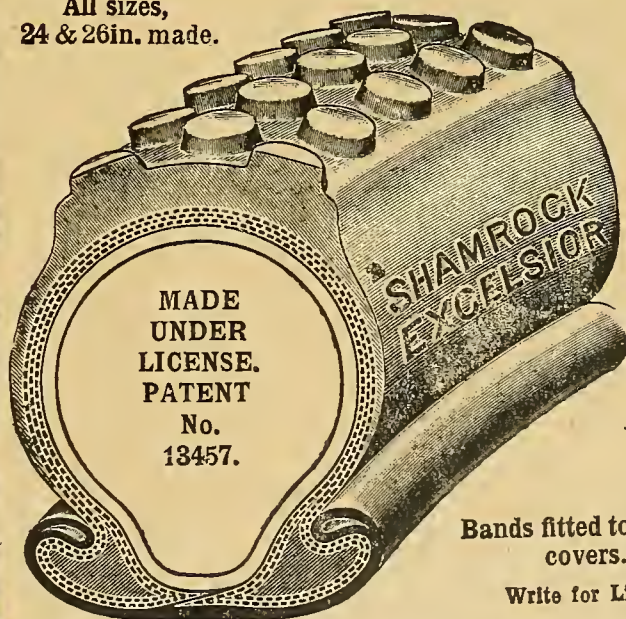
A1 QUALITY AND WORKMANSHIP.

COMPLETE IMMUNITY FROM SIDE-SLIP.

PERSONAL SAFETY AND COMFORT.

**S.E. Tyres are the only suitable
Tyres for motor cycling.**

All sizes,
24 & 26 in. made.



Bands fitted to 26 in.
covers.

Write for Lists.

SOLE MANUFACTURERS :

The HANOVER RUBBER CO.,

29-31, Old Street, London, E.C.

Look

at this fine range of fine machines

extending all the way from the $1\frac{1}{4}$ h.p. Lightweight to the 6 h.p. Twin. They represent the splendid range in

THE FAMOUS

N.S.U.

Selection.

There is no motor cycle on the road or track with such an enviable record for hill-climbing or reliability as the N.S.U.

Wherever motor cyclists congregate the owner of an N.S.U. is enthusiastic over the merits of his mount.

Send us full particulars of your requirements and we will tell you all about the model that will exactly fit your wants.

N.S.U. Non-skid Device prevents side-slips and is fixed in a couple of minutes.

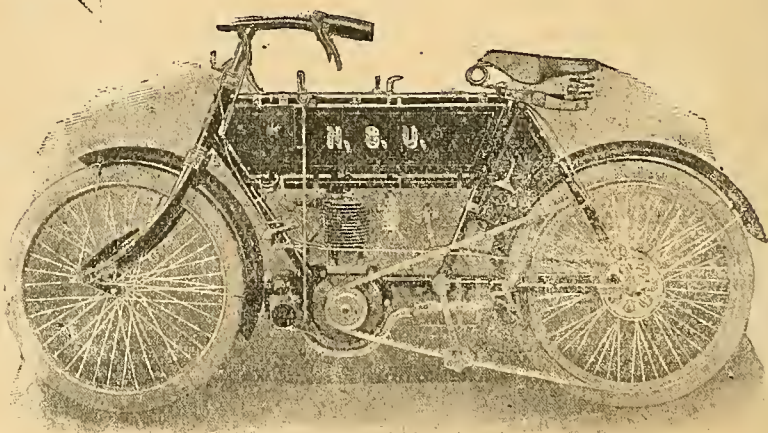
N.S.U. Belt Fasteners save a lot of worry.

N.S.U. Two-speed Gear levels all hills.

N.S.U. Sparking Plugs solve misfiring troubles.

The N.S.U. MOTOR CO., Ltd.,

78, Charlotte St., London, W.



$1\frac{1}{4}$ h.p. Lightweight
complete with
Spring Forks and Stand.

Single Cylinder
 3 h.p. Spring Forks.

Single Cylinder
 $3\frac{1}{2}$ h.p. Spring Forks.

Single Cylinder
 $3\frac{3}{4}$ h.p. Spring Forks.

Single Cylinder
 3 h.p. Girder Forks.

Single Cylinder
 $3\frac{1}{2}$ h.p. Girder Forks.

Single Cylinder
 $3\frac{3}{4}$ h.p. Girder Forks.

Twin Cylinder
 4 h.p. Girder or
Spring Forks.

Twin Cylinder
 $5\frac{1}{2}$ h.p. Girder or
Spring Forks.

Twin Cylinder
 6 h.p. Girder or
Spring Forks.
THE machine for Side Car work.

2, Ash Place, Newcastle Road,
Sunderland, July 1st, 1908.

Dear Sirs,

I am pleased to inform you that my 4 h.p. N.S.U. which I rode in the 1906 End to End Trial is still going as strong as ever. In the Sunderland and District Motor Cycle Club's Reliability Trial held on the 24th June, to Doncaster and back a distance of 220 miles, I completed the journey well up to time at all controls and without the loss of a single mark, qualifying for the "Vaux Cup" and Silver Medal. The machine ran perfectly throughout and required no adjustment whatever. I enclose your perusal. Cutting from the *Sunderland Echo* for your perusal.

Wishing you every success,
Yours sincerely,
(Signed) S. WILSON.

Auto Cycle Union End-to-end Reliability Trials.—

proved troublesome. The check was at the entrance to the town, and owing to the A.C.U. flag not being in a very conspicuous position several of the men passed it by, got well into the town, and had to come back. Outwin was run into by a cart, which passed over his front wheel. Douglas, on the 2¾ h.p. Douglas, found the bad surface rather too severe on his front forks, which broke and threw him over, fortunately without damaging him seriously.

The traffic in Preston was considerable, but once through it the competitors had excellent roads for the rest of the day's journey. At Broughton, four miles out, two competitors reported they had missed the

spicuously good. These were, as far as can be told simply by observation, made by:

P. H. Cockcroft (3½ Triumph)	P. Phillips (2¾ Douglas)
M. Geiger (6 N.S.U.)	J. E. Adams (3½ Triumph)
W. H. Wells (5 Vindex)—	Miss Hind (5 Rex)
excellent	A. H. Ormerod (5 F.N.)
R. M. Moore (3½ P. and M.)	A. D. E. Craig (5 F.N.)
T. K. Hastings (5 Indian)	

A few riders of the lightweights had to pedal rather vigorously, but we only observed one failure, namely, that of H. Ellison (1¾ h.p. Motosacoche—the smallest machine in the competition). The surface of the hill was better than we have seen it before, and the roads got better and straighter as the journey North was continued. In Penrith a real genuine police trap in



In the hotel yard at Warrington. Some of the Trials Competitors ready to start.

Preston check, and had their cards viséd by an official who happened to be near. From Broughton to Kendal the police were reported to be very active, but no one was stopped. Randle, who did not arrive till the men were being despatched from the night's stopping place, was last seen at Kendal, where lunch was served at the Railway Hotel. During the morning's run several men were seen stopped by the roadside, but most of their troubles were of a trivial nature, and, on the whole, the machines are doing exceptionally well, and are proving themselves to be vastly superior as regards hill-climbing in comparison with those which competed two years ago.

The Climb up Shap Fell.

From Kendal to the top of Shap Fell the road rises steadily, but not continuously, until the foot of the hill proper is reached, where a gradient of about one in ten is encountered, which afterwards eases rapidly. There being nothing to prevent them, most of the men allowed their engines to cool before tackling the final section. The performances up Shap were so satisfactory that we shall only mention those whose performances are con-

good working order was discovered, and duly proved to be the real article by E. Clark, Miss Hind, and A. J. Sproston, and the two latter were accused of travelling at the rate of one-eighth of a mile in 22s. The officials in Mr. Starley's Rover discovered this "control," and warned most of the other competitors.

A Good Day's Run.

From Penrith right up to Moffat the going was magnificent, the roads were straight and remarkably smooth, and with the wind behind them the men had all they could do to keep the pace down. All day the rain kept off, and the weather was fine but cold, and devoid of sunshine, but a heavy downpour was experienced by all but the earliest arrivals at Moffat. With regard to the troubles experienced by some of the competitors, Phillips, the rider of the other Douglas, broke the forks of his machine near Shap, and had to retire. Both the Douglas machines are therefore *hors de combat*. Miss Hind experienced no further trouble, but the back wheel of her machine is sadly out of truth. F. W. Barnes had five punctures; L. Cutler had six punctures and a broken exhaust valve, which for a

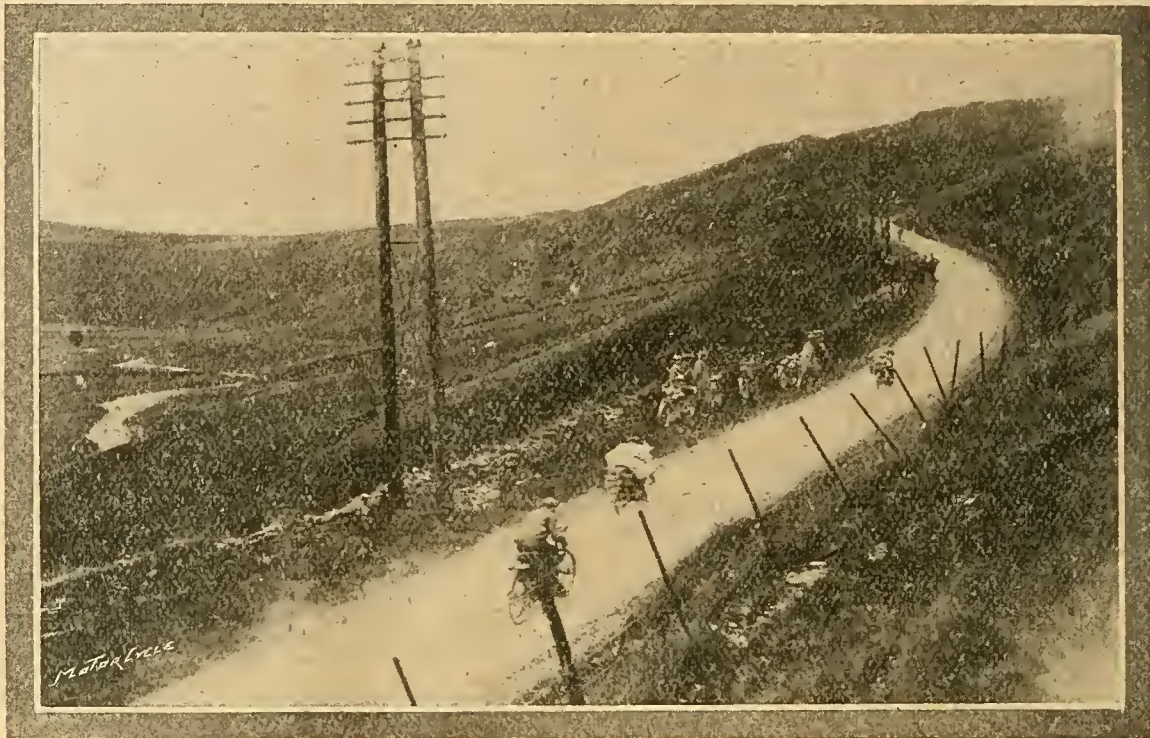
Auto Cycle Union End-to-end Reliability Trials.—

long time refused to be withdrawn; Applebee's pulley flew off; and one of the Roc riders had a troublesome short in his magneto. At dinner time at Moffat a wire was received from Nelson to say he had been on the road since 3 a.m., his carburetter had caught fire, but he hoped to arrive that night. Randle arrived very late, hopelessly out of the competition and wet through, but plucky, and determined to finish somehow. The idea of utilising Moffat as a stopping place is a good one, as it is a delightful spot among the lowland hills; the hotel, the Buccleuch Arms, is excellent, and the people are most anxious to render the competitors all the assistance possible. Taking it as a whole, the day's run has been a most successful one, and the easiest of all so far. Up to the present all has passed off most successfully, and the management is excellent. B. H. Davies, who has been assisting the officials, had to leave at Carlisle, much to his disappointment. For the first part of the day's run we rode on the 14 h.p. N.A.G., a new car, which, if it meets with the success it deserves, will soon become popular, and will appeal to those motor cyclists upon whom fortune smiles and enables them to invest in a more imposing vehicle.

FOURTH DAY, Thursday, July 16th.—Moffat to Pitlochry, 137½ Miles.

This day's run was ridden in rain throughout and over soddened roads. Twelve miles uphill faced the riders from the start, and owing to the falling rain very little interest was, we fear, taken in the surrounding scenery. Miss Hind, who is riding with indomitable pluck and perseverance, unfortunately experienced trouble just before Perth with a buckled back wheel.

She waited in Perth for the wheel to be repaired, and left that town at 3 a.m. on Friday, arriving at Pitlochry at 7 a.m. We understand that while the wheel was repaired at a garage she took forty winks, and resumed the journey immediately the machine was ready.



Some of the riders ascending Shap at a fast speed. Note the interested motor cycle spectators.

The marks lost on the four days' running are as follows:

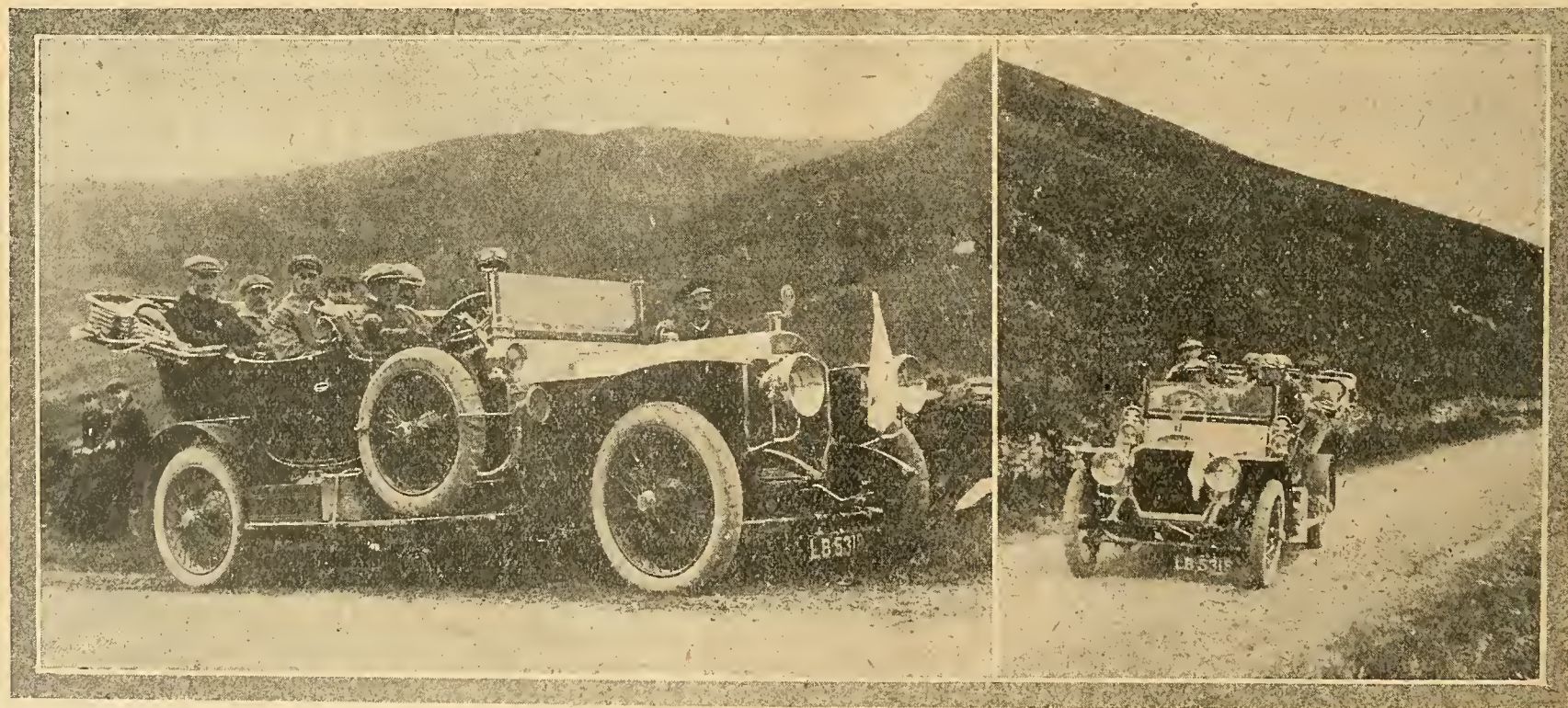
Eli Clark (2¾ h.p. Douglas)	...	...	81 marks
A. J. Sproston (5 h.p. Rex)	...	...	33 "
Leofric Cutler (3½ h.p. Triumph)	...	...	42 "
G. L. Fletcher (2 h.p. Moto-Rève)	...	...	218 "
P. Weatherhilt (3½ h.p. Zenette)	...	...	37 "

The following retired this day:

T. F. Cox (Minerva)	W. Newman (4 Roc)
H. Ellison (1¾ Motosacoche)	A. D. Powell (3½ B.P.)

No official reports were issued on the performance of the following:

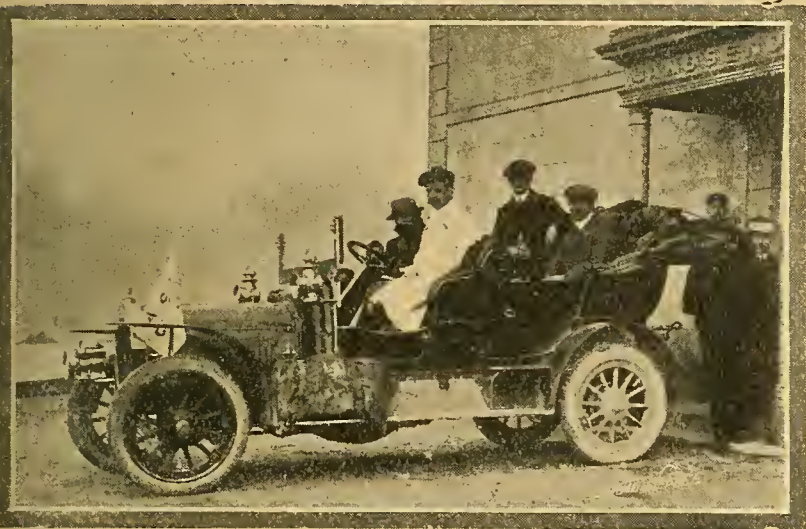
Miss Muriel Hind (5 Rex)	E. Nelson (5 Rex)
H. R. Mayo (5 Vindec)	M. W. Randle (10 Lagonda)



Two views of one of the official cars. Mr. G. H. Levick's 40 h.p. Napier. It will be noticed the car is fully loaded.

Auto Cycle Union End-to-end Reliability Trials.—

The non-starters were W. Ridler (6 h.p. Leader); E. Nelson (5 h.p. Rex), who never turned up despite the telegram referred to in our report of yesterday; and of course Douglas, whose retirement has been reported. Phillips, who was stated to have retired, repaired his machine and started with the others, as also did Randle. From Moffat the competitors ran back south for about



Mr. J. K. Starley's 20 h.p. Rover official car at Land's End. Mr. Straight is seated beside the owner.

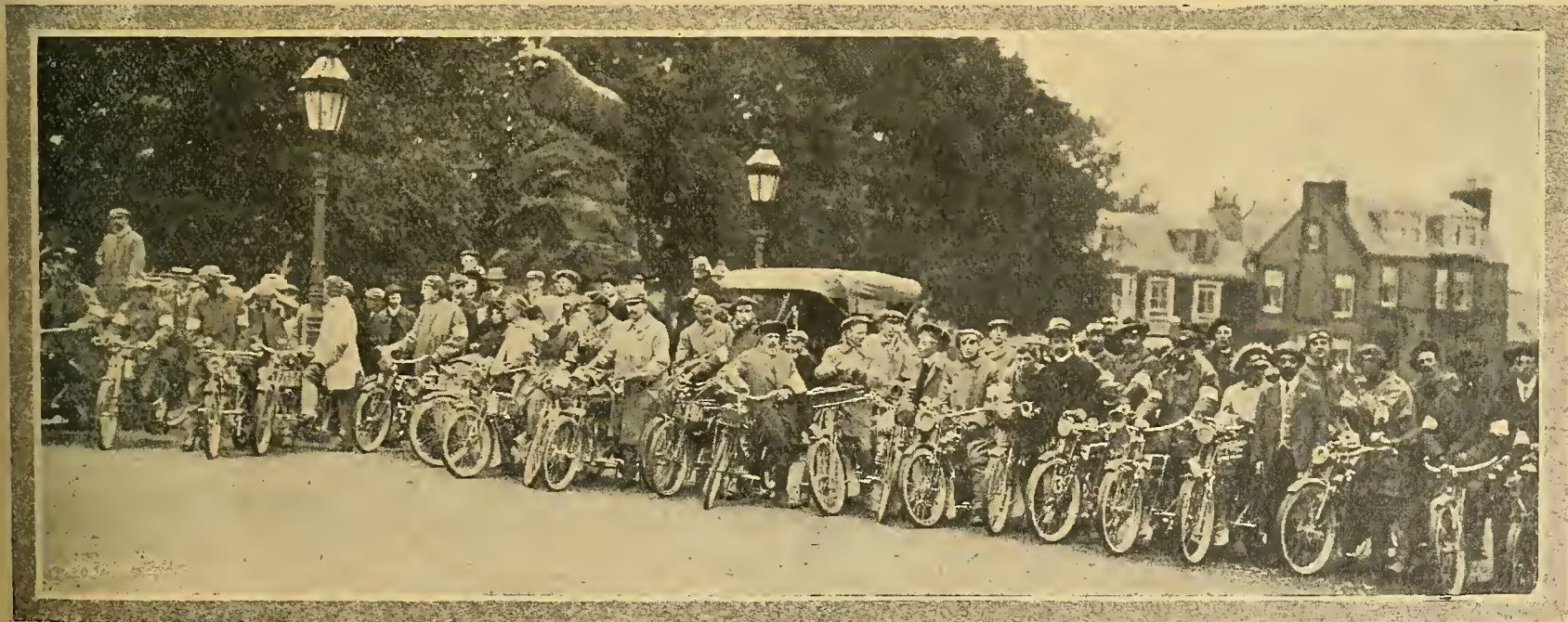
a mile, and then just north of Beattock took a very sharp turn to the right and joined the Glasgow Road. The surface was magnificent, the wind behind the men, and the road so beautifully graded, that it was hard to believe that Beattock summit was 650ft. above the level of Moffat. Through Crawford and on the roads were so excellent that the men had great difficulty in keeping their speed down; in fact, we came upon a large batch of riders just outside Lanark who were considerably ahead of minimum time, and one of them who is notorious for always keeping in the front rank crouched down behind the parapet of the bridge over the Clyde, on which his machine was standing, as the official car came by, much to the amusement of the occupants, who saw it all.

At Lanark, the first control, the sky became overcast and rain began to fall heavily, rendering the rest of the day's run (which was fortunately comparatively short)

as miserable as could be. The good going met with on the previous section was over and done with, and mud, slosh, and greasy roads, and all the abominations of the colliery districts through Newmains, Carluke, and such like towns had to be encountered. The surface at times was abominable, but except in and near the towns the roads were not of a particularly slippery nature. Lunch was served at the Station Hotel, Stirling, where the second check was situated. The checker, however, failed to turn up. Fortunately, the Rover with Straight, Reynolds, and Macdonald on board arrived in good time, and took over the matter promptly. The rain still came down, and the road conditions were worse than ever, causing the coloured tam-o'-shanters to run and dye the men's clothing, while the mud was inches deep in places. It was an unfortunate day for many of the men. In the morning New-man (4 h.p. Roc) had trouble with the ball bearing of the connecting rod and had to retire. He was towed seven miles to the nearest station by his *confrère*, Palmer, riding a twin-cylinder Roc, who accomplished this Samaritanlike action without losing a mark. Cox (7 h.p. Minerva) retired owing to engine trouble and a side-slip. In Aberfeldy, Craig (5 h.p. F.N.), who hitherto had had no trouble at all, broke down, and after trying everything, walked into Pitlochry, arriving there just before 9 p.m. At Dunkeld, Fletcher (2 h.p. Moto-Rêve) broke fork spring, and is said to have withdrawn. At Perth, Ellison (1 1/4 h.p. Motosacoche) burst his back tyre. Phillips's Douglas again suffered a breakage, and he has had to withdraw. A. D. Powell (3 1/2 h.p. B.P.) had trouble with his two-speed gear, owing to some odd size balls being put into the gear with the grease, the fault of a careless assembler, most of the teeth of the gear wheels are stripped. Hitherto Dr. Mayo, M. Randle, and Miss Hind have lost all the marks they could possibly gain, but they hope to struggle on and qualify for a bronze medal. Despite the above troubles a large number of riders have lost no marks. It is to be hoped that the weather will improve for to-morrow and the last day, as the scenery is magnificent if the sun is shining.

In addition to the list on the previous page, marks were lost by:

W. Ridler (6 h.p. Leader), W. W. Douglas (2 3/4 h.p. Douglas), and P. Phillips (2 3/4 h.p. Douglas).



Group of survivors at Moffat, after completion of 511 miles in three days. Up to this point only five competitors had retired.

Auto Cycle Union End-to-end Reliability Trials.—

FIFTH DAY, Friday, July 17th.—Pitlochry to Tain, 134 Miles.

Thursday had indeed been a trying day, but on Friday morning, with the sun struggling to come through the clouds, and here and there a patch of blue sky, the competitors little knew what they were about to encounter. At 8 a.m., when the men were sent off, the sky looked threatening, and a typical Scotch day seemed imminent, which means that windy showers are to be expected over the Grampian Pass. From Pitlochry through Blair Atholl the road was much improved, and a steam roller was seen doing good work. Here and there it rained fitfully, but it kept fairly fine, and the roads were not very slippery until Struan was reached. Here the real climb begins, the country becomes desolate and barren, yet the scene is impressive, but the road deteriorates greatly. For stretches the surface is quite good, and then it is loose, especially at the corners. The ascent continues gradually without any very severe gradients, until the summit at Dalnaspidal, about 1,500 feet above sea level, is reached. The road is also narrow, and was quite unpleasantly greasy at times, and this, together with the fact that a strong north-easterly wind blew down the route, greatly added to the discomfort of the riders.

At Dalnaspidal it rained heavily, and continued for some time. At times the distant mountains looked grand through the mist and rain, but all the beauties of the Drummochter Pass, so conspicuous on a sunny day, were absent. After Newtonmore the rain eased a trifle, and a glimpse of two of the pretty lochs situated between Aviemore and Carrbridge was afforded. From Aviemore on there are no very long hills or steep gradients until Carrbridge is reached, but the road is apt to be somewhat rough. At Carrbridge there is an exceedingly long and stiff pull over the mountains, and a further stretch of barren, exposed, and yet beautiful country has to be traversed. The rain here descended in sheets, drifting across the route and rendering the surface of the roads a perfect quagmire in places. Here and there men were seen temporarily stopped by the roadside, and a good deal of trouble was experienced. This section was particularly trying, and how the men got through it at all is difficult to understand, as the roads were exceptionally hilly and the gradients were all the more difficult to negotiate owing to the thick mud, rain, and cold head wind.

The writer has been through every A.C.U. Trial since the first one in 1903, and he has never seen such weather or such roads. The fearful day—Stamford to Scarborough—in 1904 was as nothing to it. All are showing extraordinary pluck and determination, and yet many had to get off and push through the mud. On one patch one man, who was driving down the long hill into Inverness with his throttle almost shut, had the engine suddenly stop in reaching one of the worst patches of mud, entirely owing to the increased friction caused thereby. Despite these trials the vanguard reached the Station Hotel at Inverness with the punctuality of a train. Half-drowned and tired of the weather, the men had luncheon and started out on the last section of the day's run. It was no ordinary run of eighty-nine miles between breakfast and luncheon, as it entailed climbing two mountain passes, many other severe hills, encountering heavy

rain and strong head wind, and roads of the worst possible description. All through luncheon time as the men came in one by one it poured in torrents, and so bad were the weather conditions that the men were told they need not adhere strictly to minimum time during the afternoon section, and have extra time to clean their machines on their arrival—a pronouncement which afforded them no small amount of comfort. Just as the first batch of riders was leaving the Highland capital Miss Hind arrived, loudly cheered by the other competitors and onlookers. From Inverness to Tain the weather conditions improved greatly. There were a few showers, and after a few miles the roads improved and became smooth and hard. If only the sun had shone it would have been a glorious run. All along the shores of the Beaully and Cromarty firths the scenery is beautiful, and was fair to look upon even in the gloom and cold.

Naturally, a good many people have been in trouble. Milnes ($3\frac{1}{2}$ h.p. P. and M.) had his tank filled up with water instead of petrol. It appears a car driver had been replenishing his radiator from a petrol can filled with water, and a garage man had taken this up by mistake, and had poured it into Milnes's tank, with the result that he was threequarters of an hour discovering the trouble and remedying it. Outwin ($3\frac{1}{2}$ h.p. Triumph) had several falls through the greasy condition of the roads, and had his magneto down. Barnwell ($3\frac{1}{2}$ h.p. Rex) had the low speed out of action, and his luggage carrier broken. Weatherhilt ($3\frac{1}{2}$ h.p. Zenette) wired from Carrbridge that his coil is shorting internally, and he is thought to have retired. Randle had a puncture, and has almost entirely worn away the teeth of the sprockets of his tricar owing to grit from the muddy roads. Cutler ($3\frac{1}{2}$ h.p. Triumph) has had bad tyre troubles. Dr. Mayo (5 h.p. Vindec) was misdirected, ran short of petrol, and had to push two miles. Miss Hind (5 h.p. Rex) arrived at about ten minutes to nine. She had had the carburetter on fire, which had given much trouble. Sproston (5 h.p. Rex) had, in company with many others, trouble through wet on the magneto; and Craig (5 h.p. F.N.) had one stop only, due to grit on the high-tension distributor of his magneto. F. W. Barnes ($3\frac{1}{2}$ h.p. Zenette) has had carburetter and belt troubles. A conspicuous feature of this severe trial has been the wonderful determination and pluck displayed by all. The organisation has been good throughout, and as an example we may point out that the direction arrows have been printed in two colours—red for a left-hand and green for a right-hand turn.

Marks have been lost by:

F. S. Barnwell, 79. A. J. Sproston, 162 W. Milnes, 13.
H. R. Mayo, 102. F. W. Applebee, 7. L. Cutler, 71.
W. H. Outwin, 8. A. H. Ormerod, 10 H. B. Lewis, 11.
O. C. Godfrey, 18. J. O. M. Dixon, 16

G. L. Fletcher and W. Smith (Moto Rêves) have not arrived at 10.15 p.m.

SIXTH AND LAST DAY, Saturday, July 18th. Tain to John-o'-Groat's, 111½ Miles.

On the morning of the sixth and last day's run all the arrivals of the previous night duly started from Tain at 8 a.m. The road is practically level round the Firth until Bonar Bridge is reached, when there is a stiff rise for several miles; it is then hilly for some distance until sea level is reached at Dunrobin. Some miles beyond hills are again encountered, and the stiff climbs of first the Ord and then Berriedale have to

Auto Cycle Union End-to-end Reliability Trials.—

be negotiated. The weather improved immensely two hours after the start, and the sun shone for the first time for several days. Unfortunately, a north-westerly gale blew down the route with considerable force, rendering the climb over the Ord, 747ft. above the sea, exceedingly trying. All the competitors were stopped on the summit and sent, after a short delay, to Berriedale, four miles further on, this section having to be covered without dismounting, so that the hill could be climbed under ordinary touring conditions. Those who stopped and restarted during this part of the journey were ineligible to compete for the special prize offered for the best ascent of the hill. The worst features of the climb are the first corner immediately over the bridge, where several of the men fell, and the second corner, which was exceedingly sharp and very hard to negotiate. Most of the riders came up in excellent style, and very creditable performances were made by W. H. Wells (Vindec), G. Lee-Evans (Rex), Cockcroft (Triumph), Hastings (Indian), Marshall (Triumph), Gibson (Triumph), and Dommett (Triumph)—all single geared machines; and Milnes (P. and M.), Palmer (Roc), Mayo (Vindec), and Moore riding machines fitted with change-speed gears. It has been decided, therefore, that Mr. A. G. Reynolds's prize should be divided between Dommett (riding a single-gear 3½ h.p. Triumph) and Dr. Mayo (riding a two-speed 5 h.p. Vindec).

After Berriedale came one very steep descent, and then all was plain sailing to Wick, but the wind was very trying. After lunch at Meredith's Hotel, Wick, the competitors proceeded to Keiss, six miles from John-o'-Groat's. From this point Mr. Levick's 40 h.p. Napier led the procession at about eighteen miles per hour to John-o'-Groat's House. On the way Clark (2¾ h.p. Leader-Douglas) was discovered with a broken steering tube. It was exceedingly hard lines

to fail to finish so near the end of the journey.

Leaving the Huna Road at Wart Hill, the men were led over a rather poorly surfaced road to John-o'-Groat's House, and there finished what has been a most arduous but very successful trial. The total number of starters was fifty-eight. Of these, forty-eight finished. Thirty-seven gained gold medals, five silver medals, six bronze medals. Those qualifying for gold medals are:

W. H. Wells (5 Vindec).	A. H. Ormerod (5 F.N.)
J. Tassell (3½ Matchless).	J. O. M. Dixon (3½ two-speed Vindec).
S. W. Carty (3¾ two-speed N.S.U.).	T. K. Hastings (5 Indian).
A. D. Nicholson (3½ Triumph).	R. Moore (3½ two-speed P. and M.).
G. Gibson (3½ Triumph).	W. Milnes (3½ two-speed P. and M.).
F. Dover (3½ Triumph).	H. H. Dommett (3½ Triumph).
F. S. Barnwell (3½ two-speed Rex).	G. King (3½ Triumph).
M. Geiger (6 N.S.U.).	J. Haslam (3½ Rex).
F. C. Mustard (3½ T.T. Triumph).	Capt. Sir R. K. Arbutnot, Bart., R.N. (3½ Triumph).
C. E. Murphy (3½ Triumph).	W. F. Merritt (3½ Triumph).
W. H. Outwin (3½ Triumph).	Dr. J. Ewing Adams (3½ Triumph).
R. W. Duke (3½ Triumph).	C. A. Palmer (5 two-speed Roc).
H. C. Hanrott (3½ Triumph).	H. B. Lewis (3½ Triumph).
A. M. Lomax (3½ Triumph).	A. M. Tatham (3½ Matchless-Jap).
G. Lee-Evans (3½ Rex).	A. F. Wilding (6 Bat).
O. C. Godfrey (3½ Rex).	H. D. Seale (3½ Triumph).
F. W. Applebee (5 Rex).	H. R. Dougal (5 Vindec).
J. H. Slaughter (3½ T.T. Triumph).	
J. Marshall (3½ Triumph)	
P. H. Cockcroft (3½ Triumph)	

Those who qualified for silver medals are:

Dr. H. R. Mayo (5 two-speed Vindec)	J. V. Robinson (1¼ Motosa-coche)
E. Gwynne (5 Vindec)	F. W. Barnes (3½ Zenette, Gradua gear).
A. J. Sproston (5 Rex)	

Bronze medals were gained by:

M. W. Randle (10 Lagonda tricar)	Rev. L. M. Cutler (3½ Triumph)
E. Nelson (5 Rex)	G. L. Fletcher (2 Moto-Rêve)
Miss Muriel Hind (5 Rex)	A. D. E. Craig (5 F.N.)



The survivors, numbering 48, at John-o'-Groat's House on Saturday evening. Compare this group with the one on page 571, and it will be noticed how few dropped out notwithstanding the severity of the ride and the very adverse weather conditions.

CLUB NEWS.

The Eastern District M.C.

The suggested joint run for clubs north of the Thames will take place on September 13th. Full particulars as to destination, etc., will be forwarded to any club interested. Present hon. sec., F. W. James, 2, Benworth Street, Harley Street, Bow, E.

Hartlepool and District M.C.C.

The result of the hill-climbing competition held on Silent Bank on Wednesday last is as follows: Twin-cylinder Class—1, H. Durkin (F.N.); 2, Dann (Rex); 3, Edwards (Stranton). Single-cylinder Class—1, Smart (3½ h.p. Triumph); 2, Tiffin (Minerva); 3, Fenwick (P. and M.)

Birmingham M.C.C.

The projected inter-club meet of motor cyclists at Stratford-on-Avon, already mentioned in our columns, will be held on the 22nd of August. The Birmingham M.C.C. are the organisers, and twelve clubs have already signified their intention of taking part. Further suggestions from club secretaries as to the programme should be addressed to R. Vernon C. Brook, "Eastgate," Green Hill Road, Moseley.

S.E. Auto Cycle Association.

The committee of the above Association has decided to postpone the penalty run to Saturday, the 25th inst., when the start will be made at 3.30 p.m. from the Green Man, Southend, Catford. Tea at The Retreat, Pole Hill.

The legal department of the Association has already been taken advantage of by an associate member, who joined under the 5s. scheme for unattached riders.

At the last committee meeting, Mr. A. G. Tell was elected to represent the Association in North Wales, where there are already several members.

Richmond and District M.C.C.

The reliability competition for the challenge cup presented by the captain, A. Carpmal, jun., took place on July 11th and 12th, the total distance covered being 183 miles. The members stayed the night at the Burlington Hotel, Worthing. The winner of the challenge cup was F. Cecil Wood, 5 h.p. N.S.U., whose machine was fitted with the N.S.U. side carriage; 2nd, vice-captain K. Lankester, to whom a gold medal will be presented. Unfortunately, the second day's run was marred with heavy rainstorms. The running between the first and second was very exciting, but towards the finish Mr. Lankester mistook the road, thus leaving Mr. Wood winner of the challenge cup. The finish was made at the Burford Bridge Hotel, where supper was partaken of by the members. A combined reliability and flexibility trial will take place on the 26th inst.

Leeds M.C.C.

The official results of the Leeds to London and back reliability trial, held July 11th and 12th, are as follows: 1, E. S. Myers (1907 3½ h.p. Triumph); 2, G. E. Tennant (5 h.p. Vindec); 3, F. W. Greenwood (3½ h.p. Rex); 4, T. G. Bullas (P and M.); 5, Geo. Horner (Royal Cavendish); 6, E. Slater (3½ h.p. Triumph); 7, C. E. Kettle (3½ h.p. Triumph); 8, T. W. B. Durant (Jap); 9, H. Greaves; 10, Tytler; 11, Felix Scriven (3½ h.p. Rex); 12, S. L. Gjertsen; 13, A. Moorhouse (3½ h.p. Triumph). Eight other riders finished in schedule time, twenty-three hours. Myers holds the trophy for one year and obtains a gold medal; Tennant and Greenwood gold medals. Mr. Bullas having made the highest score of any private owner, and not having previously received a gold medal from the Leeds M.C.C., is awarded a solid silver cigarette case, which has been presented to the club by Messrs. Walker and Hall. All members of the Leeds M.C.C. who finished inside schedule time will receive bronze medals.

CHAMPIONSHIP COMPETITION.

At the committee meeting on Friday night last it was decided to alter the date of this competition from July 25th to July 26th, in order that another 202 miles reliability trial could be run.

There will be a reliability trial from Leeds to Bowness and back on August 3rd and 4th, confined to non-trade members. The president has presented a cup for the best performance in the event. Entries to be sent to Mr. Bagshaw, 4, Ash Grove, Headingley, Leeds; entrance fee, 2s. 6d. The president hopes the first non-trade competition will be a great success. There are several other valuable prizes.

Manchester M.C.

The annual reliability trial for motor cycles takes place on Saturday and Monday, August 1st and 3rd, starting from the Trafford Arms Hotel, Old Trafford, 8 a.m. August 1st. The trials will consist of an out and home run to Cheltenham, with a hill-climb during part of the trials, all machines being timed from a standing start.

Newcastle and District M.C.C.

The above club will hold a petrol consumption trial on the 26th inst. near Wooler. A start will be made from the Barras Bridge, Newcastle, at 10.30 a.m., to Wooler for lunch. The trial will be held over a ten miles course, and every competitor will be provided with a special tank to be attached to his machine temporarily. The basis of the formula for deciding the order of merit will be weight propelled, distance, and volume swept out.

West Essex A.C.

The reliability competition for the president's trophy (a valuable shield, presented by Mr. B. Foster Wickens) was held on the 11th inst. Starting from the Artichoke Hotel, Shenfield Common, the course was four times round a fifteen miles circuit, taking in Warley, Cranham, Harold Wood, Upminster, and Ingrave. Two stiff hills, which were in very loose condition, had to be negotiated each round, and these proved the undoing of several competitors. Fourteen members faced the starter. Result: 1, G. W. Glenny (8-10 h.p. Darracq car), trophy and gold medal; 2, R. G. Dendy (3½ h.p. Brown bicycle), silver medal; 3, Ivan C. Brown (3½ h.p. Brown bicycle), bronze medal. Mr. C. D. Makepeace acted as starter and timekeeper. The contest was keenly followed by a good number of members and friends.

Cheltenham and District M.C.C.

The above club held its annual reliability trial for the Walter Unwin Cup on Wednesday, July 15th, the distance covered being seventy-four miles, the cup to go to the rider making a non-stop run, and whose time was nearest to three hours forty-five minutes, watches, speedometers, etc., being strictly barred. The winner proved to be Mr. R. Dance, he being only 23s. over the time. Result:

	H.	M.	S.
1. R. Dance, non-stop	3	45	23
2. D. Hayward, non-stop	3	44	31½
3. A. Cooke, non-stop	3	45	36½
4. C. Shermer, non-stop	3	45	47½
5. W. Mills, non-stop	3	50	32
6. E. Hamlin, non-stop	3	58	45

Timekeepers, Messrs. George Pearce and C. Holland.

The competitors and officials were afterwards entertained to tea at Arle Court by invitation of the president, Mr. Walter Unwin.

Bradford M.C.C.

The above club held its annual reliability trial, Bradford to London and back, on the 11th inst. Out of the seventeen entrants fifteen started, and twelve got through in schedule time, these being in order of merit as follows:

	Marks lost.
Eric S. Myers (Triumph)	X
G. E. Tennant (Vindec)	8
T. G. Bullas (Phelon and Moore)	11
E. Slater (Triumph)	13
H. Greaves (Triumph)	28
F. M. Scriven (Rex)	36
W. Jowett (Scott Jowett)	63
T. Briggs (Phelon and Moore)	76
P. Dyett (Triumph)	76
A. H. Forbes (Triumph)	83
Law (Rex)	120
Wild (Rex)	120

The prizes awarded for this competition were 1st (the Wm. Briggs Trophy) valued twenty-five guineas, 1st, 2nd, and 3rd gold medals, and bronze medal for all competitors finishing in schedule time. Mr. S. Johnson, as vice-president of the club, acted as timekeeper and starter. Messrs. Musgrave, Watmough, Woodward, and Hargreaves, being checkers at different places on the route, and were taken down by the official car very kindly lent by Mr. B. Downs. The chief hill-climb of the year, which is one of the most important in the North of England, takes place at Wass Bank on Saturday next, July 25th, for the Dyson Shield.

OCCASIONAL COMMENTS.

By "IXION."

Gear and Power.

I heard it asked the other day why four-cylinder motor bicycles have a far bigger vogue in the United States than in the old country? Many answers were suggested by an interested circle of enthusiasts, but a ride on my own in very hilly country has taught me that I am convinced is the main weight of reason. I was accompanied by three or four men on the popular machines of the day, viz., big twins, geared 4 to 1, and $3\frac{1}{2}$ h.p. single-cylinders, geared to a similar ratio. My four-cylinder was geared 6 to 1. We encountered a number of twisty corners on terrifying gradients, and whereas the other machines baulked, had to be taken down and reversed for a fresh rush, or were alternatively assisted by that awkward form of pedalling necessitated when a frame measures only 18 in. and a leg 32 in., my four-cylinder roared round the angles and up the steeps without a falter. It was all a question of gear. And not only was the four-cylinder geared low, but it was the only machine of the bunch capable of being suitably geared, for if the rival machines had possessed the small engine pulleys essential for a 6 to 1 gear, they would have eaten up two belts apiece per diem. Hence the popularity of the four-cylinder in the States. Road conditions there are often vile; full engine power at low road speeds is a pouring necessity; and a belt drive cannot efficiently supply this combination. Hence the vogue of the machine with a gear drive.

My Lubricating Record.

I took out the other day a 6 h.p. twin, the engine of which had just been dismantled for cleansing, and had been found to contain heavy carbon deposits. It had been oiled every five miles for 2,000 miles previously. I decided to see how economically I could run it in the matter of oil, and, using Wilburine, I actually covered 104 miles as near as I can estimate on only four charges. The first charge was put in at starting, and the next was injected after thirty-four miles. The big twin-cylinder engine showed no signs of calling for it, but I was growing nervous, my usual practice being to oil engines of this size at least every seven or eight miles. The remaining charges were also pure nerves on my part, as I could not detect any deterioration of the running or any increase of sound from the engine. The speed throughout the run

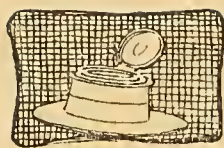
averaged twenty-four to twenty-six miles an hour. I wonder if the extreme delicacy of a beautifully adjusted and handle-bar controlled B. and B. carburetter had anything to do with the oil economy. I could cut down the gas to a nicety, and set the extra air within a millimetre or so of the required opening. I ran the surplus oil out of the engine on my return, and the crank case contained approximately the same amount as when I started. I must repeat the tests, and weigh the starting and finishing quantities.

Pre-ignition and Plugs.

"T. C. A." sends me an account of some instructive sparking plug experiments. He has a $3\frac{1}{2}$ h.p. and a 3 h.p. Triumph. One morning he took out the $3\frac{1}{2}$ h.p. with a sparking plug we will call plug A. On each hill tackled the machine stopped dead near the top, but would restart in a minute or two without attention. He then tried plug A in the 3 h.p. (which had never needed a roadside repair in 12,000 miles). The 3 h.p. climbed hills perfectly on this plug. He then put the original plug from the 3 h.p. (which we will call plug B) in the $3\frac{1}{2}$ h.p. machine, and it climbed hills perfectly, but, on plug A being restored to it, it again suffered from stoppages due to pre-ignition on hills. He thus has two engines and two plugs. One engine will run perfectly on either plug; the other will run on the flat only with one plug, but will run either on the flat or uphill with the other. I understand that the 1907 $3\frac{1}{2}$ h.p. Triumph engine has a slightly higher compression ratio than the 1906 3 h.p., and perhaps one of the plugs rapidly becomes incandescent when the throttle is opened, and it is in use on a high compression engine. The same correspondent has a third sparking plug, which regularly works admirably for distances approaching 1,000 miles, when it suddenly fails. A delay for it to cool effects no improvement at all, but if the plug is taken to pieces without being cleaned, scraped, reset, or in any way altered or adjusted, it will again work admirably for another period of 1,000 miles or so. The explanation of this is not at all obvious, and I should be inclined to say that a gap opens in the insulation and sets up a short-circuit, so that probably if the locking nuts of the packing joint and insulation were tightened without dismantling the plug at all, it would immediately spark again properly.



A group of some of the competitors in the Barnoldswick M.C. Reliability Trials held on the 4th inst.



LETTERS TO THE EDITOR



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Front Wheel Stands.

[3430.]—*Apropos* of front wheel stands and mending punctures in front wheel, I always support front of machine by hanging machine on a gate by the handle-bars.

PUNCTURE.

Belt Fasteners.

[3431.]—*Re* the enquiry of 3381, July 1st. I happen to be the user of the fastener in question, having had it handed me by the patentee three or four months ago for trial on my $3\frac{1}{2}$ h.p. Triumph. It has proved to be an advance on any such fitment hitherto used by me, for after a severe test of over 2,000 miles it shows practically no wear. I believe the fastener is to be marketed with an improved fixing screw and extension link suitable for variable pulleys. The patentee and manufacturer is J. B. Dall, Ladybank, N.B.

SATISFIED.

Bevel Gear Transmission.

[3432.]—I should like to ask makers of motor cycles how it is that we do not see more of the bevel gear transmission, as on the F.N. machines. One is constantly hearing of grumbling belt users, and it seems strange to me that the bevel gear and clutch is never offered as a cure.

I should at the same time like to ask why so many of even the best known makers turn out their single-cylinder machines M.O.I.V. and twins A.O.I.V.? Even the reverse, single-cylinders A.O.I.V. and twins M.O.I.V. would be better.

C. E. HOOPER.

Belts.

[3433.]—You have published several letters lately about slipping belts. I was coming home one night last week in a pouring rain from Beddgelert, which is up amongst our Welsh pimple, when I came across a motor cyclist in great distress. He had a leather belt, and what with wet and oil it was just like a string of slippery eels, and he was at his wit's end. As I am one that likes to get there *and back*, I carry a spare belt in case of the unforeseen turning up; so after wiping the slime out of pulley and belt rim, I fitted him up with a rubber belt. He smiled, and said he was no better off, but he would try it. It slipped for the first twelve or sixteen yards, and then it took its grip, and he rode into Bangor a convert to the rubber belt. It was a Lycett's Lyso belt and fastener that had done well over 800 miles. I should like to get "Jupiter" up here in the same corner, and then see how he would shape with his eight feet odd of slime. CC 230.

Running on Naphtha.

[3434.]—It may be of interest to readers of *The Motor Cycle* to hear that I have been running my 3 h.p. Fafnir on crude naphtha distilled from tar. It soots a little when starting up, owing to incomplete combustion, but there is no smell when running. Of course, sooting can be avoided by proper combustion. I am using an ordinary Longuemare carburetter, exactly the same as I used for petrol. The naphtha is slightly heavier than petrol, s.g. about .730, which is not noticeable. I get slightly more power if anything with naphtha than with petrol. I also know of an 8 h.p. launch on the Trent using the same spirit instead of petrol, and it has increased its mileage to the gallon by twenty to twenty-five per cent. The price is somewhere in the neighbourhood of 4d. or 5d. a gallon retail, but definite enquiries should be made at the Yorks. and Lincs. Tar Distillation Co., Standard Buildings, Leeds. Of course the naphtha fetches all paint off the carburetter, which is not much loss, but it will not injure enamel.

CYRIL V. ALBRECHT.

Leaking Batteries.

[3435.]—With reference to Mr. R. N. Morley's letter No. 3397, July 8th, suggesting improvements in batteries, may we point out that the improvements are already embodied in our accumulators? It is a practical impossibility for acid to leak round the terminal lugs, as we not only fit rubbers tightly round, but also fit celluloid grease caps as an additional precaution, thus forming a double preventive. We may say that we always appreciate these letters from practical riders, as being a guide to manufacturers as to the public requirements, and any suggestions tending to the betterment of electrical accessories will always be welcomed by us.

THE AJAX ELECTRICAL ENGINEERING CO.

The Single-cylinder Engine.

[3436.]—Has not the little Grand Prix at Dieppe, France entirely demonstrated that, for efficiency, speed, and reliability the single-cylinder engine on light cars is ahead of two and four-cylinder engines?

The performance on light cars equally applies to motor cycles, both single and passenger machines. For instance in the Cudham Hill-climb, a single-cylinder machine was only a fractional part of a second slower than the fastest twin-cylinder of nearly double the h.p.

It is to be hoped that some makers of French voiturettes will be induced to enter in the two days' light car trial that is being promoted by the S.E.A.A. in August, over an interesting southern route, and which will include a time test hill-climb.

D 1617.

[If they do compete it is to be hoped they will be touring cars and not racers. Most of the French voiturettes used in trials are mere skeletons with engines fitted.—Ed.]

Silence.

[3437.]—In writing a few words to you, to me, invaluable paper, may I say that in my humble opinion had motor cyclists paid more attention to your frequent appeals to avoid making unnecessary noise, the quickly disappearing prejudice of the public would have melted away much sooner.

In spite of your warning, the average motor cycle is too noisy. Why should it be heard farther away than a car as it often is? Many will say that there is no room for large enough silencer on a motor cycle. Now I have a 3 h.p. belt-driven Singer motor bicycle, which has been running since October, 1905. I do not exaggerate when I say that when running against a strong wind I often cannot hear the sound of the exhaust, save for a very faint hiss. People recognise it as something so different from the ordinary machine that they turn round after it passes and stare at it in amazement, as noise has come to be regarded as an indispensable accompaniment of the motor cycle. Cannot we show them that this is a great error? In doing so we shall do ourselves a service as well as them. If one firm can turn out a machine like this, others can. I find noiselessness does not depend on a good silencer alone. I can make a noise if I like. Good compression and full lift of the exhaust valve, with proper timing of valve and spark, make an immense difference. Add to this good driving, of course; and the best of it is that the very things that conduce to silence also make for power and speed.

Singer and Co. do not make motor bicycles now, but mine is a splendid machine. Three years back it had Simm's Bosch magneto and roller bearings to engine, and there was not an atom of play where rollers are fitted—in big end and shaft bearings.

I wonder if many of your readers have Singer motor bicycles, as I see very few. With best wishes for your campaign against noise.

SILENT.

Leaking Petrol Tanks.

[3438.]—Some of your readers appear to have had some difficulty with leaking petrol tanks. I have just had delivered a new machine which on arrival proved to be leaking seriously at the front of the tank, being built into the frame of the machine similar to the Roc. I hesitated about soldering. I scraped away the enamel and applied Fortifix, which is sold in sixpenny tubes. This has effectually stopped the leaking. The firm who supplied the machine said it must have been damaged in transit. The enamel which covered the bad workmanship was intact! Comment is needless.

Trusting this tip may be of service to any of your readers, I beg to subscribe myself
ANONYMOUS.

A Problem to be Solved.

[3439.]—With reference to the recent correspondence on the "abnormal" running of the four-cylinder F.N., my experience may be of some interest to your readers.

I have used one of these machines now for three years. When I first obtained it, it was fitted with one lever to operate both throttle and extra air. I very soon had it changed to a separate control for the extra air, with the very satisfactory results that I could get the engine into this "abnormal" condition at any time, provided the road was suitable.

My theory is that this "abnormal" running is obtained by getting a "perfect" explosive mixture from the carburetter, which is only obtainable at high speeds.

I also think that the even firing of the engine at high speeds obtained by keeping the distributor very clean tends to produce this high speed running of the engine.

In conclusion, may I add a word of praise for this fascinating little engine; my machine is running better now, its third season, than when I got it. P. U. JOHNSON.

[3440.]—I am much obliged to Mr. Brookes for pointing out the error in my letter *re* the four-cylinder F.N. crank case. I was speaking from memory, as I could not at the time lay my hand on the F.N. booklet. It is two years since I rode the F.N., and my ignorance of how the crank case is made must be put down to the fact that I never had to look inside it (nor, indeed, any other part of the engine) during the 2,000 miles and upwards which I rode it.

Since my last letter I have had the opportunity of looking at a F.N. crank case four-cylinder type. It is divided into four compartments, but the divisions are not complete, and there is room for oil to splash through from the forward to the rearward cylinder. I always found on my model that on referring to the windows in the crank case the oil was higher in the rear cylinder, and the level of the oil was lowered as one proceeded along the cylinders forward.

The manager at the F.N. Agency gave me a very simple explanation of the phenomenon: it had nothing to do with compression or lubrication. He says that once the back cylinder gets really hot and supplies warm air to the carburetter, which produces more efficient carburation, it has the result described.

I admire this for its simplicity, but it does not account for the fact that Mr. Ovington and others only get this result after going down an incline, or with the assistance of copious lubrication. It is, however, very probably the true explanation of this phenomenon's occurrence in single-cylinder engines.

JOHN F. H. TEMPLER.

Design of Exhaust Cams.

[3441.]—I notice "Ixion" is again decrying the old De Dion type of exhaust valve cam and tappet, and would have us believe it soon wears out and the power of the engine is lost. All I can say is the cam and tappet on my 2½ h.p. De Dion are six years old, the originals fitted to the engine. Bushes have come and gone in the connecting rod and the distribution (he is quite right about these bushes), but the cam and tappet are still going, and on comparing the former with a new one with a micrometer gauge recently, only the merest trace of wear was shown—quite inappreciable to the eye, though, of course, both cam and tappet were brightly polished. Really, with all respect to your contributor, there's nothing in it. These De Dion engines have a large margin of strength, especially in the distribution gear, and are beautifully made, and "Ixion" will find that the case-hardening goes deeper than he supposes, and is not a mere "potash

hardening" skin, such as anyone can put on an ignition cam; it is a process lasting a considerable time. My cam and tappet have run over 20,000 miles, probably nearly 30,000 (I haven't kept a log, but I am sure that if properly lubricated any De Dion engine will do this). I am in accord with him on the subject of distribution gear bushes; they are subjected to severe pressures, and get little consideration, as when worn they do not produce "knocking," but rather "roaring," in the valve gears. It is a subject which receives little attention both from the manufacturer and the user. On the former question, however, I think there is and can be no question that the De Dion type is a suitable valve gear, as witnessed by the number of old De Dion and similar engines running at the present day. G. D. MONICE.

Standardisation of Rims.

[3442.]—Whatever difficulties obstruct the standardisations of most details of the motor cycle, there is surely a clear path open to the adoption of a standard wheel rim. The three subjoined experiences emphasise the annoyance caused me within twelve months by the existing chaos.

I.

Scene: Northampton. Machine: A 3½ h.p. single, with two dicky covers. Sent size and make of rims, with cheque and order, for two new covers to a noted tyre firm. Need urgent, as I was just starting on a holiday. They replied that while their tyres would "fit" my rims approximately, they refused to supply me unless I had a pair of their rims built on to my wheels. Delay of forty-eight hours—deducted from my holiday.

II.

Scene: Hampshire. Machine: Big twin tricar. Rear tyre burst. Obtained two covers of nominally correct size, in turn, by telegraph. Neither would fit existing rim of nominally same size—one being far too small and the other far too large. Delay, seven days—deducted from my holiday.

III.

Scene: Penzance. Machine: 6 h.p. twin. Rode down with old tyre on rear wheel. Had new rubber studded tyre sent down in advance to wait for me. Both tyres and the rim were marked 650 × 65 mm. The rubber studded cover measured 3in. more in circumference than the old tyre and the rim. Result: Unable to start in the End-to-end trial, holiday upset, much money spent to no purpose.

I have had similar misfortunes in the past, and the sickening thing is that no single excuse or justification exists for the fact that a pair of 26in. × 2¼in. covers or rims of different makes may actually vary several inches in their measurements.

B. H. DAVIES.

Lubrication of Tram Lines.

[3443.]—In regard to your remarks *re* greased tramlines, nearly all the acute bends round about here (Forest Gate, E.) are greased daily. I know it only too well to be a fact, as it is impossible for me to take a country spin without first passing a beautiful specimen. How would the Corporation come off in case of a serious accident, caused through this highly dangerous and inconsiderate practice, which would be quite unnecessary if the tramcars were only constructed in a proper manner? I can promise them that if I am brought off there shall be some noise made about it.

While on this road subject, may I ask any reader or otherwise why the various gas companies are allowed to tear up the roads in thousands of places, and then merely pitch the material in and leave it to stand up four or five inches for every road user to have a share in flattening down? This kind of thing is simply unbearable here, as everybody has got the slot-gas craze in the poorer parts, and the flattening process is done so well that it eventually sinks below the level, leaving a kind of trough right across the road. My question is plainly this: Why are the various companies allowed to tear up the roads without replacing in a proper manner?

HARD TRIED.

EXPERIENCES WANTED.

"R. G. P." (Huddersfield) would like readers' experiences with 1908 Minerva automatic G. and A. carburetter.

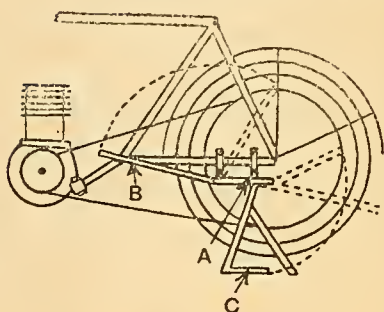
"R. N. C." (Redditch) is desirous of placing a lightweight motor cycle on the market. The engine would be made by a first-class British maker, and would be provided with magneto and gear drive. He wishes to know if there is any demand for such a machine.

RECENT PATENTS.

By ERIC W. WALFORD, F.C.I.P.A.

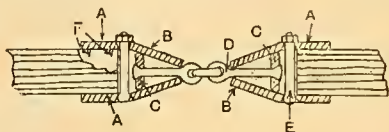
A Hinged Footboard.

Platforms are fixed to the side of the chain stays, and these have hinged to them the footrests B, which can be swung out of the way, as shown in dotted lines, when it is necessary to pedal. The stand C can be fixed to the platform A as shown.—W. C. Unwin, No. 22,324, 1907.



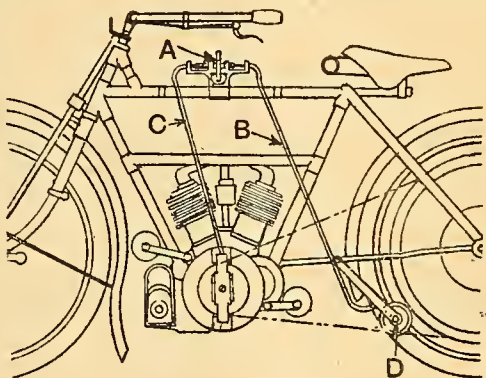
A Belt Fastener without Screws.

The feature of this fastener is that it is held in place without the use of screws or bolts. It consists of plates A with sloping ends B, between which lie washers C connected by links D. The plates A are held together by bolts E, which do not pass through the belt, the plates A gripping the belt by means of teeth or tongues F. It will be seen that the pull of the belt tends to draw the washers C out of the confined space in which they are contained. This tends to separate the ends B of the plates, forcing the tongues E firmer into the belt as the pull increases.—E. Liddell, No. 19,828, 1907.

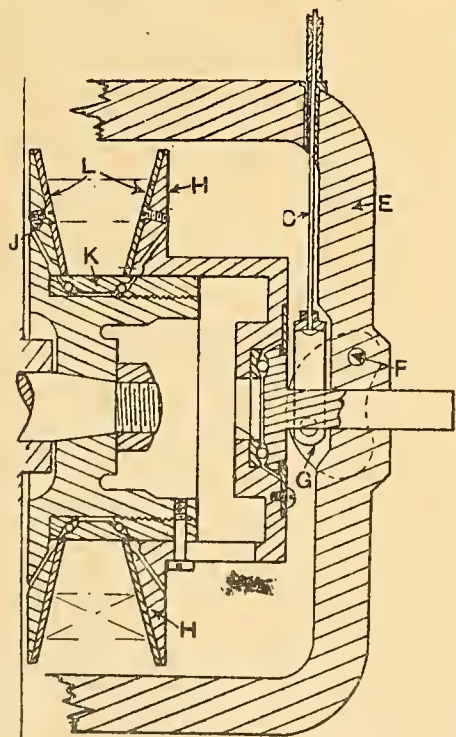


A Variable Speed Gear and Free Engine Device.

This gear is also of the expanding-pulley-cum-jockey type. The tension of the jockey pulley is controlled, as also is the effective diameter of pulley, from a hand wheel A. The hand wheel has connected to it two operating wires B and C, the former acting on the jockey pulley D and the latter on the adjustable pulley flange. This it does in the following manner: On a suitable fixed bracket E is pivoted at F a curved plate G, to which the operating wire C is attached. This bears against



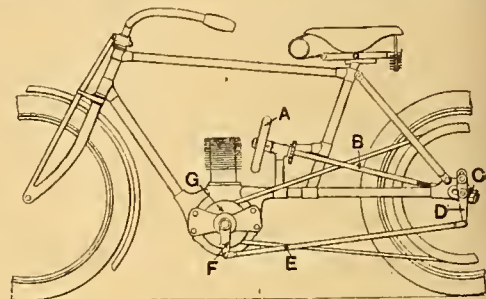
a plate attached to the movable pulley flange H. Thus, when the wire C is pulled upwards the plate G turns about its pivot F, forcing the flange H inwards and raising the gear. When the wire C is slacked right off the flange moves clear away from the inner flange J, allowing the belt to run upon the collar H, which is mounted upon ball bearings. Thus a free engine is obtained when the wire is slacked right off. The pulley faces are provided with detachable plates L, as shown, which can be removed when the pulley wears. The operating wheel A works through screw and nut gearing, so as to pull on one wire C, and slack off the other wire



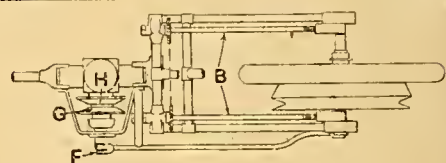
B, and vice versa.—L. C. Bour, No. 21,415, 1907.

An Infinitely Variable Gear.

This gear comprises an expanding pulley working in conjunction with a movable back wheel, the wheel moving backwards and forwards, as the case may be, to tighten or slacken the belt as the pulley is adjusted. The hand wheel A is operated, which, by means of the rods B, forces the back wheel in either direction in the slides C. By means of the link D and rod E, the crank F is moved when the position of the back axle is changed. This crank F is connected through

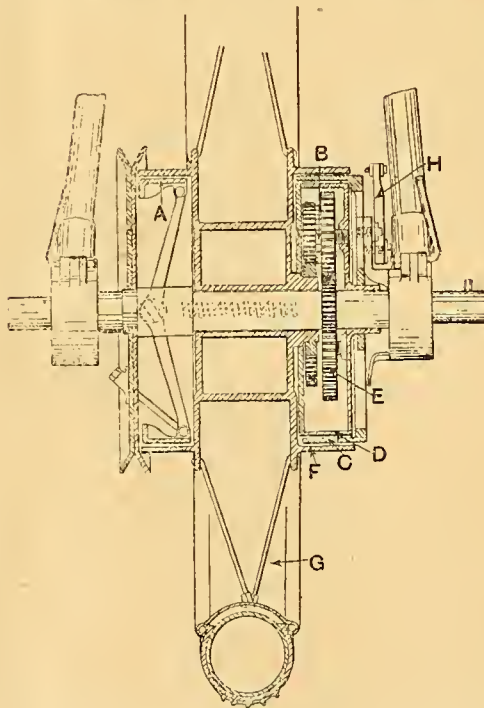


screw gearing to the movable pulley flange G. Thus, when the lever F is moved, the screw gearing operates to move the pulley flange G nearer to or further from the fixed flange H. In this manner, when the gear is changed the tension of the belt does not vary.—F. W. Barnes, No. 12,131, 1907.



A Two-speed Gear Improvement.

The gear is contained in the back hub as shown, an expanding clutch A being mounted at one end, and adapted to lock the gear solid for the direct drive or top speed. To bring the gearing B into operation, the band brake C is contracted to grip the drum D, which holds the pinions E stationary, allowing the gear to operate. The band brake C can also be expanded up against the brake drum F, which is fixed to the road wheel G. Thus the low speed band brake can be used also for retarding purposes. The control of the band brake is effected by means of the lever H and a double pedal, which is



not shown.—A. W. Wall, No. 9,256, 1907.

As a proof how rapidly a well made article gains public favour, the following figures may be of interest, being the result of the recent M.C.C. London-Edinburgh run: Twenty-one gold medal (two double) and two silver medal winners used Shamrock Excelsior rubber studded tyres; Mr. Chater-Lea also used these tyres on his car, and won a gold medal. Of sixty-eight belt-driven motor bicycles, Shamrock Gloria belts were patronised by thirty-four gold and three silver medal winners, including Mr. S. G. Frost, who won the M.C.C. Cup.

Experience having suggested to the Bosch Magneto Co. that many motor cyclists ruin the magneto bearings by the use of inefficient and deleterious lubricants, the company have decided to market the special lubricating oil they themselves use. This is of two brands—one known as "P", oil being best suited for use in the case of magnetos with plain bearings, and that known as "B" oil for use in ball-bearings. Bottles of either oil can be obtained from 23, Store Street, Tottenham Court Road, W.

Land's End to John-o'-Groat's Run.

POST OFFICE TELEGRAPHS.

Lyons & Co., Ltd., London.

If the Receiver of an Inland Telegram doubts its accuracy, he may have it repeated on payment of half the amount originally paid for its transmission, any fraction of 1d. less than 3d. being reckoned as 3d.; and if it be found that there was any inaccuracy, the amount paid for repetition will be refunded. Special conditions are applicable to the repetition of Foreign Telegrams.

Office of Origin and Service Instructions.

Charges to pay s. d.

Handed in at 8 23/ Received here at 9 40/

Office Stamp: LONDON JY 14 08

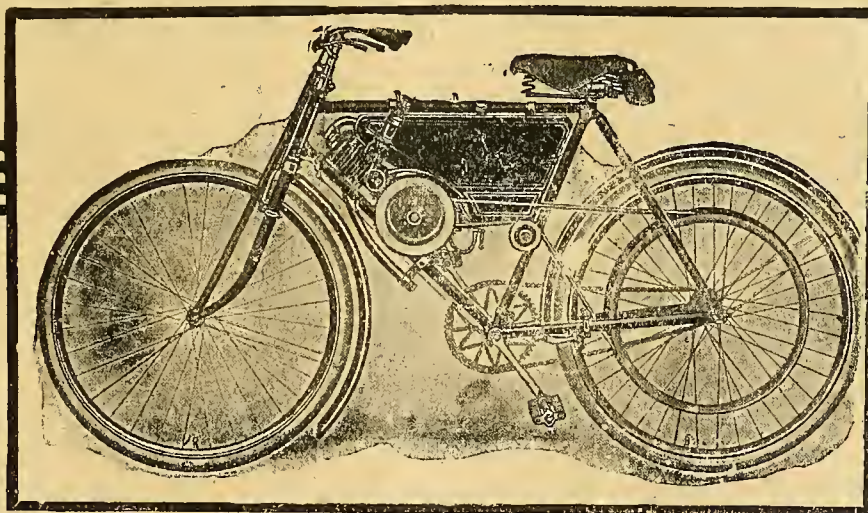
Warrington

TO { Michelin 49 Russek Place SW.

Rain and mud all day
not tyre troubles or side
slips with the Michelin tyres
Wells

N.B.—This Form must accompany any inquiry made respecting this Telegram.

**A MOTOR CYCLE
WEIGHING
ONLY 60 LBS.**



**A PERFECT
MOTOR CYCLE AT
A BICYCLE PRICE.
£19 19 0 complete.
Fitted with Ruthardt
Magneto
£4 10 0 extra.**

THIS IS QUITE THE LOWEST PRICE

at which it is possible to obtain an efficient motor cycle. The "Wolf" featherweight motor cycle is no toy—it is a marvel of sound construction and ingenuity, and with a wonderful hill-climbing capacity. The frame is specially built and the whole machine is British made.

THE "WOLF" FEATHERWEIGHT MOTOR CYCLE.

SPECIFICATION.

ENGINE—A. J. Stevens 2½ h.p.; bore 2½ in., stroke 2½ in.
COIL—Fuller.
ACCUMULATOR—Premier.
CARBURETTER—A. J. Steven's automatic air inlet and throttle combined.
BELT—Best Chrome.
JOCKEY PULLEY—Ball Bearing.
FRAME—22 in. and 24 in.
TANK—To which combined petrol, lubricating oil, and coil compartments are fitted.

WHEELS—26 in. or 28 in.
TYRES—Wasp No. 1, 1½ in. diameter. Made specially by the Dunlop Rubber Co. Ltd.
CONTROLS—Valve lifter and ignition are controlled by one lever; when magneto, extra lever for ignition.
HANDLEBAR—Wide raised, to which a switch of neat design is fitted.
BRAKES—Wasp front and back roller or inverted levers.
FINISH—Best black enamel, lined two colours. Olive green, silver lines 10/- extra.

"Wolf" Tyres made by the Dunlop Rubber Co. Ltd., 2 in. to fit any standard 1½ in. rim 20/- extra. Write for lists.

WEARWELL MOTOR CARRIAGE CO., LTD., WOLVERHAMPTON.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London, by the Thursday afternoon previous to the date of publication.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, Warwickshire.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgau, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

EVERYTHING

the Motor Cyclist can want is obtainable from the **PREMIER MOTOR AGENCY**, who have the largest stock of new and second-hand motor cycles in the Trade. A liberal allowance is made for any second-hand machine in exchange for a new one of any make. Send particulars of yours, and an immediate approximate offer will be made.

NEW MODELS.

TRIUMPH $3\frac{1}{2}$ h.p., 1908, magneto	£48 0
TRIUMPH $3\frac{1}{2}$ h.p., 1907, magneto	39 0
N.S.U. $3\frac{1}{2}$ h.p., 1908, magneto, new, 26" wheels	40 0
N.S.U. $3\frac{1}{2}$ h.p., magneto, new, 1908, 24" wheels	40 0
N.S.U. $3\frac{1}{2}$ h.p., 1908, twin, magneto, 24" wheels	45 0
N.S.U. 6 h.p., 1908, twin, magneto	54 0
N.S.U. $1\frac{1}{2}$ h.p., 1908 lightweight, magneto ..	34 0
REX DE LUXE $3\frac{1}{2}$ h.p., 1908, magneto, two-speed gear	50 0

Also various other new models, Motosacoche, F.N., Roc, Vindec, Warwick, etc., all in stock.

SOILED AND SECOND-HAND.

N.S.U. $3\frac{1}{2}$ h.p., 1908, accumulator, shop-soiled, cost £36	£28 0
G.B. ZEDEL 5-6 h.p., 1908, engine magneto, two-speed, spring forks, fan, footrests, perfect, cost over £70, will accept	35 0
TWIN ROC 5 h.p., Peugeot engine, magneto, free-engine	30 0
ROC 4 h.p., 1907, magneto, free-engine, Druid spring forks	25 0
ROC $3\frac{1}{2}$ h.p., magneto, clutch, good running order	12 0
N.S.U. $3\frac{1}{2}$ h.p., 1907, magneto, new Roc two-speed gear, spring forks	30 0
N.S.U. 6 h.p., 1908, new May, Roc clutch, improved gear, cost £75	55 0
REX TWIN TOURIST, magneto, '08, as new	27 0
JAP, 6 h.p., magneto, '08, Chater Lea frame, not run	27 0
VINDEC SPECIAL $3\frac{1}{2}$ h.p., magneto, Truffault spring forks	26 0
REX 5 h.p., twin, guaranteed in perfect running order	17 10
NOBLE, 3 h.p., long wheelbase, good order ..	12 0
WHIFLEY $3\frac{1}{2}$ h.p., spray carburettor	8 10
JAP, 6 h.p., Twin, Chater Lea frame, grand condition	20 0
KERRY 5 h.p., twin, two-speed, hand-starting	20 0
ANTOINE 4 h.p., low frame, free-engine	15 0
WERNER, twin, 4 h.p., recently overhauled and refinished	13 0
N.S.U. $5\frac{1}{2}$ h.p., magneto, overhauled	25 0
ROVER, 3 h.p., Palmer tyres, Broo saddle, running well	10 10
REX $3\frac{1}{2}$ h.p., John-o'-Groat's model	10 0

Others constantly arriving.

Let us give you details of the

WARWICK CAR-STYLE MOTOR CYCLE.

Hand-starting, ball bearing 4 h.p. engine, Bosch magneto, spring forks, Roc (licensed) clutch, epicyclic two-speed gear, started and driven like a car; several seasons in advance of ordinary motor cycle design.

Price 45 guineas.

TYRE BARGAINS.

Get your machine WELL SHOD for the Holidays. Sent on approval from our **BRAND NEW 1908 STOCK**.

PETER UNION COVERS.

PREMIER PRICE.	ORDINARY PRICE.
24 x 2 $\frac{1}{2}$ £0 18 0	..... £1 2 0
26 x 2 $\frac{1}{2}$ 1 1 6	..... 1 8 0
26 x 2 $\frac{1}{2}$ 0 0 0	..... 1 13 0

SHAMROCK COVERS, 26 x 2 $\frac{1}{2}$, 12/6 each.

NEW TUBES—PETER UNION.

PREMIER PRICE.	ORDINARY PRICE.
24 x 2 $\frac{1}{2}$ £0 8 0	..... £0 11 0
26 x 2 $\frac{1}{2}$ 0 8 6	..... 0 12 0
26 x 2 $\frac{1}{2}$ 0 10 6	..... 0 13 0

CLINCHER TUBES, New, Best Grey Quality.

PREMIER PRICE.	ORDINARY PRICE.
24 x 2 $\frac{1}{2}$ £0 7 6	..... £0 11 6
26 x 2 $\frac{1}{2}$ 0 7 6	..... 0 12 0
26 x 2 $\frac{1}{2}$ 0 10 6	..... 0 13 0

Delivery per return. Sent on APPROVAL for three days.

PREMIER ACCUMULATORS.

BRITISH-MADE. Sent on four days' actual TRIAL.

Special heavy plates—do not disintegrate.
10 amp. 9/6 } List on application.
20 amp. 12/6 }

PREMIER MOTOR AGENCY,

Aston Road, BIRMINGHAM.

Telephone: 4370. Telegrams: "Primus," B'ham.

Plan showing division of England into Sections.



IMPORTANT NOTICE.

Owing to the Holidays, Advertisements for our issue of the 5th August must reach

Coventry not later than **FIRST POST**

Thursday, 30th July, to ensure insertion

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham and Westmoreland.

TRIUMPH, 1907, magneto, new condition with spares; £32, or nearest offer. Smart, Murray Street, W. Hartlepool.

SECTION II.

York and Lancashire.

TRIUMPH, 1907, brand new; 35 guineas cash.—Apply, 70, Manuel Street, Goodrich.
21 h.p. Enfield, Longuemare, seen running.
24 reasonable offer.—12, Rockcliffe, E. cup.

41 h.p. Four-cylinder F.N., 1907, as new 30 guineas, a bargain.—31, Pasture Road, Goole.

13 h.p. Triumph-Minerva, fine little bike perfect condition; £7 10s.—11a, Albion Street, Brigg.

31 h.p. Triumph, 1908 pattern, magneto new condition; bargain, £30.—Bridgwater Garage, Leeds.

1907 Twin Rex, splendid order and condition, accessories; £19 10s.—Shorrocks, Earnsdale, Darwen.

1908 $3\frac{1}{2}$ h.p. Brown Motor Cycle, new, shop soiled; £31 to clear.—Athletic, Park Street, Accrington.

31 h.p. Minerva, magneto, 1908, not ridden 300 miles, footboards and pedals; a bargain.—Glew Bros., Howden.

NEW Minerva, $3\frac{1}{2}$ h.p., magneto, spring forks, uncrated, 1908 model; with offers.—Pettit, Dentist, Halifax.

1908 Coventry Flyer; cost £7 10s., £6 10s. or exchange with 15s. for motor cycle.—170, Keighley Road, Colne.

FOUR-CYLINDER F.N., unused, latest, 4 h.p., low frame pattern, just delivered £40, or offer; Yorkshire.—No. 372, The Motor Cycle Offices, Coventry.

31 h.p., Hobart engine, magneto, adjustable pulley, etc., a splendid motor; £22; trailer, £2; Longuemare carburettor 7s. 6d.—Fortune, solicitor, Harrogate.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

VINDEC Special, 5 h.p., two-speed gear, twin-cylinder, in perfect condition; cost £60, price £35; can be seen and tested.—Vicar, All Saints Vicarage, Coventry.

LADY'S 2 h.p. Minerva engine, in perfect running order, all plated parts, and enamelling as new, tyres in excellent order; £18.—Hulbert, Weston-in-Arden, Nuneaton.

2 1/2 h.p. Noble, Palmer tyres, non-skid bands, lamp, stand, horn, tools, and all accessories, perfect condition; £12, or good cash offer.—Boswell, Aylestone, Leicester.

ROC Twin, 5-6 h.p., open frame, by instructions from Miss Hind at £42; also a 4 1/2 h.p. twin Minerva, £20; and a Bat, spring frame, 2 1/2 h.p., £12.—Roc Motor Cycle Works, Birmingham.

GRAND 1907 3 h.p. Clarendon, equal to new, low frame, long wheelbase, engine, tyres, Grose non-skid, and rubber belt, all absolutely perfect; tried any time; £21.—Marlow, Franklyn House, Desborough.

3 1/2 h.p. Clarendon, latest, low model, hardly soiled, and guaranteed perfect, exceptional fine machine; cost £37 10s.; exchange for lower power and cash, or good push bike and cash.—22, Catherine Street, Coventry.

3 h.p. Chater-Lea-Fafnir, magneto (Bosch), powerful, perfect, simple, reliable, long, low frame, F.N. carburetter, Duco belt; expert examination; Michelin tyres, as new; any trial here; £19; photo.—English, Hardwick, Lincoln.

TRIUMPH, 1908, in splendid condition, registered, fitted, horn, acetylene lamp, with spare valve, sparking plug, contact points, usual tools, etc.; ready for the road.—Cash offers to No. 359, The Motor Cycle Offices, Coventry.

3 1/2 h.p. Vindec Special, magneto, Peter-2 Unions, detachable tubes, spring forks, adjustable pulley, B100, Shamrock belt, carrier, stand, all tools, spares, etc.; £26, or nearest offer.—Russell, 14, Henry Street, Peterborough.

ARIEL! Ariel!! Ariel!!!—For immediate delivery, the 2 1/2 h.p. lightweight; write for catalogue and full particulars; also 3 h.p. and 5 h.p. twin-cylinder models; a few 3 h.p. and 5 h.p. twins at clearance prices.—Ariel Works, Bournbrook, Birmingham.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

2 h.p. Minerva, spray, M.O.I.V., spring seat, light, low; £8.—Sconce, Lynn.

3 1/2 h.p. Brown, 1907, Bosch magneto, all in sound condition; cheap, £20.—Wallis, grocer, Hills Road, Cambridge.

MOTOSACOCHE, Laurin-Klements, 1908 machines; bargain prices, special terms.—Bone, Ashburton, Wells, Norfolk.

HUMBER 2 1/2 h.p. Motor Cycle, good running order, free engine, new cover back wheel, all accessories, lamp; £15.—Dr. Job, Newark.

3 1/2 h.p. N.S.U., magneto, and Millford sidecar, castor wheel, splendid condition, two lamps; £35; buying car reason of selling.—S. Wright, York Street, Luton, Beds.

3 h.p. Raleigh, Fafnir engine, new Palmer tyres and Watawata belt, handle-bar control, Longuemare; any trial; engine as new; price £20.—Parker, Printer, St. Ives, Hunts.

4 h.p. Roc, Druid forks, two-speed, ball bearing engine, Bosch magneto, Dunlops, complete for road, new at Easter; owner getting car; £41.—Riddelsdell, Hadleigh, Suffolk.

2 1/2 h.p. Featherweight Rex, 1898 model, magneto, nearly new, not ridden 300 miles, new condition, no fault, spare belt, tools, horn, pump, lamp; cost 25 guineas, take £15.—Cox, Eversley, Hunstanton.

TWO Sidecarists.—Vindec twin, bought late 1907, but practically 1908 machine, has the 1908 improvements. Vindec two-speed gear, low frame, 1908 B. and B. carburetter, 1908 double silencers, tank enamelled cream, barely scratched, Rich's tube (unpunctured); cost without extras £63, cash complete £45; would exchange, cash balance, 8 h.p. Rover, Dion, or Riley car.—Letters only, Cecil Turner, Queen's College, Cambridge. Cycle garaged in London.

REPEAT ORDERS

Are what we look for. Not to do one deal and then cease friendship. You cannot do better than give us a trial. It is the most convincing. Example of prices:

MINERVA , 4 1/2 h.p., perfect	£26	0	0
N.S.U. , 6 h.p., and sidecar	35	0	0
SAROLEA , 6 h.p., spring forks	22	0	0
REX DE LUXE , 5 h.p., free engine	30	0	0
WERNER , twin, 4 h.p.	20	0	0
REX , 5 h.p., twin, '07 machine	18	0	0
ZENITH , 3 h.p., two speeds	27	0	0
N.S.U. , 3 1/2 h.p., two speeds	18	0	0

NEW MACHINES.

2 1/2 h.p. ARIEL , coil and accumulator	32	gn.	
2 1/2 h.p. ARIEL , magneto	37	„	
3 1/2 h.p. VINDEC	£48	10	0
5 h.p. VINDEC	53	0	0
5 h.p. TOURIST	52	0	0
2 3/4 h.p. MINERVA	20	0	0
3 1/2 h.p. MINERVA	32	0	0
4 1/2 h.p. MINERVA	39	0	0
7-8 h.p. MINERVA	45	0	0
1 1/4 h.p. F.N.	35	0	0
4 1/2 h.p. F.N.	50	0	0

Let us quote you for Exchange for any of the above.

Prices rock bottom. Cash or Exchange.

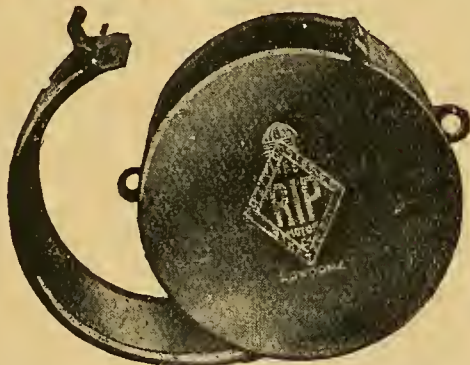
Any other make gladly quoted upon request.

TRICARS.

REXETTE , 8 h.p., twin tyre, two speeds and reverse, water-cooled, wheel steering	£60	0	0
HUBBARD , water-cooled, two speeds	20	0	0

ACCESSORIES.

1908 Bosch Magneto (new), single	£4	0	0
1908 Bosch Magneto, twin	5	0	0
Long Carburetter, perfect	15	0	
VARIABLE PULLEYS , try one on approx. State engine only	10	6	
Trailer, suit tradesman	1	10	0
28 x 2 1/2 in. Cover, new	9	6	
Gear Box, two speeds and reverse	2	0	0
Car Chassis and Wheels	2	0	0
Headlight (car)	10	6	
Mabon free engine Clutch	2	0	0



RIP BOXES.

The finest extant for carrying tubes or belts. Try one on approval. A quality, 7/6; B quality, 4/6.

BELT BOXES.

Hold nine feet. Any size easily fitted. A quality, 8/6; B quality, 5/6. Trade terms on request.

PALMER TYRES (Cord).

Cover.	Tube.	Cover.	Tube.
26 x 2, 43/6	10/-	28 x 2, 50/3	10/-
26 x 2 1/2, 58/9	11/-	28 x 2 1/2, 63/6	11/-
26 x 2 1/2, 59/3	16/3	28 x 2 1/2, 64/3	17/6

11/- allowed on old covers and 2/6 on tubes.

TUBES.—Fully guaranteed.

26 x 2 in.	6/-	28 x 2 in.	7/-
26 x 2 1/2 in.	7/-	28 x 2 1/2 in.	7/6
26 x 2 1/2 in.	8/-	28 x 2 1/2 in.	8/-

Immediate Delivery. Approval.

COVERS.

26 x 2 in.	16/-	28 x 2 in.	17/-
26 x 2 1/2 in.	17/6	28 x 2 1/2 in.	18/-
26 x 2 1/2 in.	21/6	28 x 2 1/2 in.	22/-

MAUDE'S MOTOR MART,

Powell Street, HALIFAX.

National Telephone 433.

MOTOR BICYCLES FOR SALE.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

3 1/2 h.p., Whitley engine, Clippers, valve lifter, Main-Hilton stand, perfect order; what offers?—Clews, Stone Lane, Kinver, Stourbridge.

BIKE, 3 1/2 h.p. De Dion pattern, inclined engine, Chater-Lea frame, Dunlops, going order, complete, tools, and spares; £6 10s., or exchange.—Brown, 38, Somers Road, Worcester.

1907 (late) 6 h.p. Twin Griffon-Zedel, magneto, spring forks, non-skid at back, spares, splendid condition, any reasonable offer accepted; owner leaving England.—C., 31, Coldra Road, Newport, Mon.

3 1/2 h.p. Rex, 1906, perfect order, forks, new Continental cover, tubes, two accumulators, one new, sp. valve; £17.—Alf. James, Greenmeadow, Pcnvgraig, Glam.

2 1/2 h.p. Buchet Lightweight, spring forks, long bars, low, cantilever seat, Main-Hilton, B. and B. carburetter, B.M. coil, tyres, one new, Clincher, Moseley, Dermatine, spares; price 12 guineas, offers.—Liddell, c/o Pitman, Cropthorne, Pershore, Worcestershire.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

2 1/4 h.p. Minerva, 1908, as new, not ridden 50 miles; £27 10s.

5 h.p. Twin Antoine, spring forks, new batteries, coil, R.O.M. synchronised contact breaker, horn, lamps, etc., in fine order; £15.

2 1/2 h.p. Excelsior, surface carburetter, Palmer back tyre, Clincher front, in good order; £8.

2 h.p. Minerva, float carburetter; £6.

1 3/4 h.p. Werner; £5.

2 3/4 h.p. Werner; £7.

THE Above Cycles are to be seen at W. J. Randall's Garage, 3, High Street, Andover.

3 h.p. Humber, vertical engine, Mabon; £8 10s.—78, Gloucester Road, Bristol.

3 1/2 h.p. Rex Motor Cycle, spring forks, perfect running order; £12.—Gyngell, Tewkesbury.

KERRY, 2 1/2 h.p., had very little use, splendid order; £10 10s., lowest.—Roberts, Blagdon, Bristol.

~6 h.p. Twin Westfield, Chater-Lea throughout, spring forks, as new; £20, or offer.—F. Rowley, Slough.

1 1/4 h.p. Excelsior, perfect condition, just overhauled; price £6.—A. Hamilton, Cronoa, Sandhurst, Berks.

ARIEL, 2 1/2 h.p., recently overhauled, in excellent condition; £12 10s.—Kerridge, 9, Market Street, Alton, Hants.

3 h.p. Imperial Rover, in good running order, and cash, for 3 1/2 h.p. 1908 machine.—Howard, 9, Park Street, Cirencester.

50-GUINEA Model Rex 3 1/2 h.p. motor cycle, and accessories; £15, a bargain.—Roberts, 82, Bishop Road, Bishopston, Bristol.

TRIUMPH, 3 1/2 h.p., standard, 1907, perfect condition, better than new, ridden about 150 miles, Goodrich non-skid on back; £32.—Apply, Triumph, 19, Barrack Road, Christchurch, Hants.

2 1/2 h.p. Rex Lightweight, B. and B. carburetter, handle-bar control, separate stand and carrier, lamps, horn, tools, not run 200 miles; £25; buying higher powered machine.—R. Finch, H.M.S. Hibernia, Channel Fleet.

5 1/2 h.p. Rex de Luxe, in perfect order, Roc clutch, twin wheel (Elastes filled), large comfortable footboards, mahogany tool boxes, complete with tools and spares, very fast and powerful; 30 guineas, or near offer.—Grimes, Abberville, Burgess Road, Basingstoke.

MOTOR BICYCLES FOR SALE.

HUMBER, 3½ h.p., chain drive, Dunlop tyres, spring pillar, sound condition; £14, or best offer.—52, English Road, Millbrook, Southampton.

3 h.p. N.S.U., magneto, perfect condition and running order, new tyres, hardly ridden; £21, offers.—Archibald, Army Service Corps Mess, Aldershot.

31 h.p. Rex, in perfect condition, new cylinder, piston, valves, and tappet rods, engine re-bushed, Longuemare carburetter, trembler, foot brake, Clinchers, Continental belt, lamp, horn, stand-carrier, toolbag, etc.; approval; £14 10s.—5, Beaumont Street, Bristol.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

2 h.p. Minerva, perfect running order; £8 10s.—59, Balham Hill, S.W.

3 h.p. Light Low Rex, splendid condition, Peter-Union tyres; £11 10s.

5 h.p. Twin Rex, spring seat and handlebars, new condition; £18 10s.

5 h.p. Twin Hamilton, fast, racy machine, suit passenger work; £15.

31 h.p. Werner Twin, very light and fast machine; £15.

h.p. Rex Light Motor Cycle, smart machine; £8.

21 h.p. Humber Lightweight, climb almost any hill, splendid condition; £8 10s.

3 h.p. Trent, in excellent condition; £11 cash, bargain.

23 h.p. Bradbury, fast, powerful machine; £10 15s.—128, High Road, Tottenham.

1907 3½ h.p. Brown Bicycle; £20.—Hall, 61, Parsons Green Lane, Fulham.

2 h.p. Werner, wants new tyre; £5.—W. G. Miller, 70, Cornhill, London, E.C.

21 h.p.; £8; low; first offer; genuine; trial.—663, Old Kent Road, S.E.

31 h.p. 1907 Rex, many spares; £15.—Rex, 35, Oakdale Road, Streatham.

2 h.p. F.N.; lowest, £5 15s.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

11 h.p. Minerva; £3 15s. first cash.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

3 h.p. Advance, two accumulators, long handles, low; £10.—Davis, Tooting Junction.

3 h.p. Triumph, perfect condition; £15.—Hammond, 9, Lower Addiscombe Road, Croydon.

3 h.p. Quadrant; sound bargain, £10 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

31 h.p. Minerva—Enfield, Longuemare, 32 Watawata, studded; cost £45, sell £16.—Below.

21 h.p. Singer, magneto, motor hind wheel; £8; both equal new.—Arch Smith, Yiewsley, Middlesex.

2 h.p. Werner, in good running order; £6 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, E.C.

1907 3½ h.p. Minerva, genuine machine; £22.—Buckner, 96, Balaam Street, Plaistow.

REX Twin, 1907, 5 h.p., good condition; £18; spares; buying car.—Wild, Moore's Road, Dorking.

BARGAIN, £10 10s.—3½ h.p. Wearwell, only wants seeing.—Baxter, 29, Liverpool Road, Islington.

PEUGEOT, 2½ h.p.; bargain, £10; perfect condition, all spares.—27, Elmsdale Road, Walthamstow.

LIGHTWEIGHT F.N., 2½ h.p., vertical, 26in. wheels, very fast, reliable, splendid order; £8 10s.—Below.

1906 3½ h.p. Minerva throughout, low, spring seat, beautiful condition; cheap, £16 10s.—Below.

ROC, 3½ h.p., magneto, free clutch, like new; £18 10s.—Whittle, 41, Skelbrook Street, Wandsworth.

FOR Sale, 2½ h.p. Ariel Motor Cycle, splendid running order; a bargain, £10.—E. Simms, 3, High Street, Putney.

ALL IN going order.

Cash, exchange, or extended payments

TWIN.

5 h.p. REX Tourist (new) ..	1908	£42	0
5 h.p. REX DE LUXE (new) 1908		52	10
5½ h.p. N.S.U., magneto (new) 1908		52	0
5 h.p. Twin VINDEC , magneto ..		35	0
6 h.p. 1906 Twin REX , 26" wheels		17	17
5½ h.p. Twin REX , black finish ..		17	17
5½ h.p. REX DE LUXE , magneto		27	10
Twin REX , black finish, new tries		18	18
6 h.p. Twin REX , non-skids		18	18
5½ h.p. Twin REX , magneto, 1907		20	0
4-5 h.p. Twin ALCYON , two speeds		23	10
4 h.p. Twin WERNER , fine machine		19	19
5 h.p. Twin SAROLEA , long frame		18	18
6 h.p. Twin ANTOINE , R.O.M. ...		22	0
5 h.p. Twin ONAWAY , very low		22	10
6 h.p. Twin ANTOINE , spg. fks.		22	0

SPECIAL.

6 h.p. Twin Rex. £17 17s. or £4 and '07 Single Rex, or £8 and '05 Single Rex or level exchange with Single Magneto to Rex. **SPECIFICATION.**—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

SINGLES.

2½ h.p. REX (new)	1908	£26	5
3½ h.p. REX Tourist (new) ..	1908	36	15
3½ h.p. REX DE LUXE (new) 1908		47	5
N.S.U. Lightweight (new) ..	1908	34	10
3½ h.p. N.S.U., magneto (new) 1908		42	0
3½ h.p. REX , 1907, 2½ tyres....		17	17
4 h.p. ROC , 2-speed, like new..		35	0
3½ h.p. 1906 REX , spring forks		15	0
3½ h.p. Magneto REX RACER ..		25	0
3½ h.p. REX , spray, 21½ frame		11	10
3½ h.p. 1906 REX , spring forks		15	0
3½ h.p. REX , spray, fine climber		11	10
2½ h.p. Magneto REX , 1908		23	10
3½ h.p. MINERVA , M.O.V.		16	10
3 h.p. GIVAUDAN , nearly new		16	0
3 h.p. ROVER , 26 × 2½ Palms		13	10
3 h.p. LLOYD'S , 26 × 2½ Palms		13	10
4 h.p. ANTOINE , spring forks ..		16	0
2½ h.p. MINERVA , Palmer tyres		17	10
2½ h.p. CLYDE , magneto		15	0
4 h.p. ANTOINE , 26 × 2½ tyres ..		16	10
3½ h.p. SIMMS , mag., 2½ Palms		17	10
3½ h.p. QUADRANT , 1906		18	10
3½ h.p. CENTAUR , free engine ..		16	0
2½ h.p. PHENIX , spray, 26" wh's		10	10
3 h.p. HUMBER , spray		10	10
3 h.p. FAFNIR , very low, spray		13	10
2½ h.p. CORONET , free engine ..		10	10
3½ h.p. REX , 22 frame		11	10
2½ h.p. MINERVA , 26 × 2, spray		11	10
3 h.p. BROWN		12	10
2½ h.p. CLEMENT , very low		11	0
2½ h.p. KERRY , spray, low		10	10
1½ h.p. MINERVA		5	15
2 h.p. RALEIGH , spray		8	0
2½ h.p. ROYAL , vertical, spray ..		8	0
2½ h.p. SINGER , magneto		8	10

MISCELLANEOUS.

Light Car steel Frame, with front axle wheels and tyres, £7 10s.; 8 h.p. w.c. Twin-Cyl. Brown Engine, £10; 8 h.p. Fafnir Engine, £9 10s.; three speeds and reverse Gear Box, £4; two-speed Gear Box, £2 10s.; pair solid tyre Motor Van Wheels, nearly new, £3 5s.; Forecarriage, fit Rex, £5; Osborne Four-speed, fit Rex, 50/-; N.S.U. Pulleys, 5/-; Brooks Broo, 11/-.

SNIPS.—45s. deposit and six monthly payments of 29s. 6d. secures 2½ h.p. Excelsior, 3 h.p. Humber, 2½ h.p. Minerva, 2½ h.p. Hobart, 3 h.p. Lloyds, 2½ h.p. Minerva, 3½ h.p. Rex, 2½ h.p. Aurora, 2½ h.p. Kerry, 3 h.p. M.M.C.; all guaranteed running order. "PERFECTION" Leather V Belting—¾ in. 9d., ¾ in. 10½d., ¾ in. 1/-, 1 in. 1/1. "SERRATRIX" Rubber Canvas Belting, Best on test—¾ in. 9d., ¾ in. 1/-, ¾ in. 1/4, 1 in. 1/8 per foot.

THE HALIFAX MOTOR EXCHANGE, 16, WESTGATE, HALIFAX.

Telephone 766

Telegrams, "Perfection."

MOTOR BICYCLES FOR SALE

33 h.p. Werner, footboards, Palmer cord back; £15.—234, Belsize Road, N.W.

31 Minerva; £14; perfect order, spring forks.—Alfred, 26, St. Kildas Road, Stoke Newington.

3 h.p. Quadrant, in good running order; £12 12s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

31 h.p. White and Poppe, Chater-Lea, 2½ in. Palmer cord, spring forks; £15.—10, High Road, Chiswick.

F.N., 50 by 75 engine, spray, girders, running order; £4 10s.—"Rowans," Conway Road, Palmer's Green, N.

31 h.p. 1906 Rex Motor Cycle, in first-class order; £13 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, E.C.

SINGER, 2 h.p., splendid condition, new Grose non-skid, butted tube; £7 10s.—Holmden, Haywards Heath.

QUADRANT, 1½ h.p. Minerva engine, excellent running order; £5 5s.—Seen at 51, The Grove, Ealing, W.

41 h.p. De Dion, perfect running order, trembler coil, Palmer tyres; £10.—Burgess, Seaford, Sussex.

BROWN Motor Bicycle, 3½ h.p., splendid order, Dunlop tyres; £11 15s.—A., 8 Herndon Road, Wandsworth.

F.N., 2 h.p., excellent condition, with accessories; £10.—Mason, 31, Queen Road, Bayswater, London.

21 h.p. Minerva, in excellent running order; £10 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

FOR Sale, 2 h.p. Motor Bike, complete £5; good going order.—Lotswin, 4 Sussex Street, Pimlico, S.W.

1907 3½ h.p. Minerva, spring forks, see very little use; £19 19s.—Seen at Wauchope's, 9, Shoe Lane, E.C.

31 h.p. Minerva, Phoenix forecar attached, new tyres, all sound condition; £25. 337, Ewell Road, Surbiton.

CALVERT, 3½ h.p., just overhauled; bargain, £7 10s.—Myers, 33, Cadogan Terrace, Victoria Park, London.

31 h.p. Fafnir, as new, low frame; at test or trial; £15 15s., genuine bargain.—2, Upper Kennington Lane.

h.p. Kerry, replated, enamelled, overhauled, perfect; bargain, £11 10s.—Stanhope Gardens, Harringay.

31 h.p. Minerva, 1906 model, a good strong machine; £16 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, E.C.

31 h.p. Rex, in good running order; £10 10s., or nearest offer; must sell; after 6.30.—186, New Kent Road, S.E.

3 h.p. Kerry, Model de Luxe, new condition, two belts, pulleys, valves, etc.—£13.—16, Lochaber Road, Lewisham.

3 h.p. Fafnir, Chater-Lea frame, nearly new, splendid climber; £18 10s.; before seven.—29a, Mintern Street, Hoxton, N.

THE Latest New 2½ h.p. 1908 and 9 A low built, magneto, lightweight, on show at Wauchope's, 9, Shoe Lane, E.C.

6 h.p. Antoine, twin, spring forks, very low, guaranteed new.—W. Bull, 95, Telford Road, Old Kent Road, S.E.

24 h.p. Paris, free engine, Vauxs, footboards, long bars, very low; £10, offer.—24, College Street, Islington.

11 h.p. Motosacoche, latest model, in perfect condition, opportunity.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

TRIUMPH, magneto, 3 h.p., in splendid running order; price £25.—Hodges, The Chestnuts, Orpington, Kent.

31 h.p. 1908 Quadrant, not run 100 miles, M.O.V.; £35; splendid bargain.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

2 h.p. Minerva, new frame, V belt, lamp, horn, good condition; £10.—Hampden, 28, Brunswick Square, Camberwell.

4 h.p. Roc, 1907 model, two-speed gear, first-class running order; £28.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

2 h.p. Minerva Motor Cycle, in perfect running order, M.O. valve; £6 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

TOR BICYCLES FOR SALE.

RGAIN This Week, offer wanted.—3½ h.p. White and Poppe, Chater-Lea frame, low, grand condition; great bargain, guaranteed.

MPSTEAD.—3½ h.p. Minerva, almost new, late 1907, complete with spares, guaranteed.

MPSTEAD.—2½ h.p. Minerva, 1907 model, variable pulley, new belt, all ssories; bargain, £12 15s., guaranteed.

MPSTEAD.—3 h.p. Rover, vertical, spray, M.O.V., Brooks 105 saddle, all es; great bargain, £10 15s.

MPSTEAD.—1½ h.p. 1908 F.N. light-weight, magneto and spring forks, condition, £18, bargain.

MPSTEAD.—2½ h.p. F.N., magneto and spring forks, shop-soiled only; bar-, £19, including spares.

MPSTEAD.—3½ h.p. M.M.C., Chater-Lea frame, No. 6, splendid condition and g order, £10, bargain.

MPSTEAD.—3½ h.p. Minerva, late model, new condition, complete with es; only £15, guaranteed perfect.

MPSTEAD for Triumphs, 1907 and 1908, new; can deliver from stock. Your machines taken in part payment.

MPSTEAD.—1908 1½ h.p. brand new F.N. lightweight, £30, bargain, with es.

MPSTEAD.—1908 3½ h.p. Triumph, handle-bar control, almost new, £44, anted in perfect condition.

MPSTEAD.—1908 Lightweight Griffon, spring fork and magneto, £29, brand guaranteed.

MPSTEAD.—All machines guaranteed perfect, and sent on approval deposit cessary.

MPSTEAD.—3 h.p. genuine ball bearing Triumph, with all accessories; special ain, £15.

MPSTEAD.—3½ h.p. N.S.U., magneto, late model, grand condition; bargain 18.

MPSTEAD.—Triumphs, 1908, on easy payment system, or other makes on ication.

MPSTEAD.—Agent for all makes, sole agent for Griffons, Minervas, F.N.'s, mphs, Vindecs, etc.—Rey, 5, Heath st, Hampstead, close to Tube Station. 2,678, P.O.

p. Rover, Palmers, first-class condition; cheap.—Kay, Sutton Valence, Maid-

p. Ariel, M.O.V., Dunlops, all in splen- did condition; £10, cost £36.—129, Ley st, Ilford.

8 Roc; 33 guineas; two-speed, almost new; cost 48 guineas.—110, Hig- et, Merton, S.W.

h.p. Jap-Triumph Cycle, Palmer tyres, perfect running order; £9.—Collier, elville Road, Brighton.

h.p. Minerva, in good running order; £13 10s.—64, Brockfield Avenue, Shern- Street, Walthamstow.

p. M.M.C., Chater frame, copper tank, Palmer, splendid order; £10 10s.—Motor, odson Road, Croydon.

p. N.S.U., magneto ignition, 26 by 2½ Continental tyres, as new; £22.—Eagles Co., High Street, Acton.

10s.—2½ h.p., good make, low frame, almost new, perfect order; a bargain.— Stanford-le-Hope, Essex.

h.p. Brown, perfect condition, new Dreadnought back tyre, spring forks, es.—Jeffery, Radlett, Herts.

p. Triumph, excellent condition, two ac- cumulators, Gloria belt, spares; £17 10s. gles and Co., High Street, Acton.

h.p. De Dion, good running order, en- gine nearly new; any trial; £10; ine.—Quenby, Park House, Hitchin.

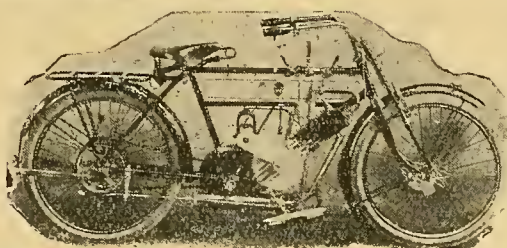
h.p. N.S.U., twin, magneto ignition, 24 by 2½ Peter-Union tyres, lin. belt; £25 —Eagles and Co., High Street, Acton.

IUMPHS, 1908, in stock; liberal allow- ances for second-hand, any make. —vey, 47, South Lambeth Road, Vauxhall.

Everything on approval

Recognising the difficulty our provincial friends have in selecting goods from lists and advertisements, we have now arranged to supply all standard goods on approval when desired. Approval orders must be so marked and accompanied by remittance for the full amount. Our stock is a very large and varied one. Send for list. All requirements are catered for.

MOTOR CYCLES, TRICARS, AND SIDECARS.
Are you interested in new or second-hand machines? We carry a good selection, and our exchange and extended payment system applies.



PHELON AND MOORE, magneto, two speeds, 3½ h.p. Reliability proved. Gold medals 1905-6-7 and 1908.

Price complete, £52 10s. Delivery this month. REX, L.M.C., F.N., PHANOMEN, TRIUMPHS, ROC, ZENETTE, etc., from stock. Prompt delivery of latest model RILEY Tricars and castor wheel and rigid sidecars. Trial runs by appointment.

SECOND-HAND STOCK.

Call or write for our list of reliable second-hand machines at bargain prices.

ACCESSORIES.

Handle-bar Mirrors.—Our speciality. Made to withstand vibration. Fixed in any position. Note our price.

3in. Mirror .. 5/- 4in. Mirror .. 6/- Carriage paid.



27.—Service Toolbag, No. 1 size. 7×7×4½in., lined with light sheet steel, and fitted for tools. Very strong.

Price 10/6 - Post 4d.



30.—Service Petrol Taps. Brass, 1/6. N.P., 1/9.

Service Drain Taps. N.P., 1/3. Post 2d.



47.—Service Patchquick Outfits. Equals vulcanising. Complete outfit, 2/8. Post 2d.

Service Patches. Box assorted specially moulded patches.

1/6 per box. Post 2d.

Belt Dressing.—Watawata, 1/- per tin. Post free.

Lincona, 8d. per tin. Post free.

Garrard, 3d. per tin. Post 1d.

B.S.A. Spanners. New models. 2/9 and 4/6. Post 2d. and 3d.

Contact Knives. Indispensable to all motorists. Comprises contact file, cutting blade, inch rule, etc., fit waistcoat pocket. Price 2/9. Post, 2d.

Box Spanners.—Six sizes, with tommy. Best quality. Price 2/6. Post 3d.

Tyres.—Shamrock Exceelsior rubber non-skid covers, 26×2½in., £2 10s.

Goodrich rubber non-skids, fitted to own cover, £1 1s.

Service Outer Covers. Non-slipping, beaded or wired edge. Good weight and quality.

26×2½in., 15/6 26×2½in., 16/6 26×2½in., 17/6 Inner tubes for same. Very stout. 5/6, 7/-, and 7/6. Post 3d.

Wheel-steering Attachment.—No more broken handle-bars. Easily fitted to any machine. Splendid control. If used for sidecar work, steers like a car. Price complete £3 3s.

Our specialities consist of variable gears, engine clutches, adjustable pulleys, rim brakes, carrier touring bags, etc.

Write for list, and state your requirements.

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(Almost facing First Avenue Hotel),

GARAGE AND SECOND-HAND DEPARTMENT: FEATHERSTONE BUILDINGS, HIGH HOLBORN. Telegrams, "Admittedly." Telephone 260 Central

MOTOR BICYCLES FOR SALE.

3½ h.p. Phoenix, two speed, chain, magneto, 3½ perfect; £22.—24, Digby Road, Finsbury Park.

ROVER, 3½ h.p., belt drive, good condi- tion, Palmer tyres; £17. — Redcott, Dacres Road, Forest Hill, London.

4 h.p. Twin Werner and Sidecar, a regular beauty; £25; practically new.—Wood, Con Amare, Woodfield Road, Ealing.

3½ h.p. Kerry, all latest, condition as new; £15, offer, or low power and cash.—72, Morris Avenue, Manor Park, E.

3½ h.p. 1908 Minerva, torpedo tank, been but very little used; £25.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

GRIFFON, 2½ h.p., spring forks, low and fast; £9, or good push bike and cash.—Marshall, 9, Yew Grove, Cricklewood, N.W.

4 h.p. Roc, 1907 model, two speeds, starting handle, etc.; £28, splendid bargain.—Wauchope's, 9, Shoe Lane, Fleet Street, E.C.

3½ h.p. Triumph, in excellent condition; trial; also 2 h.p. Werner, in good running order.—67, Wellington Street, Woolwich.

3½ h.p. 1907 Triumph, good running order; £27 10s., low price to clear.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

BROWN, 2½ h.p., fast and powerful; any trial; first reasonable offer; must sell.—1a, Frideswide Place, Kentish Town, N.W.

5 h.p. Peugeot, magneto, in very good order, spring forks; £20, cheap.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

ZENITH Bicar, new, shop-soiled, 50 guinea model, two-speed gear; £39.—Zenith Motors, Ltd., 101a, Stroud Green Road, London, N.

FOUR-CYLINDER Binks, free engine, bucket seat, footboards, detachable tubes; £18; exchange good single.—A. Spurgeon, Reigate.

LIGHTWEIGHT 2 h.p. Werner, very fast, extra low, 26in. wheels, Bowden control, good condition; £6 10s.—163, Green Street, Forest Gate.

6 h.p. Twin Antoine, Matchless, good tyres, condition, £18; motor trailer, good condition, £2 10s.—Motor, St. Maives, Brighton Road, Purley.

4½ h.p. Twin Minerva, spring forks, Clip- per tyres, Price's stand, thorough good order; £24.—Hicks, 67a, High Street, Maldon, Essex.

3½ h.p. Rover, M.O.V., low built, long handle-bars, 26 by 2½ Peter-Union tyres, Brooks 100 saddle; £15 10s.—Eagles and Co., High Street, Acton.

3 h.p. Kerry de Luxe, with sidecar left, Mabon clutch, all spares, tools, new tyres, only wants seeing, thorough order.—Clark, 5, Eastcote Terrace, Stockwell.

3½ h.p. Automotor, vertical engine, low- built, long handle-bars, 26in. Clincher tyres, good order; £8 10s.—Eagles and Co., High Street, Acton.

2½ h.p. Clement Lightweight, Dunlops, two accumulators, spares, good; 8 guineas, or £5 and light push bike.—7, Victoria Parade, Muswell Hill, N.

3 h.p. Quadrant, Longuemare, Brown ac- cumulator, long handle-bars, low seat, spares, good condition; a bargain, £8 15s.—A. Fenn, Holly Walk, Enfield.

FOUR-CYLINDER F.N. Motor Cycle, splen- did mount and condition, beautiful running order; will take £25.—Cousens, Elec- tric Parade, Clacton-on-Sea.

3 h.p. Triumph, 1906, magneto, spring forks, recently overhauled, guaranteed per- fect, spares, and tools; £23; appointment. —36, Waddon Road, Croydon.

3½ h.p. Minerva, Chater-Lea fittings, 2½ tyres, new belt, perfect; £17; take push cycle and cash; bought tricar.—15, Fengates Road, Redhill, Surrey.

1908 Twin Tourist Magneto Rex, absolutely perfect, new, not done 200 miles; too powerful for owner; lowest £32.—Anderson Bros., Hermon Hill, South Woodford.

2½ h.p. Hobart, rebored, rebushed through- out April last by Laystall Co. at cost £4, B.B. carburetter; £7, or exchange higher power.—34, St. Anns Road, Chertsey.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

2 h.p. Minerva, M.O.V., perfect, Dunlops, Bates non-skids, stand, nearly new; £8 10s.—Barber, 17, Galend Road, Hammersmith, W.

LIGHTWEIGHT Two-speed Clement-Garrard, weight about 7 lbs., all accessories.—S. Harris, 41, Albert Road, Stratford, E.

3 1/2 h.p. Aster, just overhauled, too powerful for owner, in perfect condition; £14, or offer.—Optician, 164, Salisbury House, E.C.

3 1/2 h.p., Hurst's London engine, Longuemare, good tyres, spares, suit sidecar, in use; £16.—Burgess, 9, Mortlake Road, Kew.

3 h.p. Quadrant, spring forks, Bosch magneto, ridden 1 1/2 seasons only; a bargain, first P.O. £6 6s.—Highams, Goldhanger, Essex.

3 1/2 h.p. Phoenix Cob, two speeds, as new; £29 10s.; open frame, pan seat, etc.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

F.N., 2 1/2 h.p., new 20 amp. accumulator and coil, stand, horn; £8 10s., lowest.—Brown, 101, Northgate Street, Colchester, Essex.

N.S.U., 3 1/2 h.p., Roc two-speed, magneto, show machine, bought in April, hardly used; £40, or near offer.—Wood, 16, Rylett Road, W.

TRIUMPH, 1907, magneto, splendid condition; absolute bargain, £29, no offers; bought 1908 model.—5, Grove Villas, Wandstead, E.

F.N., four-cylinder, 4 1/2 h.p., in excellent order; first reasonable offer accepted.—Seen and tried at the Portman Garage, Mortlake.

REX, 1908 model, 5 1/2 h.p., twin-cylinder, magneto, black finish; £28, bargain.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

QUADRANT, 3 h.p., splendid going order, two accumulators, Clincher, B. and B.; £12 12s.—Avison, Oakhurst, Totteridge, Herts, N.

ARIEL-MINERVA, 2 1/2 h.p., new tyres, climb Hands-cross, Dashwood, speed 33 miles hour; £14 10s.—George, 11, Liverpool Road, London, N.

MOTOSACOCHE, new, perfect, run only 100 miles, stand, lamp, carrier, spares, etc.; £24.—129, Elsenham Street, Southfields, London, S.W.

F.N., four-cylinder, 4 1/2 h.p., perfect running order, new magneto; £30; seen and tried.—Stas, 106, Great Portland Street, London, W.

3 1/2 h.p. Humber, low, 26in. wheels, studded tyres, Riches tubes, splendid order; bargain, £10 10s.—Townsend, 162a, Dalston Lane, London.

KERRY, 3 h.p., low, powerful, climb anything, faultless; trial; offers wanted, or exchange for 1907 lightweight.—44, Gopsall Street, N.

3 1/2 h.p. N.S.U., practically new, spares, tools, accessories, guaranteed; seen any time; £20, offer.—162, Coldershaw Road, West Ealing.

REX, 3 1/2 h.p., Longuemare, good condition, newly overhauled; cheap, £8 10s.; appointment.—Petch, 225, St. John's Hill, Wandsworth.

£11.—3 1/2 h.p. Trafalgar, low, 2 1/2 Dunlops, Longuemare, footrests, stand-carrier, spares; photo.—Remington, Sanderstead Hill, Croydon.

6 h.p. Bat, twin Jap engine, spring frame, in good condition; £26; seen any time.—Apply, Green, 39, Northcote Road, Clapham Junction.

3 1/2 h.p. Minerva, magneto ignition, but very little used; £30, splendid opportunity.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

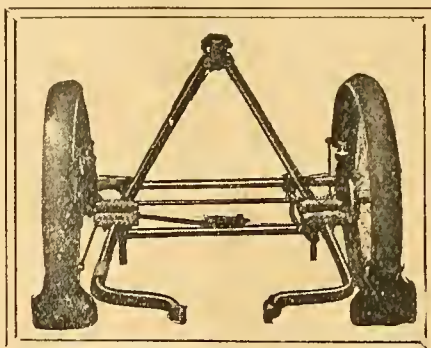
4 h.p. Antoine, fast, powerful, Chater-Lea, good running order; genuine bargain; no rubbish; £15.—F. White, jun., 234, Clapham Road, S.W.

S.T. ALBANS, Luton, Dunstable.—F.N. four-cylinder motor cycles; liberal terms; trials by appointment.—Heron, Abbeyfield Harpenden, Herts.

Why run
risk



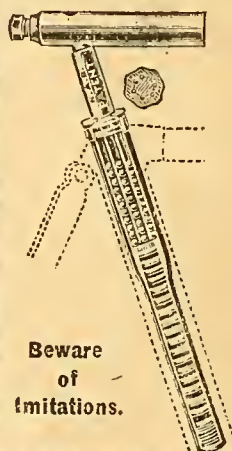
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when you can fit the **PHOENIX** attachment for £12 10s.
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PHOENIX MOTORS, Ltd.,
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If you find you've the hump,
Through the bicycle bump,
And you're sad—and, what's
worse, saddle-sore—
Try the real **N.A.B.**
You will hail it with glee,
And in comfort you'll ride
evermore.



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WORKS CO.,
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HEBDENS DEPENDABLE BARGAINS

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SHOWING SPLENDID SELECTION OF
REALLY RELIABLE MOTOR CYCLES
AT BARGAIN PRICES SENT POST FREE
ANYWHERE.

**CASH OR EASY TERMS.
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N.S.U. Motor Cycles a speciality.
Ask our price before buying elsewhere.

6HP. Rexette, water cooled, two speeds
good order. Price £25.

3 1/2HP. N.S.U., magneto, low frame,
new. Price £35.

3HP. Rover, good order, stand,
carrier, etc. Price £17.

3 1/2HP. N.S.U., magneto, low frame,
nearly new. Price £29.

**BRIDGE GARAGE
169 BRIGGATE, LEEDS.**

MOTOR BICYCLES FOR SALE

EXCELSIOR, 3 1/2 h.p., in thorough going order, new belt and belt rim, Palm tyres; £10.—Weedon, Chaldon Comm, Caterham, Surrey.

3 1/2 h.p. Humber, spray, Dunlops, trembler, spare tyre, perfect condition, climb anything; £10 10s.—200, Church Road, Willesden, N.W.

RALEIGH, 3 h.p., Norman two-speed gear, lamp, toolbag, perfect condition, only wants seeing; £18.—Collier, Herby Road, Plumstead.

F.N., 4 1/2 h.p., four-cylinder, in splendid condition; owner going abroad, August; price £30.—Motor Cycle, 66, Southampton Row, W.C.

BARGAIN—Lightweight Minerva; 9 gears; condition splendid, just re-bush tyres good, stand, carrier, etc., low built, Phone, 125 Sutton.

1 3/4 h.p. 1907 Lightweight F.N., magneto, spring forks, in first-class order, new; £21 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

3 1/2 h.p. Rex, good condition, fast, good climber, powerful, adjustable pull, £15, or offers.—Arthur Jefferies, 56, Bark Road, Canning Town.

1 3/4 h.p. Lightweight F.N., magneto, spring forks, used but little, condition as new; £23 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

MINERVA, 2 1/2 h.p., good condition; what offers? Or exchange with cash for higher power.—Clark, Chrysostoms, Street, Peckham, S.E.

FOUR-CYLINDER 4 1/2 h.p. F.N., magneto, ignition, Palmer tyres, little used, in absolutely perfect condition; £25.—Crisswell, Newmarket.

MATCHLESS, 3 1/2 h.p. White and Poppe, engine, spring frame and forks, Dun tyres, perfect condition; £18.—Collier, Herby Road, Plumstead.

MINERVA, 2 1/2 h.p., M.O.V., spray, B.S. fittings, Dunlops, low built, good climber; £8, lowest.—229, Court Oak Road, Harborne, Birmingham.

BROWN 3 1/2 h.p. Motor Cycle, first-class condition, tyres perfect, £15; first-class trailer, £5, or offer.—E. A. Turner, Burlington Road, New Malden.

BARGAIN—Lightweight Quadrant, 2 1/2 h.p., first-class order, tyres new; £10 10s., offer; buying higher power.—Roper, Friends Road, Croydon.

3 h.p. N.S.U., splendid condition, powerful, worth of spares and accessories; 17s.; letters first; trial by appointment, Apsley Villas, Acton, W.

QUADRANT, 3 1/2 h.p., latest pattern, in going order, not ridden 500 miles, at £5 accessories; price £22 10s.—Seen at Hulton Stores, Newgate Street, E.C.

£15.—Swift-Minerva, 2 1/2 h.p., two-speed, engine, perfect, guaranteed, climb anything; cost £65, genuine bargain.—McNant, Sumner Road, Harrow.

JAP-ROVER Lightweight, 2 1/2 h.p., low, rim Clinchers, Price's stands, spare tyre, good condition; £12 5s., or near offer.—Carter Street, Walworth, S.E.

2 1/4 h.p. Minerva, Dunlops, Longuemare, Bowden, Brooks, handle controls, minimum, grand order; 13 guineas.—24, Bourne Road, Shepherd's Bush.

FAFNIR, 3 h.p., spring forks, Palmers, Longuemare, two accumulators, condition as new; any trial; £15, or offer.—John, 12, Lonsdale Square, Islington.

2 1/4 h.p. Minerva, 1906, splendid condition, climb Dashwood; must sell immediately; offers; enquire particulars.—Cliffe, 153, Carlton Road, N.W.

4 h.p. Auto, B.M. trembler, Longuemare, De Dion contact breaker, Chater-Lea, everything perfect; £11.—G., Coldharbour Lane, Camberwell.

h.p. Roc, military model, free engine, clutch, magneto, condition like new; £27 10s.—Appointment, letter, to White, Ferntower Road, Canonbury, N.

8 1/2 by 8 1/2 Rex, excellent running order, with detachable forecarriage, Palmers; £12 10s.; spare wheel, can be parted.—Seen at 51, The Grove, Ealing, W.

MOTOR BICYCLES FOR SALE.

h.p. Minerva, 1906, just been put in perfect order for own use, newly plated and enamelled, new cylinder, new accumulators, Peter-Union studded tyre, guaranteed going order; take £20; good two or three-speed push bike in part payment.—41, Bedford Square, London, N.W.

h.p. M.M.C.-Excelsior, Longuemare spray carburetter, Clincher tyres, trembler coil, two accumulators, Dermatine belt, all accessories, and lamp, perfect order, and grand condition; £13, or exchange for power twin, with cash adjustment. Marquis Villa, Stroud Green, N.

h.p. Twin Sareola, very low, new, accumulator ignition, Fuller's two guinea trembler, Longuemare, Continentals, non-skid, Dermatine, spring forks, res, and tools; owner going abroad; best sell; any trial; £27, or nearest offer.—145, High Street, Bromley.

h.p. Genuine De Dion-Bouton, low seat, long handle-bars, spring front forks, Longuemare carburetter, Duco-Flex belt, very fast, comfortable mount; price £11, no more entertained; including trembler coil, accumulator, and horn; bargain.—Green, 14, Sandale Road, Peckham, London, S.E.

h.p. Light F.N., April, 1908, very little ridden, spring forks, magneto, spring rests, Xl'all saddle, lamp, horn, number plates, cyclometer, valves, etc., easy starter, run very slowly, take 14 stone any ordinary hill; £25 cash wanted.—Can be seen F.N. Agency, 106, Great Portland Street.

h.p. Triumph, perfect condition, complete with new Autoclipse lamp and generator, spare tube and belt (unused), hooter, foot pump, contact breaker and spare tube and exhaust valves; £43 cash; bought for Trophy model of same make.—Powell, 14, Elder Avenue, Crouch End, London.

h.p. Twin Peugeot, purchased February, 1908, genuine No. 6 Chater-Lea frame fittings throughout, lin. Dermatine, H. Longuemare, pedals and footrests, large range adjustable pulley, tubular carrier, and complete with spares, as new; 30 guineas.—27, Montford Place, Kennington.

h.p. 3 h.p. Triumph, spring forks, absolutely perfect, condition like new, mer cord and Clincher tyres, absolutely reliable, complete with brand new Autoclipse powerful gas lamp, and full kit tools, res, and accessories; £25, or exchange.—For, 86, Colvestone Crescent, Dalston, London.

h.p. DR Sale, Roc, 1908 model, 4 h.p., in perfect order, run about 200 miles, two-speed gear and clutch, magneto, Matchless motor, spring forks, brass lamp and generator, full kit of tools, spares, Riches tube, of clothing (not worn); owner has spent; price for cash £45.—E.S., 24, Elm Park, Acton Hill.

h.p. Coventry Humber, excellent condition, marvellous hill-climber, easily ridden, 26in. wheels, tyres almost new, very easily managed, absolutely reliable; best reasonable cash offer, or lower offer and cash, or bicycle and cash; seen by appointment.—Motorist, 5, New Norfolk Street, Curtain Road, London.

SPLENDID Offer.—3½ h.p. M.M.C., De Dion pattern motor cycle, powerful, 2½in. wheels, long handles and spring seat, just plated, new, belt rim, fitted with lamp and generator, accumulator, Watawata belt, almost new, and good trailer, upholstered; first £8 received secures this bargain. Mrs. 40, High Street, Shoreham, Sussex.

UNTS, 104, Newgate Street, London, E.C., London agents for Minerva motor cycles, immediate delivery. No waiting. All models are sent out complete with all accessories. Price, 2½ h.p., £29; 3½ h.p., £32; 4½ h.p., £39; we have a few second-hand shop-soiled machines at bargain prices; 3 h.p. Kerry, 21 guineas; 3½ h.p. Quadrant, complete with accessories and res, not ridden 300 miles, 22 guineas; 4½ h.p. Special, twin-cylinder, fitted with Bosch magneto ignition, including accessories and spares, 32 guineas.

**DERMATINE BELTS
HOLD ALL RECORDS.**

End-to-End Record, June 9th and 10th:

Mr. A. W. Bentley, using Dermatine belt.

M.C.C. 24 Hours' Ride to Edinburgh, June 5th and 6th:

35 were successful, using Dermatine belts.

Stadium Race Meeting, June 8th:

Harry Martin, First in Ten Miles Race.

Stadium Race Meeting, June 24th:

Again the First, Second, and Third winners were fitted with Dermatine belts.

No other belt holds such records. The Original Rubber and Canvas Belt. **BEWARE OF IMITATIONS.** The standard belt that is adopted by all leading manufacturers.

End-to-End Record.

Read the testimonial from the Triumph Co.

Coventry, June 22nd, 1908.

Mr. Stanley Webb, 32, London Road, Bromley, Kent.

Dear Sir,—I do not know whether we have written to you about the Bentley End-to-End record. Mr. Bentley had a Stanley Dermatine Belt fitted to his motor cycle. It gave him entire satisfaction, and had not to be touched once during the whole ride of 886 miles.

Yours faithfully, M. J. SCHULTE,
Manager Director, Triumph Motor Co., Ltd.

Second season in use, and still going strong,
125, Bunhill Row, E.C., 12/6/08.

Dear Sir,—You will be pleased to hear that the "Dermatine" Belt I used in this year's London-Edinburgh run gave me no trouble whatever, and that, moreover, it was the identical belt I used in last year's L.-E. run. It is still going strong, though having run nearly 3,000 miles. Yours faithfully, J. P. LE GRAND.

800 miles, and no trouble nor once shortened.

Southernhay, Loughton, June 12th, 1908.

Dear Sir,—I must again congratulate you upon your excellent belts, as the one I used on my 3½ Vindec in the Schulte Cup Competition to Edinboro' and back gave me no trouble whatever, and was not even shortened once in 800 miles. I consider this a severe test, and a splendid proof of efficiency.

Yours faithfully, OWEN L. SUMMERS.

Hundreds of Testimonials. British Made.



NOTE THE PRICES.

¾ in.	¾ in.	¾ in.	1 in.
1/2	1/4	1/8	1/11 per ft.

POST FREE.

The Stanley Adjustable Fastener.

A long-felt want at last for adjustable pulleys.



Can be used with existing Stanley Fasteners. It is also most useful for starting out with hook fitted, and in case belt slips, to shorten simply take out the hook. Belt shorten ¾ in.; time, one second.

Price Stanley Fastener, complete with set hooks, 1/6. Set of hooks, separate, price 1/-.

The Stanley Detachable Fastener.

30,000 in use.



With Unbreakable Hook. Guaranteed. (Made under Simplex Patent.) In sizes ¾ in., ¾ in., ¾ in., 1 in., 1/- each. Wholesale and Retail.

**The STANLEY DERMATINE
MOTOR BELT CO.,**

32, London Road, BROMLEY, KENT.

STANLEY WEBB, Manager.

**MOTOR BICYCLES FOR SALE.
SECTION IX.**

Somerset, Devon, Dorset, and Cornwall.

3 h.p. Excelsior, powerful and fast, complete for riding; £9.—Neep, Weymouth.

3 h.p. Quadrant, Longuemare, spring forks, 26in. wheels, low; £11, a bargain.—Jones, 22, Park Road, Exeter.

HUMBER, 2½ h.p., chain, spray, lamp, horn, two spare covers, voltmeter, other spares, fine order; £12.—Miller, Tolver Place, Penzance.

3½ h.p. 1907 Rex, perfect running order and condition; £17; exchange with cash for twin N.S.U., Vindec.—Miller, Redlands, Weymouth.

DE DION, 2½ h.p., spring forks, spray, long bars, Dunlop, Grose back, perfect condition; genuine bargain, £10, or offer.—Wilcocks, Trebartha, Launceston.

5-6 h.p. 1906 Twin Rex, in good condition, spring forks, new Palmer tyres, new belt and spares; 25 guineas.—Hartnell, c/o Napper, High West Street, Dorchester.

1908 Triumph, all accessories. Goodrich non-skids, Riche's inner tubes, spare cover and two inner tubes, spare magneto parts, etc., little used; £42 10s.—Kennedy, Timsbury, Bath.

REX Motor Cycle, 3½ h.p., in splendid order, spring forks, long, low frame, new Shamrock belt, two accumulators (one new); £16 10s., carriage extra; approval, deposit.—J. Watterson, Wirksworth.

2½ h.p. Humber, free engine, belt drive, top tube lever, £4 5s.; long 21in. C.L. frame, forks, 28s.; 26 by 2½ wheel, belt rim fitted, as new, 9s.; wanted, 2-2½ h.p. M.O.V. minerva.—Holmes, Laira, Plymouth.

BROWN, 2½ h.p., Longuemare, accumulator, Duco-Flex belt, 2½ Clinchers, only punctured once, condition as new, ridden about 700 miles; £25, or near offer.—Martyn, Trevadlock Cross, Lewannick, Launceston.

1907 5½ h.p. Twin Rex de Luxe, aluminium finish, spring forks, cantilever seat, Continental twin back tyres, Roc clutch, magneto, in thorough running order; £35, or near offer.—Particulars, Heard, Orchard Hill, Bideford.

SPLENDID Touring Turnout, spring frame, forks, R.I.P., 5-6 h.p., twin, two speeds, free, starting handle, 2½ Peters, smart sidecar; £33 10s., close offer, or separate; entertain 4 h.p. Stevens and cash.—1, Eastfield Road, Cotham Brow, Bristol.

SECTION X.

Scotland.

7-9 h.p. Peugeot, Chater-Lea, footboards, in excellent order; £35.—J. B. Stoddart, Balerno, N.B.

2½ h.p. Hobart, vertical, Longuemare, Palmers, good condition; £10 10s.—Connell, plumber, Macduff.

N.S.U., 5½ h.p., twin, magneto, free engine, studded tyre, condition as new; £30.—J. B. Stoddart, Balerno, N.B.

MOTOSACOCHE, accumulator, in perfect condition; sacrifice £20, no offers.—Kelly, 63 Cambridge Drive, Glasgow.

TWIN Antoine, 5-6 h.p., in splendid condition, lately overhauled; £16 to immediate purchaser.—Blair, Dunwood, Dumbarton.

3½ h.p. N.S.U., with two-speed gear and Montgomery sidecarriage, in excellent order.—McMichael and Binnie, Alloa, N.B.

£6.—Light motor cycle, 1½ h.p., running order, including new spares, belt, accumulator, tube.—Logan, 11, Douglas Street, Paisley.

9 h.p. Bat-Jap, magneto, Jap plate clutch, spring frame, new September last, only run 800; cost over £70, £40, bargain.—Longford, Uddingston.

3 h.p. Ariel-Fleet, 1907, low saddle, long bars, guaranteed perfect order, stand, horn, kit, tyres perfect; £14 10s.; particulars: offers.—Siddall, Burnblea Street, Hamilton.

EDINBURGH Exhibition, Industrial Hall. Stands 125 and 127; finest exhibition of motor cycles ever shown on any one stand, from May till October.—Alexander's Motor Exchange, Lothian Road.

MOTOR BICYCLES FOR SALE.

EDINBURGH.—Vindecs, Quadrants, Rexes, Adlers, Moto Reves, Arilels, Zeniths, Minervas, Griffons, Nortons, N.S.U., Advances, Rocs, etc., in stock, and to be seen at Alexander's Motor Exchange, Edinburgh.

EDINBURGH.—Scottish readers be sure not to miss our grand show of motor cycles, Stands 126 and 127, Industrial Hall, Scottish National Exhibition; 16 different makes shown by Alexander's Motor Exchange, 110, Lothian Road, Edinburgh.

TWIN Vindec, 1908, 5 h.p., model F., just six weeks old, used for trials, hill-climb and gold medal winner in a new and perfect condition, Truants spring forks, magneto, starts at walking pace, very powerful hill-climber; £43.—Alexander's Motor Exchange, Lothian Road, Edinburgh.

TRICARS FOR SALE.

31 h.p. Rex Tricar; £16; will take push bike in part payment.—6, Swan Bank, Bilston.

31 h.p. Humber Tricar, free engine, in splendid condition; £16.—Gyngell, Tewkesbury.

OPEN Tricar Frame, less engine, wheel steering, tanks, tyres; £10.—Seeman, St. Chad's, Ealing.

FOR Sale, tricar, 5 h.p., twin Kerry engine, new; £20.—Manwaring, Woodbury, Maidstone.

31 h.p. Humber Tricar, £17 10s.; free engine clutch, very fast.—Wauchope's, 9, Shoe Lane, E.C.

REX Tricar, 5½ h.p., in splendid condition, do any hill; accept £35.—Stour Motor Cycle Depot, Coventry.

REXETTE, 8-10 h.p., guaranteed perfect, non-skid on back; trial; £36.—Tarr, Cemetery Road, Sheffield.

41 h.p. Riley Tricar, good condition, coach-built, two speeds, w.c.; £32.—Knight, 5, Anglesea Road, Woolwich.

6 h.p. Quadrant Tricar, splendid condition; £50; seen any time.—Hall, 61, Parson's Green Lane, Fulham.

REXETTE, bucket seats, wheel steering, chain driven, car covers, lamps, etc.; £45.—Dry, Burton Grange, Barnsley.

5-6 h.p. Humber, two speeds, water-cooled, coach-built, reliable, all spares; photo.—91, Stanhope Gardens, Harringay.

9 h.p. Riley Tricar, with lamps and spares, identical car that won the Birdlip Hill-climb; £70, no offers.—Read, Sheerness.

31 h.p. N.S.U. Tricar, convertible, practically new, host of extras; £50.—Box No. 331, The Motor Cycle Offices, Coventry.

FOR Sale, 2½ h.p. Kerry tricar, in very good order, and tyres like new; £12.—T. F. Green, 172, Brownhill Road, Catford, S.E.

QUADRANT Carrette (Tricar), 6½ h.p., Longuemare, Palmer cord tyres, perfect order; £36.—43, North Hill Street, Liverpool.

31 h.p. Minerva Tricar, Chater-Lea frame, B. and B. carburetter, in splendid order; £20.—Fallick, Aldingbourne, Chichester.

8-10 h.p. Twin-cylinder Rexette, finest traveller in Yorkshire, two speeds, three-seater; £47 10s.—Farrar, Square Road, Halifax.

4 h.p. Crusader Tricar, with lamps and spares; must sell; £20, money wanted.—Can be seen at 12, Blackhorse Lane, Walthamstow.

TRICAR, 6 h.p. Quadrant, wheel steering, coach-built seats, two speeds, good order; £25.—"K." 84, South Hill Park, Hampstead.

RALEIGHETTE, 3½ h.p. Fafnir, water-cooled, two speeds, perfect condition; £35.—Particulars, Mortlock, 122, Leadenhall Street, London.

PHENIX Tricar, 6 h.p. Jap engine, two speeds, new tyres, all ready for road; £25, or near offer; no exchange.—Applin, Iwerne Minster, Dorset.

TRICAR, frame and engine only, Beeston Humber, 3½ h.p., free engine clutch, chain drive, including chains, splendid condition, ready for fitting up; absolute bargain, £6 10s.—Ainsworth, Hornchurch, Essex.

TRICARS FOR SALE.

5 h.p. Vindec Runabout, three wheels, Anglian two-speed gear, magneto; guineas.—Garaged at Wauchope's, 9, Shoe Lane, Fleet Street, London.

9 h.p. Singer Tricar, seats three, splendid condition, three speeds and revers, cost £160; what offers?—Reply, No. 352, The Motor Cycle Offices, Coventry.

8-10 h.p. Twin-cylinder Rexette, to car, three, in new condition; a bargain, £40, or exchange motor cycle and cash.—Wm. Else, Leawood, Matlock.

6 h.p. Tricar for Sale, in good condition, lowest, £30; also 2½ h.p. Kerry motor cycle, grand machine, £17, no offers.—Little Ilford Lane, Manor Park, E.

TRICAR, Chater-Lea open frame, twin Jap engine, Jap clutch, Palmer cord tyre, new condition; £35.—Murray, 37a, Charter Street, Hatton Garden, Holborn.

8-10 h.p. Rexette, twin-cylinder, twin wheels, two speeds, three-seater, complete with lamps, spare tyres, genuine, good; sell for gain, £46.—12, Bull Ring, Birmingham.

FOR Sale, Tricar, 5 h.p. Stevens engine, water-cooled, two speeds and free brake, and spares, thorough good condition; £26.—F. W. Giles, Durdham Park, Bristol.

6 h.p. Singer Tricar, two-speed gear, open frame, wheel steering and coach-built, recently overhauled by Riley; £35.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

6 h.p. Wolf Tricar, twin-cylinder, detachable wicker forecar, splendid condition, and running order, good hill-climber; a bargain, £20.—Palmer, 28, Trafalgar Road, Kettering.

REXETTE Tricar, 6½ h.p., coach-built, seats three, wheel steering, lamp, waterproof aprons, tools, and all spares; photo; £45.—Willis, 68, Gravelly Hill, Birmingham.

QUADRANT Tricar, 5½ h.p., several improvements on standard, now being overhauled, will equal new; seen Lloyds Works, Birmingham; £38.—Bray, Ecclesfield, Sheffield.

41 h.p. Humber Tricar, water-cooled, free engine, two speeds, coach-built body, lamps, etc., complete, thorough good order, cheap.—Norton, Anchor Villa, Sheff. Guildford.

LAGONDA Tricar, latest model, 10-12 h.p., nearly new, perfect condition; £90, nearest offer; owner buying car same make, letters only.—L. K. Davies, 22, Baker Street, London, W.

LAGONDA Tricar, 10-12 h.p., water-cooled engine, three speeds, very fast on hill, excellent condition, all accessories; a trial; price £65.—The Western Motor Agency, Sidecup, S.E.

4 h.p. Stevens tricar, two-speed gear, basket seat in front, pan seat back, Palmer cords; lowest, £19, splendid opportunity.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

COACH-BUILT Open Frame, 4½ h.p. Minerva engine, Anglian two-speed gear and clutch, wheel steering; absolute bargain, £20; seen any time.—Langan, Kingsland Road, N.

BARGAIN.—Eagle tricar, 2½ h.p. De Dion two-speed gear box, clutch and free brake, starting handle, chain drive; £10.—F. Ward, 20, St. George's Terrace, Dawson Street, Manchester.

BARGAIN.—4½ h.p. twin Givaudan, Chater-Lea, just a year old, Clinchers, St. ley belt, Longuemare, upholstered basket, sacrifice £23; want money.—Gnome, 10, Field Road, Leytonstone.

5 h.p. Humber Olympia, water-cooled, two speeds, wheel steering, coach-built body, practically new, complete with lamp, horn, spares, etc.; £45; any trial.—Tricar, c/o Williams' Garage, Lytham.

5 h.p. Twin Tricar, two-speed gear, free engine, belt drive, wicker seats, tyres good, engine just overhauled; car better wants adjusting; offers or exchange.—J. Stennett, Holbeach, Lincs.

POWERFUL Tricar, four cylinders, w.c., 12 h.p., three-seater, chain drive, two speeds, twin back wheel, Shaw non-skid climb anything; buying car.—Fuller, particulars, A.B., 35, Fleet Street, Torquay.

E.P.R.

Accumulators

A new type of handy "spare" accumulator.

The "FLEET."

4 volt.

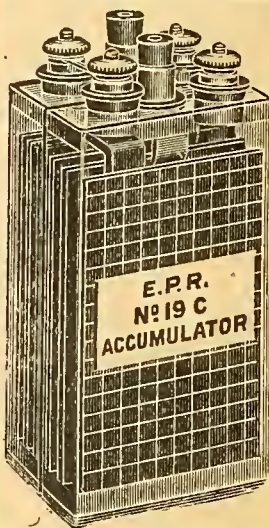
5 amp.

Hours.

Size, 3½ in. x 1 in. x 4½ in. over terminals. Best celluloid case and lid. Non-corrosive terminals and splash-proof vents.



PRICE 6/6 each. Post 6d. Strong cases for above 9d. each. This cell will do 150 miles on a single charge.



"E.P.R."

No. 19c.

4 volt. 10 amp.

Size, 2½ in. x 2 in. x 6 in.

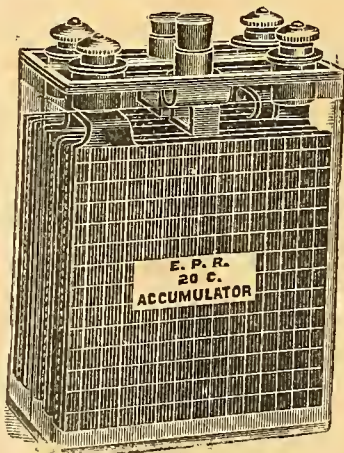
Three plates per cell. Non-corrosive terminals. Splash-proof vents.

Guaranteed two years.

PRICE 10/6.

Post 6d.

"E.P.R." No. 20c. 4 volt. 20 amp. Size 4 in. x 2½ in. x 6 in. Exactly as illustration. PRICE 14/6.



REPAIRS.—We make a speciality of treating old and damaged batteries. We can either repair and make them equal to new, or else allow their value in part exchange for new "E.P.R." cells. Send for new catalogue and terms.

NOTE.—All repair work guaranteed. Minerva accumulators cannot be repaired.

Richford and Co.,

ACCUMULATOR SPECIALISTS,

153, FLEET STREET, E.C.

Established 1876.

CARS FOR SALE.

p. De Dion Populaire, genuine licensed car; £65; two-seater.—Below.

20 h.p. Winton, side entrance, four-cylinder, vertical engine, magneto, car; £100.—Below.

16 h.p. Forman, tonneau, four-cylinder, direct drive, three speeds, reverse; —Below.

30 h.p. Hurst, side entrance, four-cylinder, hood, screen, three speeds, car; £125.—Below.

50 h.p. De Dietrich, 1905 tonneau, four-cylinder, dual ignition, magnificent running car; £185.—Below.

28 h.p. Gladiator, side entrance, 1906, four-cylinder Aster engines, folding top; worth £250, accept £165.—Below.

UIR 6ft. Screw-cutting and Surfacing Lathe, complete, in every way, 6in. res; £14 10s.—L. N. Palmer, 190, Mellison Rd., Tooting.

p. De Dion-Progress Car, with hood and screen; £35, or near offer.—Read, Sheer.

ERRACQ Runabout, three speeds, good order; price £25; exchange larger car. Llanfyllin.

NNIS, 8 h.p. De Dion engine, seats two or four, perfect; £50, offer.—6, Shrub Road, Streatham.

UMBER, 8 h.p.; any trial; £40, or exchange Triumph and cash.—7, Broad St., Stratford-on-Avon.

p. Wolseley, three speeds and reverse, back tyres new, non-skid, just overhauled; £55.—10, High Road, Chiswick.

p. Light Car, practically new, two bucket seats; bargain, £25; exchange considered.—98, Potternewton Lane, Leeds.

ANDSOME Little Two-seated Car, as new; trial by appointment; £50, or tricar cash.—Andrews, engineer, Spalding.

p. Rover Car, two-seater; trial to intending purchaser.—Address, A. Cross Parkside Road, Bradford, Yorks.

EARANCE.—Rochet three-seated 5 h.p. car, fast, climb anything, good running; £20; photo.—Stanburys, Liverpool.

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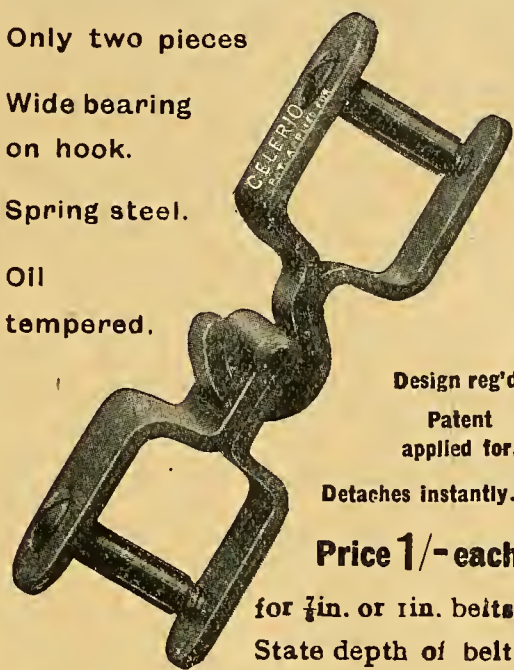
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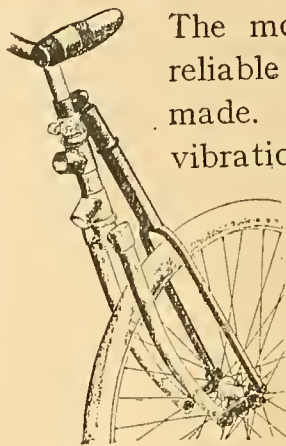
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UNITO Coupling. It only costs one guinea.—Write, Dept. B., Unito Coupling Co., Ystrad, Glam.

UNITO Coupling for Sale; 12s. 6d.—Franklin, Langleybury, King's Langley, Herts.

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23 h.p. Genuine De Dion Engine, with water-cooled head; £6.—Hicks, High Street, Maldon, Essex.

4 h.p. Water-cooled N.S.U. engine, including carburetter; £6 10s.—Wauchope, 9, Shoe Lane, Fleet Street, London, E.C.

13 h.p. Antoine Engine, in thorough good order, carburetter, and coil; £2.—Whitaker, Green Street Green, Orpington.

4 h.p. Engine, 85 by 90, carburetter and coil; £3 15s.; in good running order.—E. H. Bingham, 336, Gray's Inn Road, W.C.

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THE MOTOR CYCLE



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The End-to-end Trial.

The Machines.

LAST week we reported in detail what has been acknowledged by everybody to have been the most severe test to which motor cycles have ever been put. It is true that a contest was run over the same route in 1906, but the weather encountered was exceptionally fine, and consequently the conditions were most favourable. This year, however, not a day passed without a shower of rain, and on the Thursday and Friday the weather was unusually bad, even for the Highlands. Those who have never competed in a six days' trial may look upon the End-to-end run as easy, but let them try and complete the journey and they will find things very different. The Grampian Road presents few difficulties on a dry day, but let it rain and blow as it did on that memorable Friday, and the conditions are entirely altered. The unfortunate competitors went through an experience they will never forget, and not one will admit that he had an easy time. Two points in this competition have especially impressed us. Firstly, the enormous improvement in the performances of the machines compared with those which traversed the same route two years ago. Then Red Hill and Shap were real terrors. This year they were as nothing to the majority, and on the occasion of the latter climb we only felt justified in referring to the best performances.

On Berriedale, on the contrary, the improvement was not so marked, as the number of riders who dismounted was far too great. This was mostly due to the absence of change speed gears on the majority of the machines, which in all cases where fitted, rendered the ascent simple, easy, absolutely safe, and practically

certain. With the single geared machines the skill of the rider was the more important factor, and in these trials the personal element should be eliminated as far as possible. Dommett's performance was a remarkably good one, considering his machine was single-gear and he had never seen Berriedale before. In our opinion he thoroughly earned the prize. Dr. Mayo's effort was exceedingly neat, and the skilful manner in which the gear was changed, and the easy way in which the ascent was made excited universal admiration.

The very excellent performances of nearly every motor bicycle entered show that now machines are so vastly better than they were two years ago the gold medals are too easily won. Another time it is quite possible that gold medals will only be awarded to those riders who lose no marks at all.

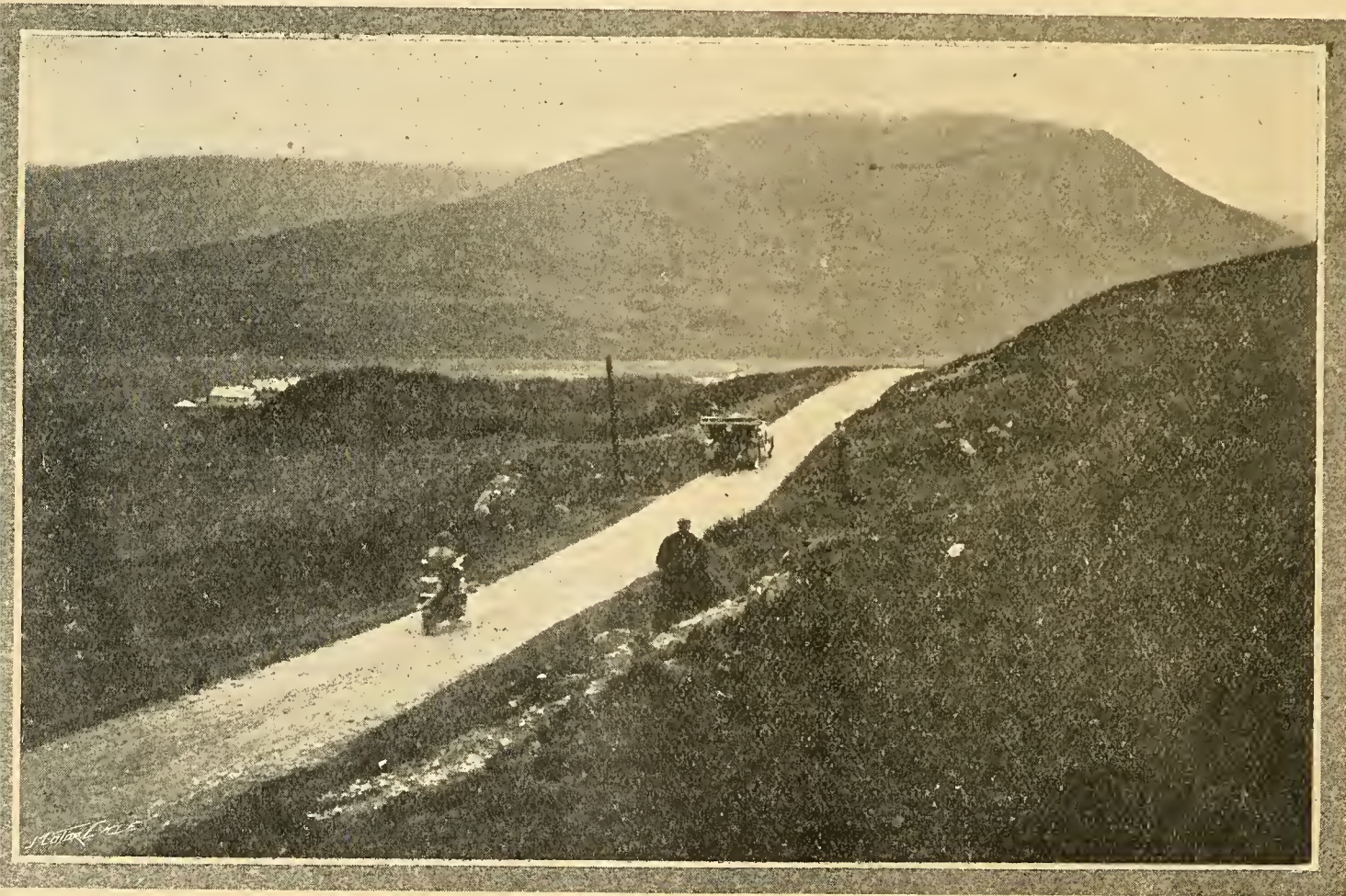
The lightweights, with two exceptions, have unfortunately not shown up very well, as there have been too many structural breakages. The lightweight as we know it now is a comparatively new type of machine, and experience has to be gained by the makers as to how little they may allow a machine to weigh without impairing its strength. People seem to think that these small machines are unfit for long distance touring and hard work, and this is in a sense true, but, unless they can prove themselves to be equal in reliability to the more powerful models (though, of course, inferior in speed), they will have a hard fight to maintain their existence. The makers of the lightweights will profit largely by these trials, and though matters have been unfortunate for them, they have undoubtedly learnt lessons of inestimable value, bought at a high price, it is true, but of great benefit ultimately. One regrettable feature of the contest was the absence of passenger-carrying motor cycles. The sidecar in various forms has met with great popularity lately, and it remains to

prove the absolute reliability of the combination in a carefully observed trial, and it must not be forgotten that no motor bicycle and sidecar has ever been through an A.C.U. trial without losing marks. Despite these apparent drawbacks they are most comfortable, and are preferred by many to a tricar.

The Riders.

Having dealt with the machines, we will now devote our attention to the riders. Never before in any long distance trial have such wonderful pluck, endurance, and skill been seen. If the motor cycling public ought to be grateful to the A.C.U. for helping to develop improvements in motor bicycles, how much more ought the British public as a whole to be grateful to that body for bringing out that splendid doggedness which is inherent to those of our nation? We cannot but admire the perseverance shown by Miss Hind, Mayo, Craig, Nelson, Gwynne, and Fletcher, who, when all seemed to be lost, struggled bravely on, and, after spending days, and even in some cases nights, of hard work to attain the goal, were rewarded at last

with the sight of John-o'-Groat's House and the beautiful Orkneys in the distance. The cases of two amateur riders are interesting. H. D. Seale, who had not ridden a motor bicycle for a year, entered for the End-to-end, and tried to get a machine. Failing to get delivery after trying two different sources, he arrived at Penzance with clothing, spares, and everything save the one important factor, a mount. Happening to find a $3\frac{1}{2}$ h.p. Triumph which had been some weeks in stock in a shop in Penzance, he bought it on the spot, and brought it through the competition without losing a mark. Dr. Adams, another Triumph rider, had but one hundred miles' experience, and he was quite as successful as Mr. Seale. Nelson, who had spent forty-eight hours on the road at a stretch, and who arrived at John-o'-Groat's when everyone was leaving, spent a happy day motor cycling on the 19th inst. in company with many others who had not had enough of their favourite pastime. Despite its severity, the 1908 End-to-end run has been even more successful than its predecessor in 1906, and we sincerely hope it will not be the last that will be held.



On the
Grampians in the
A.C.U. Land's
End to John-o'-
Groat's Six Days'
Trial.

O. C. Godfrey
($3\frac{1}{2}$ h.p. Rex) in
the foreground.

AUTO CYCLE UNION END-TO-END TRIALS. MACHINE ANALYSIS.

The following analysis of the competing machines in the End-to-end serves to prove once again the absolute reliability of present day motor cycles:

Twenty Triumphs out of twenty finished; all gained gold medals except one, which secured a bronze medal. Eight Rex out of eight finished; five gained gold medals, one a silver medal, and two bronze medals. Five Vindec Specials out of five finished; three gained gold medals and two silver medals. Two N.S.U.'s out of two gained gold medals, likewise two Phelon and Hoopes, and two Matchless machines. Two F.N.'s out of two finished; one gold and one bronze medal.

Nine out of twelve bicycles fitted with change speed gears duly finished the run, but in only one case was the withdrawal due to the gear:

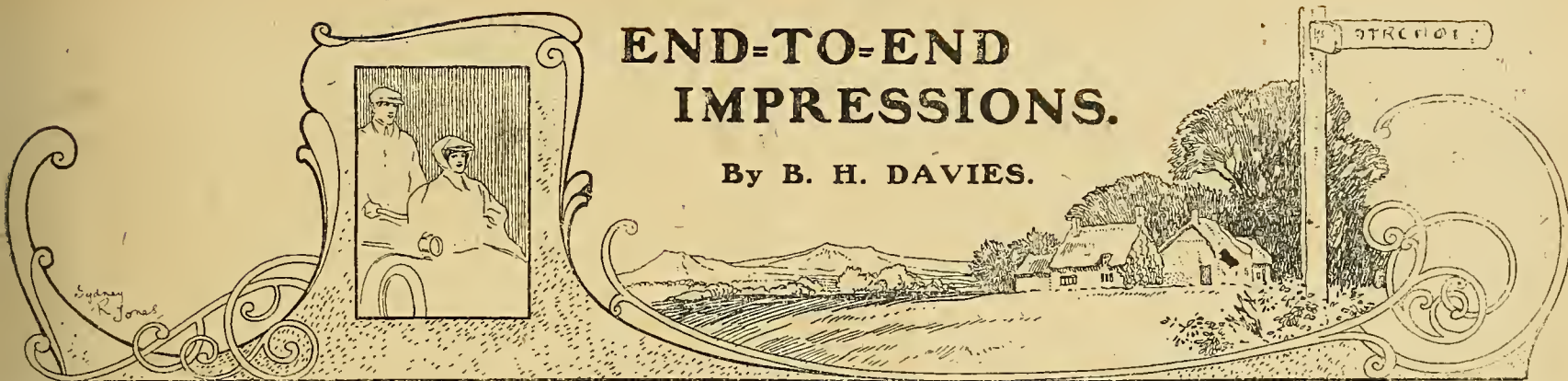
Two lightweights survived the ordeal—a $1\frac{1}{4}$ h.p. Motosacoche, which gained a silver medal, and a Moto-Rêve, which was awarded a bronze medal.

Three chain-driven and two gear-driven bicycles finished; the remainder were belt driven.

Thirty-three single-cylinder, thirteen two-cylinder, and two four-cylinder motor cycles comprised the successful mounts; forty-three of them had Bosch and two Eisemann magnetos.

END-TO-END IMPRESSIONS.

By B. H. DAVIES.



THE vagaries of rim, tyre, and motor makers unfortunately prevented me from competing in this year's trials—a disappointment that was the more sickening because my machine was one of the most substantial and reliable twins I ever straddled. And after Mr. Straight found me a job as an official and Mr. G. H. Levick kindly found me



The only lady competitor in the End-to-end Trials making light work of Shap. Miss Hind on her Twin Rex.

a seat on his six-cylinder Napier, domestic reasons compelled me to leave the trials at Carlisle. But in the 470 miles for which I was able to accompany the riders I was able to perceive several striking and gratifying contrasts between the two End-to-end trials.

The Two End-to-end Runs Compared.

The first and most pronounced contrast lay in hill-climbing. Practically every machine from the $1\frac{1}{4}$ h.p. "Motor Sausage" to the biggest twins climbed every hill without effort or faltering. I saw all the machines on Redhill and on Shap, and there was a definite impression of comfortable mastery about the manner in which engines, large or small, riders heavy and light, faced and conquered these stiff ascents. The most illuminating climbing, however,

that I witnessed was on the twisty climb up out of Bodmin. All the lower corners were excessively greasy, and the riders were compelled to slow down to an absolute crawl. The flexible engines nevertheless grappled with the gradient, though each separate explosion was distinctly audible, and in particular I saw a single cylinder Rex, a Triumph, and a twin-cylinder Moto-Rêve take this tricky and dangerous climb slowly, surely, and confidently. Heretofore slow climbing has been the exclusive property of the two-speeder. To-day it is well within the range of a high-class single geared one cylinder machine.

The second emphatic contrast observed was in the safety and speed of steering over grease. At one point of the run the big Napier had to be held back for several miles of greasy lanes behind a large clump of competitors. The road being slimy, narrow, and highly cambered, our courteous driver did not like to force the motor cyclists off the crown of the road, so that he might pass them. The grease was real grease, and yet as the quiet six-cylinder purred along at the tail of the string its speedometer registered a steady twenty-five to twenty-eight miles an hour. This improvement in the comfort with which a motor bicycle can be driven over treacherous surfaces I unhesitatingly ascribe to—

- (1) Better distribution of weight.
- (2) Lighter weight of the machine.
- (3) Increased engine flexibility and smoothness.
- (4) Rubber studded tyres.



Martin Geiger (6 h.p. N.S.U.) climbing Shap at full speed.

End-to-end Impressions.—

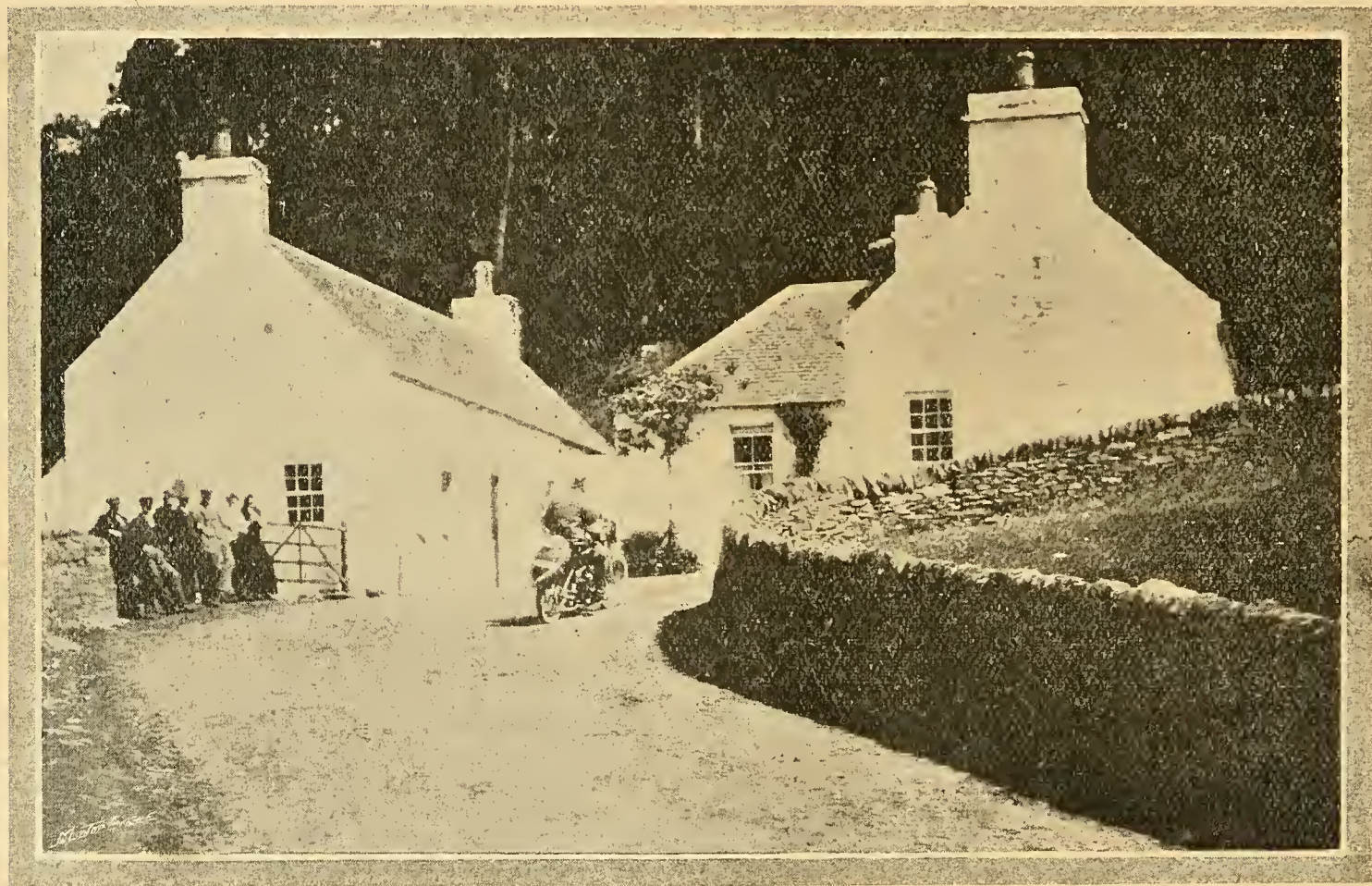
The third contrast lay in the huge reduction of minor troubles. This is evinced not only by the fact that every single starter reached the end of the first day's ride, but by the absolutely clean sheets most competitors scored in every day's run. Two years ago broken valves, broken valve lifters, choked jets, punctures, ruined sparking plugs, etc., were in daily evidence. The road was littered and strewn with feverish tinkers. This year up to the point I left the route I did not hear of a broken valve, a choked jet, or a changed plug. A few punctures were the worst that befell the men who were really competent riders on standard machines of known makes.

Full Power Maintained.

The fourth contrast is one of special interest to amateur riders, and consisted of the *maintenance of power*. Two years ago that precious hour of adjustments each day from 7 a.m. to 8 a.m. was spent in feverish effort to restore to the engine lost pace and

The fifth contrast lay in the promptness with which every machine started. There was not a solitary motor cycle in the trial which did not start promptly and speedily on every occasion, and I saw several machines, notably some of the Triumphs and the two four-cylinder F.N.'s, restarted quite comfortably on very severe gradients, and pick up as well as a 1906 machine would have done on the flat. Very few riders needed to inject anything, even when their engines were stone cold. In this connection I must add a word in admiration of the great efficiency of the modern four-cylinder. Valve, distributor, lubrication, and carburation difficulties with this type of machine seem to have been completely conquered in the F.N. They rolled smoothly and steadily over grease, they ripped up all the hills at a great speed, they started in a yard or two anywhere, and no machines entered ran more reliably.

The sixth contrast lay in the presence of 70 lbs., 80 lbs., and 90 lbs. machines, lying well up with the leaders all day long, and climbing long hills, often



On the last day of the End-to-end trial, the performances of the competitors on Berriedale Hill were carefully noted. In this illustration, C. A. Palmer (twin Roc) is seen rounding the first sharp bend near the foot of the hill.

climbing powers. Valves were ground in, new springs fitted, carburetters reset, and ignition tuned up. This year, going in and out among the busy preparations, I moved in an atmosphere of calm and confidence. The men knew their machines were right for the day's run. I did not see valve grinding, ignition timing, or carburetter adjustments in progress. A few were mending tyres. The great majority were coolly and comfortably taking precautionary measures. One would be running a broach through his jet, another inspecting his contacts, and perchance giving them a wash of petrol, a third testing the tightness of his valve caps and plug washers with a wrench. But there was a delightful absence of that anxiety and flurry which has marked that often feverish hour in previous trials.

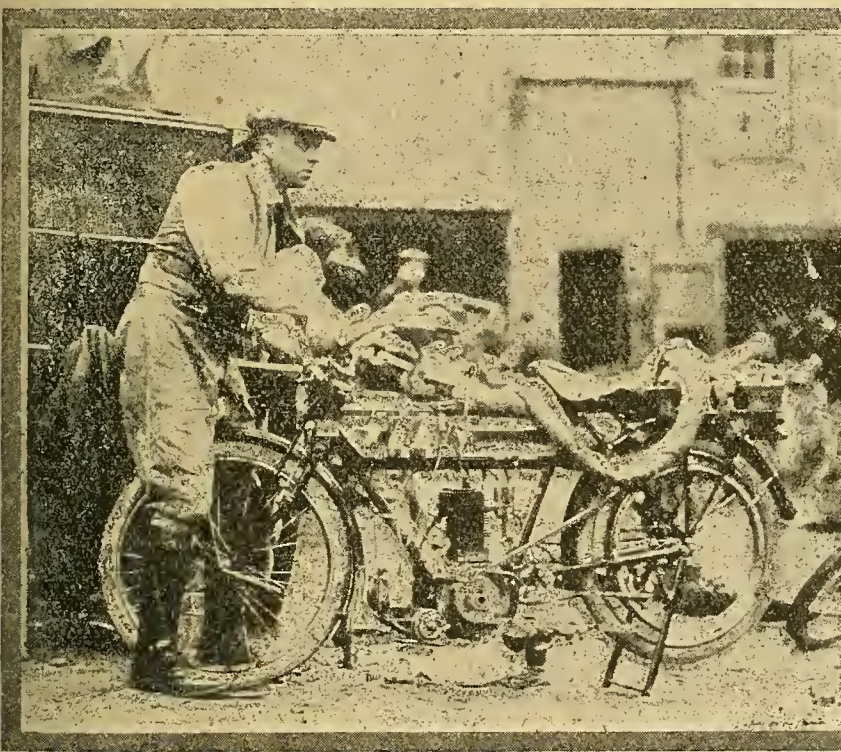
without any pedal assistance at all, and seldom with more than a little light work at their high-gear pedalling gear. One of the Motosacoche, both the Moto-Rêves, and, previous to their accidents, all three Douglas machines, positively covered themselves with glory, and they smashed for ever the calumny that has represented them as fair-weather or flat-country machines. Neither wind, weather, nor gradients were serious obstacles to any of them, and in two respects their achievement was a regular eye-opener to myself, personally, viz., the high average (exceeding legal limit) that they were able to maintain and the ease with which they romped up hill following hill in quick succession.

The last contrast was the number of variably-gear machines entered. There were only four in 1906, and

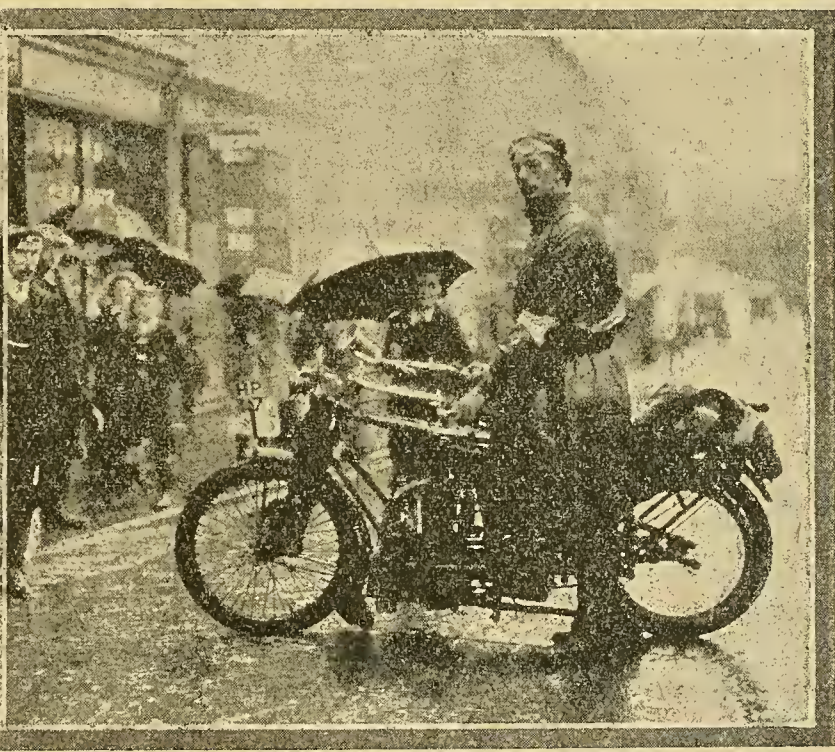
End-to-end Impressions.—

this year no less than a dozen, but, owing to the vast improvement in the engines and a full supply of good oils, there was not the same call for second gears. Other things being equal, however, the man with two speeds has the most comfortable time. Easily as the single-gear machines of to-day start, prolonged experience with two-speeders makes me resent the admittedly slight exertion of pushing off even a one-speeded $3\frac{1}{2}$ h.p. I have grown used to paddling off with my feet while seated in the saddle, and I loathe anything else. Several competitors utilised this admirable method. Referring to individual gears, Mr. Powell on the B.P. used his low gear a good deal. He had a small engine—somewhat out of tune, too, I imagine—and I doubt if he would have got far without his emergency gear. As it was, he had a comfortable ride as far as I watched him. The two Phelon-Moores went great guns. Mr. Moore's machine was in splendid tune, and I never saw him use his low gear except when starting. Mr. Milnes used his on several hills.

of a grain of mechanical instinct. Others had extraordinarily bad luck. I will take Mr. Dixon on the $3\frac{1}{2}$ h.p. two-speeded Vindec as an illustration. He had an excellent machine, and as he did the double journey to Edinburgh and back on it in the Schulte Cup it is evident he knows what he is doing. Well, to begin with, he used four gallons of petrol in the first seventy miles, whereas other amateurs on the bigger Vindec's were doing one hundred miles per gallon. Examining his machine, he found that there was no leakage at the carburetter unless the engine was running. When the engine ran there was no leakage, strictly speaking; but a perfect fountain of petrol began to spray out through the air holes of the jet chamber as soon as he got on the road, producing excessive consumption and gross overheating. He had a good kit of spare parts, and he tried weak and strong a.o.i.v. springs, new valves, big and little valve opening, all to no purpose. At Launceston some of us noticed the huge diameter of the F.N. valve, and advised him to still further reduce the lift and strengthen the spring,



A.C.U. END-TO-END RELIABILITY TRIALS.
Capt. Sir R. K. Arbuthnot, Bart., R.N., cleaning his Triumph in the hotel yard at Tain, ready for the last day's run.



F. W. Barnes ($3\frac{1}{2}$ h.p. Zenette with Gradua gear) at Pitlochry, the finish of the fourth day's run.

I do not know at the moment of writing whether Mr. Dixon on the $3\frac{1}{2}$ h.p. Vindec got to John-o'-Groat's at all, but without a two-speed gear he would never have reached Warrington, owing to an exasperating and elusive trouble referred to below. The Zenette gear is splendid. The engine runs at normal speed without variation in speed from the foot of the steepest hill to its summit, and it is all accomplished by gently revolving a neat little hand wheel conveniently placed. Mr. Carty's N.S.U. gear came in handy once or twice. The other gears I did not see in operation at all, except for one, which went up Shap so extraordinarily slowly that the rider could scarcely balance his machine at all.

Some of the riders who failed were personally unequal to performing even a leisurely tour of 900 miles efficiently. They did not know how to keep in tune or how to drive the best motor cycle ever made. A small percentage of riders are always like that, and always will be, lacking in commonsense, and devoid

promising him that two or three of us who fancied we knew something about motor cycles would have a full theoretical solution cut and dried, waiting for him at Exeter if he could get there by tea time. Mr. Dixon struggled on as far as Warrington—I hope he got through, but I do not know at the moment—and none of us, from Wells downwards, could help him to a solution without personally trying his machine, which, of course, the regulations forbade. A rare and elusive trouble of this sort may attack even a first-class rider on an important occasion, and put him out of the running. Mr. Dixon simply tore up some of the hills, apparently as the result of pre-ignition. Then perhaps on the very next hill the engine would peter away to nothing on the low gear.

Motor Cycle Tyres.

Tyres, though much maligned nowadays, caused far less trouble than in 1906. I particularly noticed what a good thickness of tread the Continental modèle de

End-to-end Impressions.—

course possesses. Few fitted it, as it has a smooth exterior. Mr. Reinberg told me the Continental people are bringing out the same tyre with a non-skid basket-pattern tread, and then riders who don't mind a slow tyre provided only it will wear well and neither puncture nor skid will recognise their long sought ideal.

Referring to the conduct of the trial, I only saw two causes for dissatisfaction, and one is difficult to remedy. As in previous trials, there was always a great scrimmage for petrol in the controls, due to the fact that though fifty cans of spirit were on the premises there was only one measure and one funnel for sixty men to fill up with. This is tiresome when a rider has half an hour to spare, but it is sheer exasperation if a puncture or other delay has made every moment precious. The A.C.U. ought to provide funnels, carried on the leading official car, or else urge its garage men to provide six plain tin ones at a cost of 1s. 6d., with some squares of muslin to filter the spirit through. I suffered so much delay in 1906 from this cause that I then made it a practice always to fill up outside control when possible—a sacrifice of time which might prove perilous if one's luck was out, and this year I took both oil and petrol funnels down to Land's End in my kit. But this is a point the officials should guard against.

Running to Minimum Time.

The other general complaint requires more solution. In these trials a knot of riders drive fast to a point outside the next control, wait till "minimum time" is up, and then go in to get their cards signed. This year—for the first time—practically the whole of the entry reached every single control by "minimum time." As a result the unlucky control man—unused to his job,

a stranger to all the men, and, perhaps, exalted by a moment's brief authority—would be inundated by fifty excited, hurried, and often unreasonable riders. A little impatience on one side and a lack of businesslike method on the other led to men being delayed as long as twenty minutes at some controls, and leaving considerably ruffled in their tempers. This should be improved before another trial is run with so large an entry. No doubt the checking system could be simplified, or an extra checker secured for each station, and two separate tables employed. But the obvious method is to string the riders out by starting them in half dozens at five minutes intervals, under which system no checker would be hustled and insulted nor any hurried rider suffer aggravating delays. The same applies to the Edinburgh run as well.

Non-competing riders will be interested to hear that marks were saved on tyre troubles, as against 1906, by the universal use of detachable tubes, and by the slightly less extended employment of Miraculum. Butt-ended tubes seem to have lost favour. I personally pin my faith to the Rich and to a comparatively unknown make, the Smith, which is absolutely satisfactory in wear. At Land's End many competitors were seen injecting Miraculum, and it successfully sealed many a puncture during the trial. The collapsable tube screws on to the valve after the plunger has been removed, and the tube is then folded up from the bottom, pressing all the Miraculum into the tyre. This process takes about twenty minutes. The compound is then distributed all round the tube by kneading with the hands, the valve seat cleansed, and the plunger replaced. In the event of a gash, it does not make patching difficult, as previous "sealing" solutions have been known to.

VICTORIAN M.C.C. 100 MILES CHAMPIONSHIP.

THE above club's annual 100 miles road championship was decided on Monday, June 8th, in fine weather. The course, which was along the main road to Sydney, starting from Campbellfield, ten miles from Melbourne, to a point twenty-five miles out, included three stiff hills, and had to be covered twice. There was a strong north wind which severely tested the capabilities of the various machines. Twenty-two riders faced the starter.

The first twenty-five miles found out the weak spots in many of the machines, broken plugs and puncture being fairly numerous. Flocks of sheep on the road considerably hindered the competitors. Fastest time on the first fifty miles was made by Fraser, his time being 1h. 21m., Benn coming next in 1h. 23m., and Jen-



W. H. Stevens, who covered 100 miles in 2 hrs. 53 mins. on a 1908 Triumph.

kins 1h. 24m. Stevens, the ultimate winner, punctured in the first round and lost over ten minutes. At seventy-five miles Penn and Cuddon reached the turn together, with Stevens three miles behind; then came Fraser, Scarcebrook, Kidgell, and Perry. At Wallan, Cuddon's back tyre burst, and six miles from the finish Stevens overtook Benn, who had met with an accident on Malpas Hill, and finished in 2h. 53m., ten minutes ahead of Benn.

The first riders to finish were:

1. W. H. Stevens (25m. start), 2h. 53m.
2. L. Benn (25m. start), 3h. 3m.
3. L. Kidgell (10m. start), 2h. 49m.
4. H. Perry (14m. start), 2h. 53½.

L. Benn afterwards stating he had accepted outside assistance to reach home, the second and third prize were awarded to Messrs. Kidgell and Perry.

In addition to the first prize of £12 12s., Stevens who rode a 1908 Triumph, gained the trophy for fastest time for 3½ h.p. machines (£3 3s.), W. H. Cuddon (Peugeot) fastest 2¾ h.p. (£2 2s.), and L. Kidgell (Peugeot) fastest 5 h.p. (£5 5s.). The novice's prize was won by D. Fraser.

We are informed by the makers of the Ruthardt magneto that C. A. Vandervell and Co., Warple Way, Acton Vale, W., will handle the new Ruthardt magnet for motor cycles, which was described in *The Motor Cycle* of July 15th.

Questions & Replies.

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and, whether intended for publication or not, must be accompanied with a stamped addressed envelope for reply.

Burnt Gases and Altering Gear.

? I am riding a 1904 3½ h.p. Rex, and at night I notice that flames issue from the silencer. I should like to know the cause of it. I am thinking of altering the gear. It is at present 6 to 1, but on level roads the engine gets very hot. I weigh nine stones. Could you tell me what size pulley I should want to give a higher gear? The present one measures 4½ in. outside, with 28 in. wheels.—E.E.L.

The symptoms you refer to are caused by there being no exhaust pipe in this type of machine. If you had a long exhaust pipe and silencer the flames would not appear. We should not advise you to have a larger engine pulley than 4¾ in. diameter.

Low-built Machines, Exhaust Valves, and Inner Tube Filling.

? A friend of mine wishes to go in for motor cycling, and has had a spin or two on mine. He is all right when in the saddle, but being very short in the leg cannot straddle the machine for mounting and dismounting. (1.) Can you tell me what makes of motor cycles have exceptionally low saddles? (2.) On my own machine—a 1906 Rex—the exhaust valve pits, burns, or breaks very frequently, and requires skimming up after 100 miles. Machine otherwise runs well. Can you suggest the cause of the trouble? Silencer clear. (3.) In ordering a new machine should detachable tubes be specified, and if so which variety—(a) butt-ended or (b) through circulation? (4.) What are the virtues of Miraculum, and what its disadvantages? Would it be any use in an old semi-porous and patched inner tube, and do you recommend its use in new tubes?—REX, Leamington.

(1.) Most up-to-date machines are very low built, and it is easily possible to touch the ground when seated in the saddle. If your friend cannot, he could have 24 in. wheels. (2.) Probably you drive on too strong a mixture, or with throttle too far open. You might try a special nickel valve. (3.) Butt-ended tubes would be desirable; those with through circulation are most popular. (4.) We have had no experience with the material in question, which is claimed to cure entirely any tube which has become porous.

Machine Requires Tuning-up.

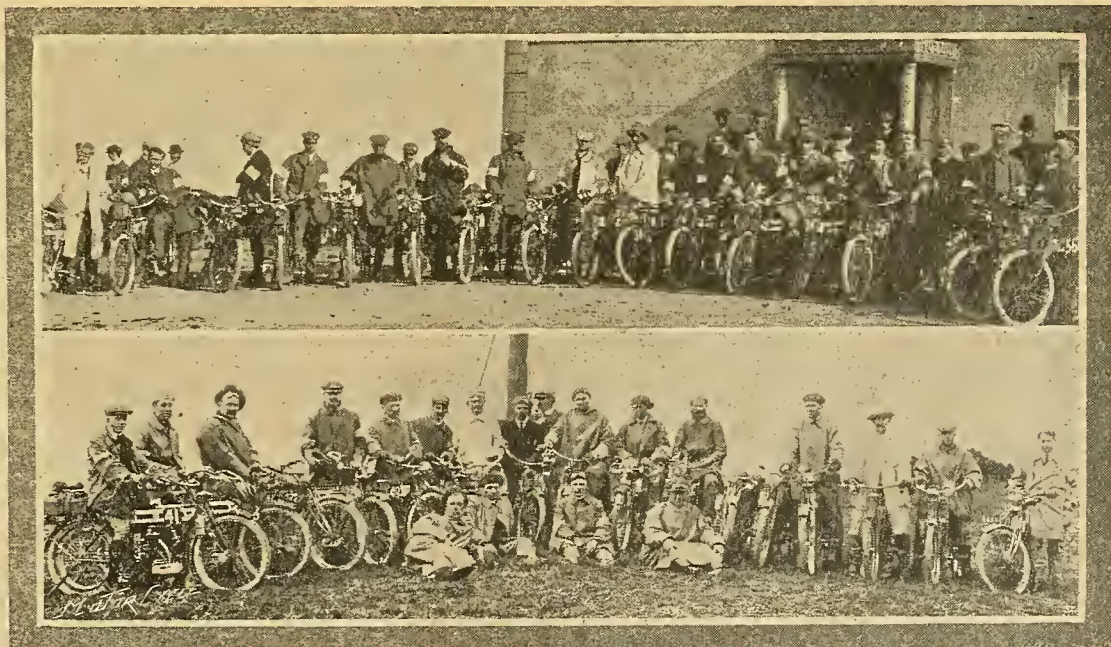
? I have an Excelsior cycle fitted with 3 h.p. Fafnir engine and Longuemare carburetter. Everything seems to be all right at home while on the stand, but after I have ridden it about two miles it gets sluggish and stops altogether. The accumulator is in good order, wiring seems to be right, carburetter is clean, and compression is very good. Kindly tell me how to locate the faults and how to remedy them. Do you think above machine would, if put in good order, be powerful enough to take a sidecar. total weight of rider and passenger nineteen stones? Large pulley revolves once to 5¾ times of the small pulley.—W.M.

Probably the engine wants taking down and clearing of all carbon deposit. You do not state if it overheats at all. See that the carburetter and petrol pipe are quite clear, and test the accumulator with a voltmeter. There is probably very little the matter with the machine; the engine is a good one, and if you get it overhauled by a good man it would be quite capable of taking a sidecar on level roads. The gear for this purpose would be about right, but a two-speed gear would be advisable.

Re-enamelling and Re-plating.

? I have just purchased second-hand an Advance motor cycle. I want to get it re-plated and re-enamelled. Where is the best place to get this done, and what is it likely to cost? The engine has just been overhauled, so that ought to need no attention. There is no accumulator. What size do you recommend? What brand of petrol and lubricating oil suits this make of machine? There is no stand. Ought I to get one fitted? Should I get the re-plating and these alterations done at one place, and have an estimate for the whole?—S.N., Beds.

Enamelling and plating are done at various places. Try the Coventry Plating Co., or Sills and Co., Coventry. It will make a lot of difference if you take motor cycle to pieces yourself and send the parts. Size of accumulator should be ordered to fit tank. Any brand of petrol, such as Shell, Pratt's, etc. Lubricating oil—any good motor cycle brand for air-cooled engines, but see that you purchase it in a sealed tin. A good local man would attend to all your requirements and give you an estimate for the whole of the alterations.



ARE MOTOR BICYCLES RELIABLE? YES!

A record was created by a score of riders of 3½ h.p. Triumph motor bicycles during the End-to-end run. The top photograph shows the riders at Land's End at the start of the 893 miles run, and the bottom photograph all competitors to a man at John-o'-Groat's six days later. Sixteen were private owners. The trade riders are seated on the grass in the lower illustration.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Front Wheel Stands.

[3444.]—To support the front wheel I have fixed to the down tube a stout clip, which carries a lug $\frac{1}{2}$ in. diameter and $1\frac{1}{2}$ in. long projecting vertically downwards. Alongside the front fork is carried a piece of steel tubing large enough in diameter to slip over the lug, and long enough when in place to keep the front wheel off the ground. The arrangement works all right, but might be neater. S. F. W.

The Folly of it.

[3445.]—Regarding letter 3412, I can gather from "F. G. S.'s" ignorant abuse of your most interesting and instructive paper that he is one of those persons who has sat on the saddle of a motor bicycle, sounded the horn, and aimlessly moved the levers, the machine being on the stand, of course. After this he thinks he has sufficient knowledge to advertise his lack of reasoning power in print. P. F.

Leaking Batteries.

[3446.]—Referring to Mr. R. N. Morley's letter in your issue of July 8th respecting leaking batteries, we would like to mention that in our accumulators the rubber plugs are hermetically sealed by a special contrivance, and any movement made absolutely impossible. At the same time, this device quite prevents any creeping and corrosion around the terminal. We agree with Mr. Morley that the point is an important one, and we discovered a long time back, from actual riding experience, that some sort of arrangement such as we fit was essential. W. AND R. JACOBS.

Leeds to London and Back Run.

[3447.]—Having had valuable assistance rendered by Mr. Bunting and Mr. Wilson on the occasion of our recent run, and unfortunately having mislaid their address, I wish to use your columns for the purpose of thanking these gentlemen for their sportsmanlike attitude in helping me in checking the Leeds, Bradford, Manchester, and Middlesbrough Club teams at Barnet and Highgate during the early hours of Sunday morning. I feel sure that my club (the Leeds Motor Cycle Club) will make the two riders named very welcome should they visit our city. JAMES R. KELLY,
Hon. treasurer Leeds M.C.C.

Standardisation of Tyre Rims.

[3448.]—The Hanover Rubber Co. request me in justice to them to write you a further letter about the tyres they supplied to me for the End-to-end run to be used on a 6 h.p. twin. When they sent the covers to the makers of my machine they expressed some doubt as to whether the rear wheel cover would fit its rim, and earnestly requested the makers to test the fit, saying they could immediately supply another cover to fit if the original one was a misfit. Needless to say, I had also given instructions for the fit to be tested before the covers were sent to await me at Penzance while I rode down on old tyres. Unfortunately, the makers of the machine omitted this precaution, being exceedingly pressed with orders and business—an omission they regret no less bitterly than myself. However, the fact that the Hanover Rubber Co. requested us to take this precaution transfers all shadow of blame from their shoulders.

It does not, however, affect the point of my previous letters. I found myself in the garage at Penzance with a 650 x 65 mm. rim and two 650 x 65 mm. covers of different makes. One of these covers was so tight a fit that to remove it single-handed was a tremendous exertion. The other was so slack a fit that any number of security bolts could not have kept it on the rim. B. H. DAVIES.

The Fit of Piston Rings.

[3449.]—Being a constant reader of your invaluable paper, I invariably peruse the Comments of "Ixion," which I must say are very interesting. I should like, however, to express my doubt as to the possibility of regaining compression by the expedient of fitting new rings as he meditates.

The reason is this: The importance of having properly fitted rings cannot be exaggerated, and to be properly fitted the points of the rings should just meet when in the cylinder. If this be granted, it is obvious (the cylinder in question being taper to the extent of 2 mm.) that if the points touch at the bottom of the cylinder they will separate to no less than 6 mm. at the top, and this is just where they should be perfect, having to sustain the greatest force of the explosion. These remarks are not only theory, but the practical experience of an ENGINEER.

Twin-cylinder Ignition.

[3450.]—"Ixion's" article, "Contact Breakers for Twin-cylinders," induces me to write you, as it has an indirect bearing on a question which has occupied my mind for some time.

A month or more ago there was in your columns a query in reference to a magneto for two cylinders at 90°, and the editorial opinion was to the effect that it would not be satisfactory, as it would "split up the magnetic field too much"—an explanation, doubtless, all-sufficient to the expert, but leaving something to be desired from the point of view of the novice. I have been trying to puzzle the matter out by the aid of diagrams, and concluded that the difficulty would exist only if the two cylinders acted on the same crank. If cranks as well as cylinders were at 90° it seemed to me that a magneto with distributor would be entirely satisfactory. Is there any reason why this arrangement, by which I understand a capital balance of engine can be obtained, is impossible, or highly objectionable, as my ideal for a twin would be to have cylinders at 90°?

Has no one yet produced a magneto in which the advance and retard of spark is produced in the scientifically correct way, viz., by swinging the magnets round the axis of the armature—an arrangement which would give practically the same flexibility as accumulator and coil? I believe it has been done on a motor car. S. F. W.



The Newcastle-on-Tyne representatives in the End-to-end Trial were (reading from left to right): Capt. Sir R. K. Arbuthnot, Bart., R.N., A. D. Nicholson, S. W. Carty, and W. H. Outwin. All are members of the local motor cycle club, and all gained gold medals.

ANOTHER RECORD ADDED TO THE MANY

established on

DUNLOPS

"Sport and Play" Motor Cycle Race Meeting,
Birmingham, July 4th, 1908,

Mr. C. R. Collier on a Dunlop Tyred Motor
Cycle created a

NEW RECORD FOR FIVE MILES

Time 6 min. 31 4-5 secs. Previous best
6 min. 58 1-5 secs.

THREE FIRSTS & ONE SECOND

were gained at the meeting on Dunlop
tyred machines.

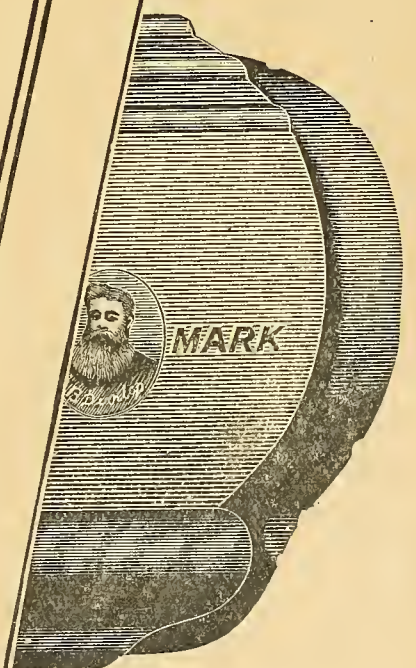
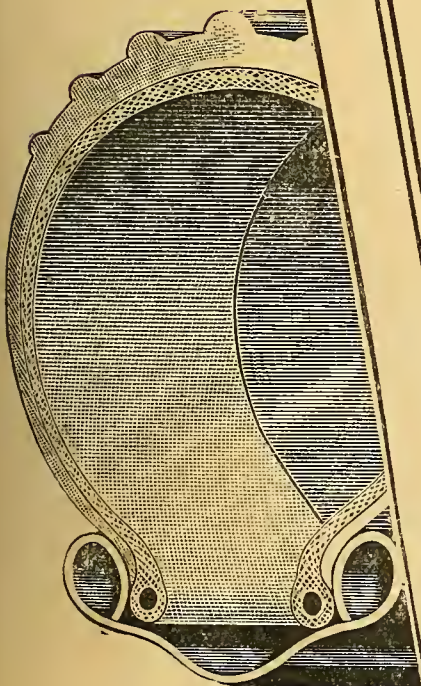
Full particulars of Dunlop Tyres for motor cycles
and tricars in booklet, gratis and post free
on request.

DUNLOP TYRE COMPANY, LTD.,

Aston, BIRMINGHAM.

Alma Street, COVENTRY.

Branches—London, Nottingham, Manchester,
Newcastle, Norwich, Bristol, Leeds, Glasgow,
Dublin, Belfast.



'N.S.U.'

Reliability

in long distance covering under trying conditions was again to the fore in the A.C.U. Land's End to John-o'-Groat's Reliability Trials, the results being:

Mr. S. W. CARTY, on his $3\frac{3}{4}$ h.p. single cylinder
N.S.U.--GOLD MEDAL

Mr. M. GEIGER, on his 6 h.p. twin-cylinder
N.S.U.--GOLD MEDAL

Both these riders and machines completed the long ride—probably the severest test to which a motor cycle could be put—without the loss of a single mark. It's the N.S.U. way all the world over.

Do you ride one?

Read Mr. Carty's Letter.

July 20th, 1908.

Messrs. The N.S.U. Motor Co.
 Gentlemen,—In the recent A.C.U. Land's End to John-o'-Groat's Reliability Trials I gained Gold Medal with the loss of no marks on my $3\frac{3}{4}$ h.p. N.S.U. (two-speed gear). I had a splendid ride in spite of continual rain and bad and greasy roads, the machine giving me every satisfaction. The two-speed was a source of joy to me, as I was able to climb hills and face head winds, using it where machines of greater horse-power and less total weight miserably failed.

(Signed) S. W. CARTY.

Things you ought to have:

N.S.U. non-skid device $\frac{3}{6}$
 N.S.U. sparking plug.
 N.S.U. belt fasteners.
 N.S.U. two-speed gear.

Models from
 $1\frac{1}{4}$ h.p. to
 6 h.p. twin.

N.S.U. MOTOR
 CO., LTD.,
 78, Charlotte St.
 London, W.

In answering this advertisement it is desirable that you mention "The Motor Cycle."

Belts and the Kid-gloved Brigade.

[3451].—As another rider who likes to keep clean, I am pleased to endorse letters contributed [3428 and 3414]. When I was using leather belts my chief complaint was the dirty nature of same, and the necessity of constant truing up of pulleys due to the belt dressing acting as a medium for gathering and carrying grit and small flints, causing excessive grinding and wear of pulley sides. This was not very noticeable on my low-powered machines, but as for three years now I have been riding heavy twins (my present one 9 h.p.), I certainly prefer the rubber and canvas belt as being quite clean to handle, and practically no wear on pulley. Even if the life of the belt is not so long as leather, I think that the trouble and expense incurred by truing up or replacing worn pulleys, saved by using a rubber belt, more than compensates for a more frequent renewal of belt. One point I would like to mention is that, provided the machine is intelligently looked over before a ride, there is little or no need to dirty one's hands; in fact, for dry weather in summer I wear white gauntlet gloves, and these I only pipeclay once a week (Saturday night), and frequently after a week's riding (300 to 500 miles) they scarcely require the weekly clean.

TEN THOUSAND A YEAR (MILES, NOT £'s).

Motor Cycle and Cycle Speedometers.

[3452].—It is surprising speedometers are not more general. I have had two Goodlad speedometers in constant use for about fifteen months, and find them reliable, especially since a slight improvement suggested by me to Messrs. Markt and Co. has been adopted by them, which consists in using a slotted sleeve for the lower end of the flexible shaft to engage with, this coupling allowing the end to rise and fall, thus obviating the sudden jars which formerly caused the shaft to break occasionally, which it never does now. I have tested these speedometers on a good piece of road between milestones and against a watch, and found them substantially accurate and steady. After using one, one finds it almost indispensable, because if a rider has been travelling fast and suddenly drops his speed ten miles per hour he is apt to think he is travelling slowly, whereas he may be travelling at a greater pace than circumstances justify, and in such a case a handle-bar speedometer will warn him. I carry a watch, mirror, speedometer and altitude aneroid on my handle-bar, and a Veeder trip cyclo-meter for the front wheel, but the instrument I would least care to dispense with is the speedometer.

It may be of interest to some readers to learn that speedometers were designed, made, and tried on the old high pedal bicycle. I think I may claim to have originated the first bicycle speedometer. Its principle of action was that of an engine governor, but the centrifugal mechanism, instead of controlling the throttle, was to move a pointer over a dial. I communicated my idea to my friend, and then instructor, Prof. Hele-Shaw, now Dr. Hele-Shaw, F.R.S., who informed me my idea had been anticipated in the

Hearson strophometer, but he felt sufficiently interested in it to work out the idea in conjunction with his brother, my brother-in-law, Mr. Ed. Shaw, who devised an arrangement in combination with a front wheel brake. Those interested will find the instrument illustrated in Dr. Hele-Shaw's paper on the measurement of velocity for engineering purposes in Part III. page 47 of Vol. LXIX. of the Min. Proc. Inst. C.E., to a complimentary copy of which paper given me by Dr. Hele-Shaw I have referred.

Several instruments were made by Messrs. Husbands, opticians, of Bristol, and I took these to Messrs. Singer and Co., of Coventry, who were then working a patent of mine under royalty, and they tried them. Mr. Lea, of Lea-Francis, Ltd., will probably remember the trial of one instrument on a special British Challenge of his. I believe I could find one of the instruments now. The dust which forced its way in owing to the combination of the indicator roller in the brake prevented the instrument becoming a success—a disadvantage which is absent from the Goodlad speedometer.

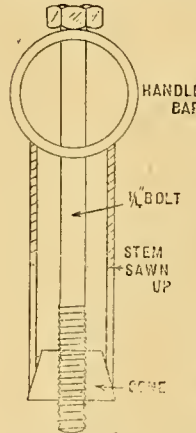
A. WHARTON METCALFE,

Asso.M.Inst.C.E., etc., etc.

Handle-bars Working Loose.

[3453].—Your correspondent "BS 31" [3413], in your issue of the 15th inst., has written in hot blood, and doubtless his alleged repairer was much to blame, probably far more than the design of the grip securing the handle-bar.

But an absolutely definite fastening has many disadvantages, viz., comparatively expensive to manufacture, and difficult to make and maintain the bars in true alignment.



When a motor cycle falls over, the cranks and footrests get most of the shock; they bend, and sometimes break when being straightened. What a misfortune this would be if it happened to a firmly fixed handle-bar, instead of which the stem swivels a little and the bar can easily be pulled straight again when the bolt is loosened.

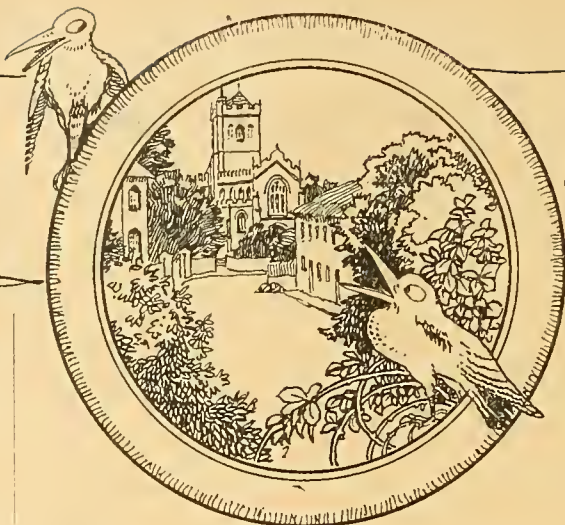
I am far from disputing the need of an extra fastening, but the $\frac{1}{4}$ in. bolt mentioned will probably work loose, and has, undoubtedly weakened the handle-bar stem, which will probably break at this point next fall.

Makers of pedal bicycles have been through all phases of this question in bygone years. Commencing with definite fixing, and progressing through many designs of set pins and binding collars, the long bolt and expander cone are now in use by many leading firms, and can be easily fitted to any motor cycle handle-bar in addition to the existing fastening (see rough sketch). The stem wants a saw cut, or perhaps two are better, to allow the cone to expand the tube quite easily. The degree of tightness obtained is quite remarkable.

Two
motor cyclists
climbing Badby
Hill, Northants,
on the occasion
of the M.C.C.
Team Trials for
"The Motor
Cycle" Challenge
Cup. As we an-
nounced last week
the donors of the
above Cup have
signified their in-
tention of present-
ing another
Trophy to the
M.C.C.



CURRENT CHAT



Special Features

THE END-TO-END RESULTS AT A GLANCE.

IMPRESSIONS OF THE TRIAL.



Racing at West Ham.

At a meeting at the Memorial Grounds, Manor Road, West Ham, on Bank Holiday Monday, August 3rd, the Essex Beagles A. and C.C. has included an open ten miles motor cycle handicap, limited to machines with a cylinder capacity not exceeding 76 x 76 mm., or equivalent volume swept out.

A Motor Cyclist's Success.

G. H. Curtiss, the well-known American motor cycle manufacturer, has won *The Scientific American* Trophy, valued at 2,500 dollars, for the first machine of the "heavier than air" type to cover one kilometre in a straight line. He covered a mile in 1m. 42½s.

Courtesy on the Road.

We make a special appeal to motor cyclists to refrain from creating unnecessary noise and dust at the various seaside and holiday resorts during the next month or six weeks. Courteous treatment of other road users will do a lot of good to the pastime. Motor cyclists should drive slowly in traffic and refrain from using cut-outs.

At the Frontier on a Motor Cycle.

We know that motor cyclists will be interested to read of a gallant officer's exploits on a motor cycle during the recent expedition against the Mohmands on the North Western Frontier of India. This gentleman considers his Triumph has earned the medal, therefore a bit of the ribbon will decorate the handle-bar. He used the low gear entirely, as can easily be imagined in such a country, yet the engine never showed a sign of overheating.

Next Week's Issue a Day Later.

The next issue of *The Motor Cycle* will be published one day later than usual on account of the August Bank Holiday.

Motor Cycling in the Antipodes.

We understand that N.S.U. machines were successfully placed in the Adelaide Motor Club's annual hill-climb, South Australia.

Description of the End-to-end Record.

Mr. Arthur W. Bentley, the present holder of the Land's End to John-o'-Groat's record, has written for *The Motor Cycle* a graphical account of his record ride last month on a Triumph, and the first instalment of the article will appear in an early issue.

Five Miles Race.

On August Bank Holiday, the Anerley Bicycle Club will include a five miles open motor cycle race for tourist machines at its race meeting at the Crystal Palace. Machines must be fitted with engines not exceeding 85 x 85 mm. or the equivalent volume swept out. Gear limited to 4 to 1.

Boat Racing at Henley.

For the contests at Henley in connection with the Olympic Games (Tuesday to Thursday, July 28th to 30th), members of the Auto Cycle Union can obtain tickets for the *Bystander* enclosure at the reduced rate of 5s. for one day (instead of the usual price of 7s. 6d.) The enclosure is situated between Phyllis Court and the Lawns Club, close to the winning post and judge's box.

The Dover Road.

Motor cyclists who contemplate visiting Dover this summer should make a note that for good scenery and roads the route *via* Eltham, Farnington, Wrotham, Maidstone, Lenham, Charing, and Canterbury is recommended in preference to the one *via* Dartford, Gravesend, Rochester, and Chatham. The A.A. is giving special attention to the matter of the Dover roads, as it is expected there will be a good deal of traffic on the above mentioned routes during the next few weeks.

Rund um Berlin.

This event will take place on August 18th over a circuit of nearly 250 kilometres, the start being north of Bornin, in the neighbourhood of Potsdam, and the finish at Klein-Machnow. It is not a race, but a purely economic trial, neither time nor mechanical defects constituting determinative factors for awards, the "unknown" being simply the quotient resulting from weight carried divided by fuel consumed. Entrants must belong to one of the clubs affiliated with the German Cycling Federation (amateur interest).

New President of the F.A.M.

Earle L. Ovington, of New York, has by a large majority been elected president of the Federation of American Motor Cyclists.

Motor Cycles Not Carried.

For the benefit of tourists we would state that motor cycles are not carried on the Palace or Bell boats that run to Margate, Ramsgate, Dover, Clacton, etc.

Reaper Seats for Motor Cycles.

A few weeks ago a correspondent tells us he ordered from a small firm of accessory dealers a pan seat for a motor cycle, and, naturally, expected to get something similar to a Brooks or Phoenix pan seat. Judge of his astonishment when he received an iron perforated pan seat on the lines of those fitted to reaping and mowing machines. The price was small, but the astonishment of our correspondent was great.

Police Traps.

On the main road between Launceston and Camelford, Cornwall.

Near Builth Wells—one a quarter of mile and the other threequarters of a mile in length.

Near Llandrindod Wells.

Lancaster, from the Bay Horse, five miles north of Garstang to Burton, thirteen miles north of Lancaster.

Between Fulwood (two miles north of Preston) and Burrow Beck Bridge, Scotforth (two miles south of Lancaster), a total distance of eighteen miles.



REX riders in the End-to-end Trial achieved a remarkable performance. Eight started and all finished. Seven of the competitors are seen above at John-o'-Groat's, the other arrived after the photograph was taken.

Echoes of the Trials.

A competitor to whom the corner on Berriedale hill came as a great surprise jumped off on reaching it and exclaimed, "Good Lord! Have I to go up there?"

A farmer who saw one of his labourers leading a horse in the middle of the course called out in a loud voice: "Will ye no keep to the left?" They are true sportsmen in the far North.

Mr. J. Tassell writes that he did not experience a single puncture in the End-to-end Run, although our report last week said that he punctured on the second day. The back tyre, however, was badly cut, and getting rather anxious at the Worcester control, he tripped the cover and backed it with canvas. The tyres were Modèle de Course Continentals.

Police Officer's Motor Bicycle Stolen.

For clear unadulterated "cheek," an American paper instances the case of a twin-cylinder motor bicycle belonging to the New York Police Department, which was recently stolen from outside a constable's house. The officer had taken the precaution to chain the machine to a post in front of his house, but on returning a few minutes later he found that the post had been cut down and the machine had disappeared.

Auto Cycle Union London to Plymouth and Back Ride.

Mr. G. H. Levick has kindly offered to present the Auto Cycle Union with three silver cups, to be awarded in connection with the twenty-four hours ride from London to Plymouth and back, a distance of about 120 miles. The start will take place from the Angel Hotel, Thames Ditton, at 9 p.m. on Friday, August 7th, and the route followed will be *via* Guildford, Salisbury, Yeovil, Honiton, Crewkerne, Exeter, Ivybridge, Plymouth, and the reverse for the return journey.

Meeting at Portmarnock.

The motor cycle race meeting at Portmarnock, fixed for Saturday last, had to be postponed owing to wet weather.

Daring Theft of a Motor Bicycle.

Mr. H. C. Pickering writes: "I should like, through the medium of your valuable paper, to warn advertisers of second-hand motor bicycles who reside in the suburbs of Birmingham against allowing trial runs to a prospective purchaser of the following description: Respectable looking man, age 30-35, short, fair, rather stout, wears brown leggings and boots, and possesses an unbounded cheek. This said person paid a visit to a member of the Worcestershire M.C.C., and after about two hours' conversation asked for a trial run, which was granted, and of course, the machine (a 3½ h.p. Ariel) vanished into the night. Fortunately the owner suspected foul play and lost no time in informing the police, who immediately telephoned a full descrip-

tion of the missing machine and rider to other sub-stations in the neighbourhood, and within two hours succeeded in making an arrest of a person who had the motor in his possession, only to find that he was the wrong man, the thief having stopped the other person (a cyclist) and asked for assistance, as the steering socket bearing had gone wrong. While the unfortunate cyclist was examining the engine the other individual was smart enough to mount the pedal bicycle, snatch the motor lamp and disappear, leaving the poor cyclist with an unlighted pedal-less motor bicycle. Fortunately, the police have an excellent description of the thief, and hope to trace him and so stop his 'confidence trick.'"

M.C.C. Run for the Jarrott Cup.

Competitors in the M.C.C. London to Land's End and back run will be started from the Berkeley Arms, Cranford Bridge, near Hounslow, on Mon-

Blue Anchor, Mitchell, Redruth, Penzance, Land's End, and back to Penzance. Return—Penzance and continue eastwards *via* Redruth, Mitchell, and the route as above in reverse direction, finishing at Cranford Bridge. Secret controls will be arranged along the route. The first prize is the Jarrott Cup, and medals will be awarded, at the discretion of the committee, to those riders accomplishing the most meritorious performance. Bronze or silver medals will be awarded to all competitors completing the double journey within thirty-three hours. This run will be immediately followed by the A.C.U. twenty-four hours ride.

Harry Martin will Attempt to Break Record.

Harry Martin, who is now recovering from the effects of a fall, hopes to ride at Glasgow on August 8th in an attempt on record.

A Valued Gift.

Miss Hind was the proud recipient of a handsome little souvenir one day last week. It had been subscribed for by a few of the employees of the Rex Motor Manufacturing Co. as a token of their appreciation of a plucky performance. The souvenir contained several of the subscribers' wishes and congratulations in both prose and verse. The gift was quite a spontaneous one, and therefore all the more valued by Miss Hind, who told us that she prized it far more than any other gift in her possession. One of the cards bore the following inscription: "We heartily congratulate you on the indomitable pluck and perseverance you displayed in your recent motor cycle ride from Land's End to John-o'-Groat's, and in appreciation of same we beg you to accept a small token from a few well wishers of the Rex Manufacturing Co., Ltd." Many people think a dropped frame ladies' machine is more prone to side-slip than a diamond-shaped man's machine, but Miss Hind never experienced the

slightest sign of side-slip all the way from Land's End to John-o'-Groat's. With regard to the tyres, a Continental butted tube, which was lent to her at Worcester, lasted the remainder of the journey without further inflation.

Police Traps in North Wales.

Riders will do well to drive carefully in and around the following districts, where the police are preparing for Bank Holiday: Corwen, Llangollen, Mold, Penmaenmawr and Llanfairfechan, Llanddulas (between Abergele and Old Colwyn), Bettws-y-Coed and Capel Curig. Also at Talycafn, between Talycafn Station and Bodnant Hill, a trap is working, this lies between Llanrwst and Llandudno Junction, on the Denbighshire side of the Conway river (the Rhine of Wales). The police are also active at Ruabon, near Wrexham. They hide behind a hedge, and anyone coming round at anything above "funeral" pace is summoned for "reckless driving."

FUTURE EVENTS.

- Aug. 3.—Essex Beagles A. & C.C. 10 Miles Handicap, Memorial Grounds, Manor Road, West Ham.
- " 3.—Anerley B.C. 5 Miles Race for Tourist Machines at the Crystal Palace.
- " 3-4.—Motor Cycling Club Run to Land's End and back for Charles Jarrott Cup.
- " 7.—A.C.U. 24 Hours' Ride London to Plymouth and back.
- " 8.—Essex M.C. Open Race Meeting at the Stadium.
- " 15.—Coventry M.C. Open Hill Climb for Motor Bicycles and Passenger Motor Cycles at Newnham Hill, Daventry.
- " 21-22.—Motor Cycle Union of Ireland Open 400 Miles Reliability Trials for the Muratti Trophy.
- " 22.—A.C.U. Annual Race Meeting at the new Stadium, Shepherd's Bush.
- " 22.—General Inter-club Meet of Motor Cyclists at Stratford-on-Avon, organised by the Birmingham M.C.C.
- " 29.—Essex M.C. Open 200 Miles Non-stop Run for Motor Cycles.
- Sep. 12.—Motor Cycling Club Petrol Consumption Tests.
- " 23.—The International Auto Cycle Tourist Trophy Race in the Isle of Man.
- " —Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.
- Oct. 3.—A.C.U. Council Meeting at Warwick.
- Nov. 20-28.—Thirty-second Annual Stanley Show.

day next, the 3rd prox., at 4 a.m. Riders will be despatched at two-minute intervals, and competitors will be allowed approximately sixteen hours to complete the outward run. A stop of seven hours will be allowed at Penzance, and fifteen hours approximately will be allowed for the completion of the return journey on Tuesday. The route is as follows: Outwards—Cranford Bridge, Staines, Basingstoke, Andover, Salisbury, Shaftesbury, Sherbourne, Yeovil, Crewkerne, Chard, Honiton, Exeter (control), Okehampton.

Next week's issue of "The Motor Cycle" will be on sale on THURSDAY instead of Wednesday, on account of the August Bank Holiday.

CLUB NEWS.

Western District M.C.

Messrs. Canham and Vowler, who tied in the reliability competition to Salisbury and back, ran off the tie on the 19th inst., and Mr. R. Canham has since been declared the winner.

Birmingham M.C.C.

A week-end run to Llanrhaiadr has been arranged for August 1st to 3rd, meeting at the Fountain, 2 p.m. On August 8th the run is to Maxstoke Priory, and on the 9th to Matlock, 15th Ashby, and 22nd inter-club meet at Stratford-on-Avon.

Walthamstow M.C.

The second round of the 100 miles competition was held on the 6th inst. for the Dinner Cup. The following made non-stops: O. C. Godfrey (5 h.p. Twin Rex magneto), F. A. Applebee (3½ h.p. Rex magneto), J. W. Percival (6-8 h.p. Fafnir Tricar magneto), L. Beckers (5 h.p. Kerry Tricar, accumulator), and A. H. White (car, accumulator).

Members are reminded that the non-stop run to Clacton-on-Sea takes place on Saturday, August 1st, starting from the Castle Hotel, Woodford, at 3.30 sharp.

Hull and East Riding A.C.C.

On Saturday last July 25th, a cricket match was played at West Ella, near Hull, between the Hull and East Riding Auto Cycle Club and the Central Hull Conservative Bicycle and Motor Club, and resulted in a victory for the former club by sixty-seven runs, the Conservatives only scoring seven. Tea was afterwards partaken of at Mr. Godsell's, Red Lion Hotel, Anlaby.

The next item on the club's programme is the non-stop run (200 miles), Hull, Bridlington, Scarborough, Malton, York, and Hull, on August 13th. A party are also arranging a tour to Whitby for Bank Holiday. Particulars of the secretary.

The hill-climb announced for July 23rd had to be postponed.

Sunderland and District M.C.C.

This club held its annual picnic on Wednesday last. Nine members rode from High Barnes, Sunderland, to Finchale Abbey, which is close to the main road to Durham, and near Leamside Station. They partook of tea in the Abbey grounds, and afterwards toured the surroundings of the beautiful ruins, returning to Sunderland at about 8 p.m.

This evening (July 29th) there will be a speed-judging contest under the auspices of the club. The competitors are

to start from Chester Road, Sunderland, proceeding on their motor cycles to Chester Bridge, Plainsworth, and Framwellgate Moor. All these places are in Durham county, and the last mentioned is in Durham city. The return journey will be made *via* Cocken Bridge (on River Wear).

M.C.U.I. (Ulster Centre).

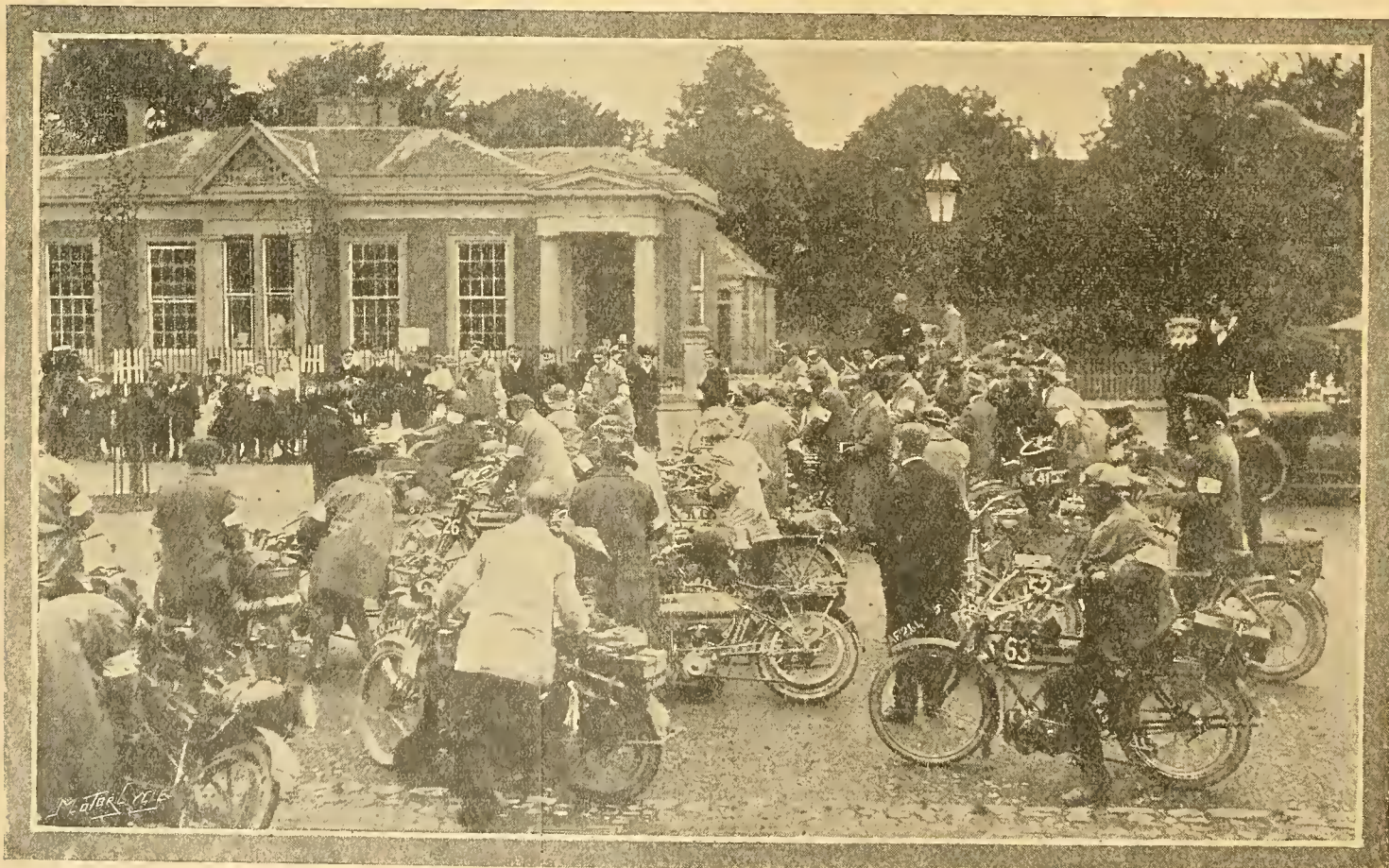
The open 400 miles reliability trials for the Muratti trophy will take place on August 21st and 22nd. Entry forms and all particulars regarding the competition can be had from the secretary, E. B. Waring, Grand Central Hotel, Belfast.

North Monmouth M.C.C.

A meeting was held on the 23rd inst., at Ebbw Vale, when it was decided to form a motor cycle club to be known as above. Sixteen members were enrolled, and it was resolved to hold the first run on Saturday next, August 1st. All riders in the North Monmouth district are cordially invited to join in the run. A general meeting will be held on the 19th prox. at the Givalin Restaurant, at eight o'clock. The hon. sec. is E. Griffin, 2, Victoria Road, Ebbw Vale.

York County M.C.C.

On the 18th inst. a twenty-four hours reliability run from Leeds to Edinburgh and back was held. For this event the Palmer Tyre Ltd. presented a handsome silver challenge cup, to become the absolute property of the rider accomplishing the best performance. The weather was very threatening at the start, and only twelve members faced the starter. Mr. A. Gordon Bostock, of Glasgow, came over specially to Leeds to take part in the run. The first competitor was despatched at 9 p.m., the others following at intervals of one minute. Before the riders had covered a dozen miles a drizzling rain set in, which made it extremely uncomfortable. A heavy downpour had made the roads like a quagmire, and, moreover, this part of the journey was covered during the hours of darkness. Several riders took the wrong turn south of Neville's Cross and lost a considerable number of marks in consequence. From Neville's Cross through Chester-le-Street and Newcastle, the roads are bad at any time owing to the poor surface; pools of water, however, now filled up the holes, and several competitors decided at this point to wait until daylight came. At the checking station at Alnwick only four competitors arrived to schedule time, viz., Wilkinson, Charge, Ward, and Mitchell. Good progress was made to Berwick-on-Tweed, where breakfast was partaken of. The other side of Berwick no rain had fallen much to the satisfaction of the riders, and the return journey was



A.C.U. Land's End to John-o'-Groat's Trial. Competitors starting from Moffat, 382 miles from John-o'-Groat's, on the morning of the 16th inst.

Club News.—

made under far more favourable conditions. Between Dunbar and Berwick-on-Tweed a part of the North Sea squadron which had taken part in the recent naval manœuvres was seen by the riders as they passed along that very picturesque coast road between the towns mentioned.

The first man arrived at Roundhay Post Office, Leeds, close upon schedule time, and others followed at regular



The A.C.U. End-to-end Trials. W. H. Outwin (3½ h.p. Triumph) passing through Carlisle.

intervals. H. Wilkinson, of Roundhay, who was riding a 3½ h.p. Triumph, has been officially returned the winner of the Palmer trophy. The following competitors also arrived within schedule time, and will be awarded the club's standard gold medal: W. C. Ward, H. H. Charge, F. W. Savory, J. C. Bennett Mitchell, C. Wilson, W. E. Asquith, A. Gordon Bostock, and W. R. Steel.

It is interesting to note that only three competitors failed to finish, in each case due to some slight accident.

Members are requested to note that the speed trials will take place in August for the Charge challenge cup. The trials hon. sec. is now endeavouring to obtain permission for this event to take place in private grounds.

It is worthy of note that in the above long-distance run for the Palmer Cup, eight out of twelve of the competitors used Palmer tyres. Seven duly finished, and the eighth retired through a collision. The seven riders in question experienced absolutely no tyre troubles from start to finish.

Newcastle and District M.C.C.

The third annual reliability trial for the N.S.U. cup will take place on August 2nd and 3rd. The second prize is the A.C.U. gold medal; third, special prizes presented by Mr. Ernest Hawkins. Gold medals will be awarded to all who finish between minimum and maximum time, and bronze medals to those who finish within forty-eight hours. A gold medal will be given by Mr. S. Hudson to the rider who has not previously won any club award, or who accomplishes the best performance in the opinion of the judges.

Route: August 2nd, leave Northumberland Street, Newcastle, at 6 a.m., *via* Wooler to Kelso. Control and breakfast, half an hour. Leave for Moffat *via* Selkirk and St. Mary's Loch. Control and dinner, one hour allowed. Leave for New Galloway *via* Beatloch, Elvanfoot, and Thornhill. Control and tea, half an hour. Leave for Stranraer *via* Newton Stewart. Stop for night, arrive about 7 p.m. August 3rd (Bank Holiday), leave Stranraer 8 a.m. for Castle Douglas. Control and breakfast, half an hour. Leave for Langholm *via* Annan and Canobie. Control and dinner, one hour. Leave for Redesdale Arms *via* Hawick and Carter Bar. Control and tea, half an hour. Leave for Barras Bridge Hotel, Newcastle, *via* Otterburn. Arrive about 8 p.m.

Southend and District M.C.

The winner of the two motor cycle events at this club's gymkhana, viz., the Turk's head competition and potato race, was A. W. Pettitt who rode a 2½ h.p. Quadrant-Jap.

Coventry M.C.

The trials hon. sec., 19, Hertford Street, Coventry, advises us that entry forms and particulars for the above club's open motor cycle hill-climbing competition are now ready. No entries can be received after August 8th.

Brighton and District M.C.C.

The above club held a speed-judging competition over a circuit ten and a half miles round, situated near Henfield. Competitors before starting were required to draw a sealed envelope, which contained a number, and were required to cover the course in a time as nearly approximating the drawn number (representing minutes) as they could without the aid of watches, etc. The results are given below:

Rider and machine.	Number drawn.	Error.
H. Saunders (6 h.p. Jap) ...	25 ...	11s. slow
T. Wilkins (4½ h.p. Minerva) ...	29 ...	45s. fast
E. L. Waters (3 h.p. Rover) ...	38 ...	1m. 54s. slow
G. R. Brown (4½ h.p. Minerva) ...	26 ...	1m. 35s. slow
J. H. Best (4½ h.p. Minerva) ...	25 ...	2m. 15s. slow
T. Rollin (3½ h.p. F.N., 4-cylinder) ...	32 ...	3m. 30s. fast
J. D. Box (3½ h.p. Triumph) ...	40 ...	4m. 40s. slow
R. W. Cartwright (7-8 h.p. Minerva) ...	37 ...	4m. 40s. slow
C. E. Sambrook (5½ h.p. N.S.U. and sidecar) ...	39 ...	did not finish

North-west London M.C.C.

A petrol consumption trial was held near Stanmore on Saturday last, 25th inst. Some good sport was witnessed, and the performances of the leading competitors were excellent. The full results were as follows:

Place.	Rider and Machine.	Allow- ance of petrol. pt. oz.	Distance covered. Miles.
1.	W. A. Jacobs (3½ h.p. Rex) ...	1 1	22 ⁷ / ₃₂
2.	A. W. Bentley (3½ h.p. Triumph) ...	1 1	22 ⁹ / ₁₆
3.	T. G. Blundell (3½ h.p. Triumph) ...	1 1	15 ³ / ₈
4.	G. H. Hollis (3½ h.p. Triumph) ...	1 1	15 ⁷ / ₁₆
5.	W. O. Kennington (3½ h.p. Triumph) ...	1 1	13 ¹³ / ₁₆
6.	H. V. Davidson (3 h.p. Werner) ...	1 0	12 ¹ / ₈
7.	G. Rowden (3½ h.p. Bat) ...	1 2	11 ¹ / ₂
8.	A. S. Phillips (5 h.p. Vindec) ...	1 2	11

F. Thomas (5 h.p. G.O.K.), E. W. Brighten (2½ h.p. Ariel), and F. Fox (3½ h.p. Quadrant) also ran, but stopped during the trial.



W. H. Wells (5 h.p. Vindec) leaving the Star Hotel, Worcester, after the lunch interval on the second day of the End-to-end Trials.

Club News.—

Ayr and District M.C.C.

A petrol consumption test was held last Wednesday evening over a circular course of twelve miles embracing Greenhill and Longhill Avenues. A start was made at 8 p.m. from Mr. Johnstone's grounds at Alloway, kindly placed at the disposal of the club for the occasion. The results, based on the formula, $\frac{\text{Total weight} + \text{capacity}}{\text{Petrol (in ounces)}}$ were as follows :

		Fig. of merit.	Petrol ozs.	Miles per gallon.
1.	Q. Clark (5 h.p. twin Rex)	40.7	27	= 56.8
2.	J. Robertson (3½ h.p. Minerva)	40.6	19	= 80.8
3.	C. Carver (3 h.p. N.S.U.)	40.3	16.5	= 92.2

Hartlepoons and District M.C.C.

The result of a petrol consumption test held by the above club on Wednesday, July 22nd, is as under. The course was one of eighteen miles, and was not by any means flat :

Rider and machine.	Quantity used liq. ozs.	Miles to the gallon.
*Mr. Smart (3½ h.p. Phelon and Moore) ...	20	= 144
Mr. Atkinson (3½ h.p. 1907 Triumph) ...	21	= 137½
Mr. Walton, jun. (3½ h.p. 1908 Triumph) ...	26	= 110⅓
Mr. Durkin (four-cylinder F.N.) ...	30	= 96
Mr. Corner (3 h.p. 1906 Triumph) ...	32	= 90
Mr. Edwards (5 h.p. Twin Stranton) ...	33	= 87⅓
Mr. Dyer (3½ h.p. Triumph) ...	40	= 72

* Winner.

THE ORGANISATION OF MOTOR CYCLISTS.

FOR some months we have known that the Motor Union has had under consideration the question of the organisation of motor cyclists, i.e., the banding together of all motor cyclists, whether club men or unattached riders, under one banner. We

have not hesitated to point out faults in organisation when we have thought that the general body of motor cyclists was being neglected.

The Motor Union, 1, Albemarle Street, W., has now taken the bull by the horns, and issued a prospectus which includes among other advantages full membership of the Motor Union and reduced fees for insurance at an inclusive fee of half a guinea. Our ideal subscription for unattached riders to a representative body has been stated in our articles as 5s. We think motor cyclists will find that the M.U. subscription of half a guinea brings the actual fee slightly under this sum, when all the advantages enumerated in the prospectus are taken into consideration.

In addition to the half-guinea scheme the M.U. has an alternative subscription of one guinea, which includes all the advantages of the first-named, with the added security of insurance for any motor cycle not exceeding 5 h.p., claims by the public (which are always possible) for injury or damage (excluding the first £2 10s.) up to £50, and fire or explosion up to £30.

A special committee composed of representative motor cyclists will deal with all questions appertaining to motor cycling.

Finally, it is interesting to note that the M.U. has a definition of its own regarding the motor cycle type of vehicle. It reads as follows: "A motor vehicle not exceeding 4 cwt. in weight, excluding petrol, oil, water, accumulators, or magneto, and having not more than three wheels, except in the case of a motor bicycle or trailer."

Further particulars can be obtained from the secretary as above.

Mr. Cathcart Wason, M.P., asks Another Question.

WE understand that Mr. Cathcart Wason, M.P., was to ask the President of the Local Government Board on the 28th inst., whether his attention has been drawn to the conviction for dangerous driving through Croydon of one of the competitors in a motor cycle race from London to Edinburgh; and whether, etc., etc. In his zeal for the protection of the public Mr. Cathcart Wason has overlooked one or two important facts. One is that Croydon is not on the route to the North, another is that the M.C.C. London to Edinburgh ride is not a race, and the last is that the alleged dangerous driving took place in Chester-le-Street, near Durham, and that the

riders name was Reginald G. Mundy, of Croydon, and he was most unjustly punished by a bench of magistrates, who might very reasonably have overlooked the alleged danger, considering everyone was on the *qui vive* for the Edinburgh riders and knew they were due.

We are informed by Douglas Bros., Kingswood, Bristol, that the sole cause of their machines not being successful in the A.C.U. End-to-end Trials was owing to the fact that the front forks were of a new design, and proved unequal to the task they had to perform. The makers have now arranged to fit to their Douglas machines a specially-made Druid spring fork.



A.C.U. Trials (Fourth Day). Competitors riding through Lanark.

OCCASIONAL COMMENTS.

By "IXION."

Tyre Pumps.

As if we did not already pay enough for our tyres in view of their brief lives and the worry they give us while they last, the tyre makers continue to supply with a pair of motor cycle tubes and covers costing £5 or so a miserable little inflator only big enough to blow up a pair of red naked-sided road-racing Constrictors. Every pair of motor cycle tyres ought to possess a real motor cycle pump—a businesslike affair with a stout barrel, a hefty hand grip, and a folding heel for the foot to stand on. Riders still employing last year's wretched apologies for pumps may have noticed their tyres seem to demand a greatly increased expenditure of perspiration when they call for inflation. Lucky are you if your pump has a screw-on cap, so that you can get at the piston, and put a little vaseline on the bone dry washer. Mine has a cemented cap, and adds to its other iniquities this, above all, that before I can ever blow up my tyres again with it I must spend money on a celluloid repairing outfit, melt the cap off, grease the washer, and see if I can make a good joint at the cap again. All pumps should have screw-on caps, so that the piston washer may receive the periodic greasing it requires.

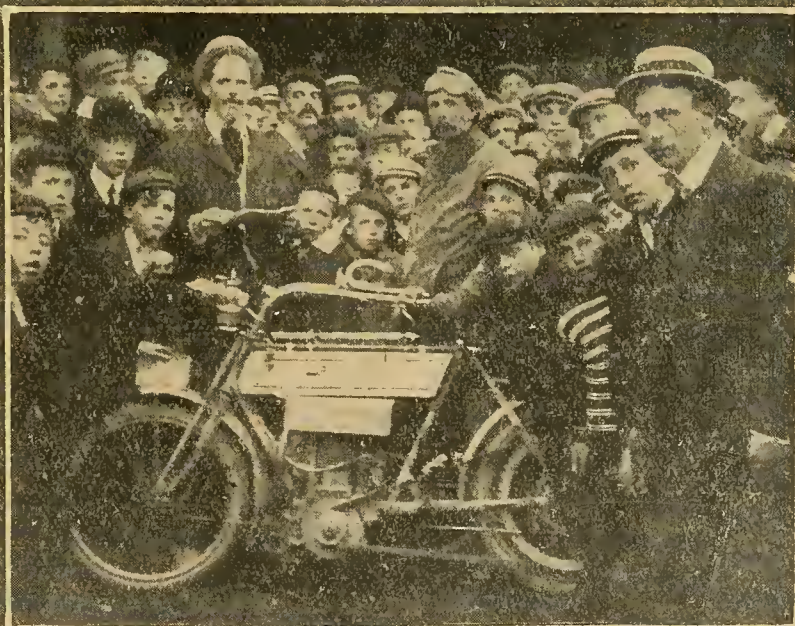
Brakes for Chain-driven Machines.

Motor cyclists—consciously or unconsciously—possess the best brakes fitted to any vehicle on the road, in the form of the foot-operated belt rim shoe. It is immensely powerful, can be used at need with extreme delicacy, is absolutely reliable, and never needs adjustment. Chain-driven machines, on the other hand, still have to depend on other types of brake, which may be excellent when in perfect order, but comprise a number of fragile parts, and are often in need of adjustment, the want of which either destroys the brake power or reduces the efficiency of the machine. I saw a new model of chain driver, built for the End-to-end trial, which included a belt rim brake. A rim of very narrow section had been fastened to the

spokes of the rear wheel, on the opposite side to the sprocket, and a belt rim shoe brake attached, operated from the footrests. Most chain-driven machines on the market have sufficient fork clearance to allow of such a brake being fitted, and it will be found of especial value for side car work. A similar brake is fitted to the back wheels of an experimental small car, of which I was permitted to see the drawings last week, and the designer says it is the best car brake he has ever used, though the rims scarcely add to the appearance of the wheels.

Accessible Cylinders.

I recently saw a device for rendering the cylinders accessible fitted to a freak home-built machine. The machine possessed a colossal engine built into an ultra low racing frame. The designer did not see the fun of taking the engine off the frame whenever he wished to dismount a cylinder, and yet he had set his heart on a very low frame which gave no clearance whatever for lifting the cylinder off with the crank case *in situ*. *Nil desperandum*. Readers may know that one end of the Vindex twin engine is held by a clip, which can be revolved on the frame when two bolts have been loosened. The designer in question has fitted each crank case clip so that it is free to revolve across the vertical plane, and has prevented it from revolving of its own accord by fitting two easily detachable tie rods at one end. Consequently when he wishes to detach his monstrous cylinders he whips off the two tie rods, unscrews the carburetter unions, pushes at the cylinder heads, and pulls at the bottom of the crank case, when, hey presto! his engine lies horizontally across the frame of the machine, but still firmly secured to it. As a consequence he is able to use a racing engine with the valves set in the cylinder heads—an engine which would otherwise have presented considerable defects from his point of view. All twin-cylinder engines in low frames could be attached in this manner with a very small sacrifice of weight.



LEEDS—LONDON AND BACK TWENTY-THREE HOURS' TRIAL.

The winner, Eric S. Myers, of Bradford (3½ h.p. Triumph).

A successful competitor, T. W. B. Durant, of Sheffield (3½ h.p. Jap).

The Results of the End-to-end at a Glance.



JULY 29th, 1908.

No.	Rider.	Machine.	Ignition.	Marks Lost.	Result, Subject to Confirmation.	Remarks.
2	M. W. Randle	10 h.p. two-cylinder Lagonda tricar, 90 x 96, 700 x 80 Dunlops	Acc., R.O.M. contact br'ker	All possible	Bronze medal	Bent front axle, ignition troubles, worn sprockets; machine has been in constant use for over two years.
4	W. H. Wells	5 h.p. Twin Vindec, no pedals, 75 x 76, 26 x 2 1/4 in. Michelin non-skid back wheel	Bosch mag.	Nil	Gold medal	Condition excellent, no troubles.
5	W. Ridler	6 h.p. Twin Leader-Jap, 70 x 95	Accumulator	Retired	—	Gave up on second day, lubrication and other troubles.
6	E. Nelson	5 h.p. Twin Rex, 76 x 80, 26 x 2 1/4 in. Shamrock and Continental	Bosch mag.	All possible	Bronze medal	Carburettor trouble, on fire several times, reached John-o'-Groat's as others were leaving, got through by sheer perseverance; machine in good condition.
7	J. Tassell	3 1/2 h.p. Matchless-Jap, 85 x 76, 26 x 2 1/4 in. Continental	Bosch mag.	Nil	Gold medal	No trouble, condition excellent.
8	S. W. Carty	3 3/4 h.p. N.S.U., 82 x 86, N.S.U. two-speed gear, 26 x 2 1/4 in. Continental N.S. back wheel	Eisemann magneto	Nil	Gold medal	Choked carburettor, oil on magneto, front mudguard loose, bent pedal, stay of carrier broken, changed belt; condition good.
9	A. D. Nicholson	3 1/2 h.p. Triumph, 84 x 86	Bosch mag.	Nil	Gold medal	No engine or tyre trouble, bent footrest, wet on magneto, free-wheel trouble.
10	Gordon Gibson	3 1/2 h.p. Triumph, 84 x 86, 26 x 2 1/4 in. Shamrock and Michelin	Bosch mag.	Nil	Gold medal	Changed exhaust valve, one puncture, Shamrock belt, front wheel loose; condition good.
11	F. Dover	3 1/2 h.p. Triumph, 84 x 86, 26 x 2 1/4 in. Clincher	Bosch mag.	Nil	Gold medal	No engine replacements, seven punctures, new back tyre, bent footrest; machine in very good condition.
12	F. S. Barnwell	3 1/2 h.p. Rex, 82 x 90, Rex two-speed gear, 26 x 2 1/4 in. Palmer Cord	Bosch mag.	79	Gold medal	Various gear troubles, gear brake band worn and refused to grip, pin came out of starting handle-shaft, replaced exhaust valve, broke luggage-carrier, lamp-bracket, and mudguard, shortened belt once; condition fair.
13	Dr. H. R. Mayo	1907 5 h.p. Twin Vindec, 75 x 76, Vindec two-speed gear, 26 x 2 1/4 in. Palmer	Bosch mag.	All possible	*Bronze medal	Trouble with inlet valve springs, machine on fire several times, many tyre troubles.
15	M. Geiger	6 h.p. N.S.U., 75 x 90, 26 x 2 1/4 in. Shamrock back, P.U. front	Bosch mag.	Nil	Gold medal	No trouble; condition very good.
16	T. F. Cox	7 h.p. Twin Minerva, 80 x 85, 26 x 2 1/2 in. P.U.	Accumulator	Retired	—	Retired fourth day, engine trouble.
18	F. C. Mustard	3 1/2 h.p. T.T. Triumph, 84 x 86, 26 x 2 in. Dunlop	Bosch mag.	Nil	Gold medal	No trouble; condition excellent.
19	C. E. Murphy	3 1/2 h.p. Triumph, 84 x 86, 26 x 2 1/4 in. Palmer	Bosch mag.	Nil	Gold medal	No trouble; condition excellent.
20	W. H. Outwin	3 1/2 h.p. Triumph, 84 x 86, 26 x 2 1/4 in. Continental	Bosch mag.	8	Gold medal	
21	Miss Hind	5 h.p. Twin Rex, 76 x 80, free engine, 24 x 2 1/4 in. Shamrock	Bosch mag.	All possible	Bronze medal	Spoke heads came off and fouled clutch drum, back wheel rebuilt, carburettor on fire several times; otherwise condition good after trial
22	E. Gwynne	5 h.p. Twin Vindec, 75 x 76, 26 x 2 1/4 in. Michelin	Bosch mag.	125	Silver medal	Lost way on last day, ran out of petrol, and pushed machine four miles to John-o'-Groat's.
23	W. W. Douglas	2 1/4 h.p. Douglas, 60 x 60, 26 x 1 3/4 in. Shamrock	Bosch mag.	Retired	—	Broke forks.
24	P. Phillips	2 1/4 h.p. Douglas, 60 x 60, 26 x 1 3/4 in. Shamrock	Bosch mag.	Retired	—	Broke forks.
25	E. Clark	2 3/4 h.p. Leader-Douglas, 26 x 1 3/4 in. Shamrock	Bosch-mag.	Retired	—	Ran without losing a mark first three days, lost eighty-one marks fourth day, three miles beyond Wick broke steering-tube, and retired
26	R. W. Duke	3 1/2 h.p. Triumph, 26 x 2 1/4 in. Continental	Bosch mag.	Nil	Gold medal	Machine in good condition.
27	H. C. Hanrott	3 1/2 h.p. Triumph, 26 x 2 1/4 in. Shamrock	Bosch mag.	Nil	Gold medal	Three punctures, no trouble, same belt throughout; condition good.

* Joint Winner of Berriedale prize.

No.	Rider.	Machine.	Ignition.	Marks Lost.	Result, Subject to Confirmation.	Remarks.
28	A. Manning Lomax ..	3½ h.p. Triumph	Bosch mag.	Nil	Gold medal	Bent pedal, pedal missing, magneto advance broken ; condition good.
29	G. Lee Evans	3½ h.p. Rex, 82 × 89, 26 × 2¼in. Continental	Bosch mag.	Nil	Gold medal	Machine and tyres in excellent condition. replaced tyre.
30	O. C. Go-frey	3½ h.p. Rex, 82 × 89, 26 × 2¼in. Shamrock ..	Bosch mag.	21	Gold medal	No engine trouble, same belt throughout, same tyres, excellent condition, no trouble with wet on magneto ; general condition excellent.
31	A. J. Sproston	5 h.p. Twin Rex, 76 × 80, 26 × 2¼in. Michelin	Bosch mag.	195	Silver medal	Machine in good condition.
32	F. W. Applebee	5 h.p. Twin Rex, 76 × 80, 24 × 2¼in. Continental	Bosch mag.	7	Gold medal	Condition very good, trouble with wet on magneto, first Lycett rubber belt, and then Gloria.
33	J. Slaughter	3½ h.p. T.T. Triumph, 84 × 86, 26 × 2¼in. Clincher	Bosch mag.	Nil	Gold medal	No engine trouble, magneto no trouble though without cover, one puncture, same belt, one wheel slack ; otherwise good condition.
34	J. Marshall	3½ h.p. T.T. Triumph, 84 × 86, 26 × 2¼in. Dunlop	Bosch mag.	Nil	Gold medal	Wet on magneto, same tyres and belt throughout, one puncture.
35	P. H. Cockcroft	3½ h.p. Triumph, 84 × 86, 26 × 2¼in. Clincher	Bosch mag.	Nil	Gold medal	Machine in good condition, bent footrests.
36	A. H. Ormerod	5 h.p. Four-cylinder F.N., 50 × 57, 26 × 2¼in. Palmer Cord	Bosch mag.	10	Gold medal	Condition good.
37	J. O. M. Dixon	3½ h.p. Two-speed Vindec, 82 × 85	Bosch mag.	86	Gold medal	Inlet valve and carburetter trouble, changed rear tyre, front wheel and mudguard loose, pedal broken, renewed spokes in back wheel ; condition poor.
38	T. K. Hastings	5 h.p. Twin Indian, 68 × 80, 28 × 2¼in. Goodrich	Bosch mag.	†17	Gold medal	Only replacements two plugs ; machine in excellent order. Chain-driven.
39	R. Moore	3½ h.p. Two-speed P. and M., 82 × 88, 26 × 2¼in. Palmer	Bosch mag.	Nil	Gold medal	Chain-driven machine and tyres in excellent condition, tyre replaced.
40	W. Milnes	3½ h.p. Two-speed P. and M., 84 × 86, 26 × 2¼in. rubber-studded Shamrock	Eisemann magneto Bosch mag.	13	Gold medal	Chain drive ; condition excellent.
41	H. H. Dommett	3½ h.p. Triumph, 84 × 86, 26 × 2¼in. Clincher	Bosch mag.	Nil	†Gold medal	Condition very good, belt fastener broke, belt changed, first Gloria, then Dermatine.
42	R. King	3½ h.p. Triumph, 84 × 86	Bosch mag.	Nil	Gold medal	Machine in very good condition, no replacements whatever.
43	J. Haslam	3½ h.p. Rex, 82 × 89, 26 × 2¼in. Continental	Bosch mag.	Nil	Gold medal	Machine in good condition, same belt (Gloria) and tyres throughout.
44	Capt. Sir R. K. Arbutnot, Bart., R.N.	3½ h.p. Triumph, 84 × 86, 26 × 2¼in. studded Clincher	Bosch mag.	Nil	Gold medal	Machine in excellent condition.
45	Rev. L. Cutler	3½ h.p. Triumph, 84 × 86, 26 × 2¼in. Clincher	Bosch mag.	All possible	Bronze medal	Endless inner tube troubles, exhaust valve changed, used two belts ; condition very good.
46	H. V. Ellison	1½ h.p. Motosacoche, 68 × 70, 26 × 1¾in. Clincher	Accumulator	Retired	—	Retired through tyre troubles.
47	J. V. Robinson	1½ h.p. Motosacoche, 68 × 70, 24 × 1¾in. P.U.	Accumulator	293	Bronze medal	Up till Saturday morning only lost three marks, last day locked free-wheel, broke crank, and took one off Clark's machine lying side of Wick Road, pushed up Wart Hill to John-o'-Groat's ; bicycle condition poor, engine excellent.
48	W. F. Merritt	3½ h.p. Triumph, 84 × 86, 26 × 2¼in. Shamrock back, Clincher front	Bosch mag.	Nil	Gold medal	Condition excellent, footrest bent, fork spring broke.
49	Dr. J. Ewing Adam ..	3½ h.p. Triumph, 84 × 86, 26 × 2¼in. Clincher back, Shamrock front	Bosch mag.	Nil	Gold medal	Condition very good, no engine troubles, machine new and rider practically novice, wet on magneto, bent footrests.
50	G. L. Fletcher	2 h.p. Twin Moto-Réve, 50 × 76, 26 × 2in. Continental	Gianoli mag.	All possible	Bronze medal	Frame trouble, ingeniously repaired broken back stay with engine spanners.
51	W. Smith	2 h.p. Twin Moto-Réve, 50 × 76, 26 × 2in. Shamrock	Gianoli mag.	Retired	—	Reported broke front forks.
52	C. A. Palmer	5 h.p. Two-speed Twin Roc, 75 × 76 26 × 2¼in. Dunlop	Bosch mag.	Nil	Gold medal	No engine replacements, used two belts, same tyres, front wheel loose ; condition very good.

† By being too early at controls.

† Joint Winner of Berriedale prize.

THE RESULTS OF THE END-TO-END AT A GLANCE (Continued).

No.	Rider.	Machine.	Ignition.	Marks Lost.	Result, Subject to Confirmation.	Remarks.
53	W. Newman	4 h.p. Two-speed Roc, 85 x 90, 26 x 2½ in. Continental back, 2¼ in. front	Bosch mag.	Retired	—	Connecting rod ball bearing broke between Moffat and Stirling.
54	A. D. Powell	3½ h.p. Two-speed B.P., 80 x 80, 26 x 2¼ in. Pullman back, Clincher front	Bosch mag.	Retired	—	Two-speed gear damaged by inserting odd-sized balls with grease
56	H. B. Lewis	3½ h.p. Triumph, 84 x 86, 26 x 2¼ in. Shamrock	Bosch mag.	7	Gold medal	No replacements, footrests, and pedal bent, same belt (Gloria). front wheel bearing slack; condition very good.
57	A. M. Tatham	3½ h.p. Matchless-Jap, 85 x 76, 26 x 2½ in. Dunlop	Bosch mag.	Nil	Gold medal	Condition excellent.
59	P. Weatherhilt	3½ h.p. Zenette, 80 x 80, variable gear, 26 x 2¼ in. Clincher	Accumulator	Retired	—	Short in coil on Grampian section.
60	F. W. Barnes	3½ h.p. Zenette, 85 x 80, 26 x 2¼ in. Palmer ..	Bosch mag.	92	Silver medal	Leather belt troubles through want of dressing overnight, pulleys much worn, footrest bent, carburetter bracket broken; machine condition excellent.
61	A. F. Wilding	6 h.p. Twin Bat-Jap, 70 x 95, 26 x 2¼ in. Shamrock, 2½ in. back	Bosch mag.	Nil	Gold medal	Excellent condition.
62	A. D. E. Craig	5 h.p. Four-cylinder F.N., 50 x 56	Bosch mag.	All possible	Bronze medal	Water on magneto, choked carburetter, lost compression, back mud-guard detached; machine in good condition. All marks lost during bad weather on Fitchbury run.
63	H. D. Seale	3½ h.p. Triumph, 84 x 86, 26 x 2¼ in. Shamrock back, Clincher front	Bosch mag.	Nil	Gold medal	Condition excellent; machine purchased out of stock at cycle shop
64	H. R. Dougal	1907 5 h.p. Twin Vindec, 75 x 76, 26 x 2¼ in. Michelin	Bosch mag.	Nil	Gold medal	No trouble with engine or tyres.

HINTS AND TIPS FOR MOTOR CYCLISTS.

By Road Rider.

(Continued from page 532)

LOST DRAIN TAPS.

243. When knocking, loss of power, or apparent overheating set in suddenly on the road, always ascertain that the draintap of the crankcase is in position and closed, as loss of oil will cause any of the above symptoms in a very aggravated form, and the engine bearings will speedily be ruined if a wood plug is not promptly inserted, and several charges of oil injected.

LOST NUTS.

243. If thread is fairly coarse, the place of a nut may be taken by binding thread tightly with copper wire. I have even retained an engine pulley on its shaft by this means.

LOST PULLEY KEY.

244. If shaft be tapered, a hard wooden key will hold for many miles if the locknut be well tightened.

LOSS OF POWER.

245. Usually means each tiny adjustment is a little out, and that the

- (a.) Bad compression.
- (b.) Wrong timing of valves and ignition.
- (c.) Bad oil or under-lubrication.
- (d.) Dirty cylinder and piston, sticky piston rings.
- (e.) Wrong lift to either valve.
- (f.) Dirty radiators.
- (g.) Partially choked petrol pipe or carburetter.
- (h.) Dirty carburetter gauzes.
- (i.) Dirty electrical connections, especially bad earth at contact breaker.
- (j.) Overheating (see previous paragraphs.)
- (k.) Valve tight in guide.
- (l.) Cylinders not synchronised.
- (m.) Choked silencer.
- (n.) Crack in exhaust valve seating.
- (o.) Worn bearings, tappets, cams.
- (p.) Chains out of pitch or truth.
- (q.) Wheel bearings too tight and under-lubricated.
- (r.) Bad mixture.
- (s.) Brakes binding.
- (t.) Bad petrol.
- (u.) Bad coil.

- (w.) Leaky sparking plug.
- (x.) Maladjustment of contacts, or use of spurious metal for platinum.
- (y.) Piston ring slots in line.
- (z.) Plug points too far apart.

MISFIRES.

246. 1. MISFIRES OCCURRING AT ALL ROAD AND ENGINE SPEEDS PERSISTENTLY.

- Cracked or broken sparking plug.
- Batteries running down.
- Loose or dirty connection.
- Trembler in need of adjustment.
- Water in the petrol.
- Dirt in the carburetter.
- Magneto wants cleaning.

(To be continued.)

The Continental Motor Co., 32, Rosebery Avenue, E.C., informs us that it has decided to market Clincher A Won extra heavy and reinforced Peter Union covers, fitted with either Goodrich or Shamrock Excelsior rubber studded bands. These extra treads, we understand, will be properly vul-

We are asked by the City Ignition Co., 14, Spencer Street, Goswell Road, London, E.C., to point out that their Voltoo showcards can be supplied to dealers in and manufacturers of motor cycles and accessories.

A telegram from W. H. Wells to the Michelin Tyre Co. reads as follows: "John o'-Groats at last. Perfect score. Never touched a pump to Michelin tyres or had a side-slip on worst roads imaginable.—Wells."

Riders of Rex machines will be interested to learn that the Rex Motor Mfg. Co., Ltd., Coventry, are now making an adjustable pulley specially designed to suit their machines.

With reference to the article published recently regarding the new pattern Laurin and Klement motor cycles, Messrs. Laurin and Klement Motors, of 255, Tottenham Court Road, W., ask us to point out that they have in all six models of motor cycles all built to the design of the two models we illustrated. The sizes are 2½ h.p., 3½ h.p., and 4 h.p. single-cylinder and

THEY DON'T SKID.



This is the Treadtaking the Drive and Wear.



This is the Non-Skid ready to come into action if needed.

20 years' experience is behind this tyre.

This is one of many testimonials we have received.

London, June 19th, 1908.

Dear Sirs,—Just a line to tell you how delighted I am with your **Three Spires Non-Skid Tyre**. I have now covered several thousand miles in all weathers and daily running, and it suits me down to the ground, needless to say it has not punctured. I was delighted to note the quality of the rubber employed and wonder you can do it for the price, also how soft and easy is the cover to get on the rim. I need hardly say that I shall insist on **Three Spires** in the future.

By the way what grand tubes you make, I have seen nothing so good.

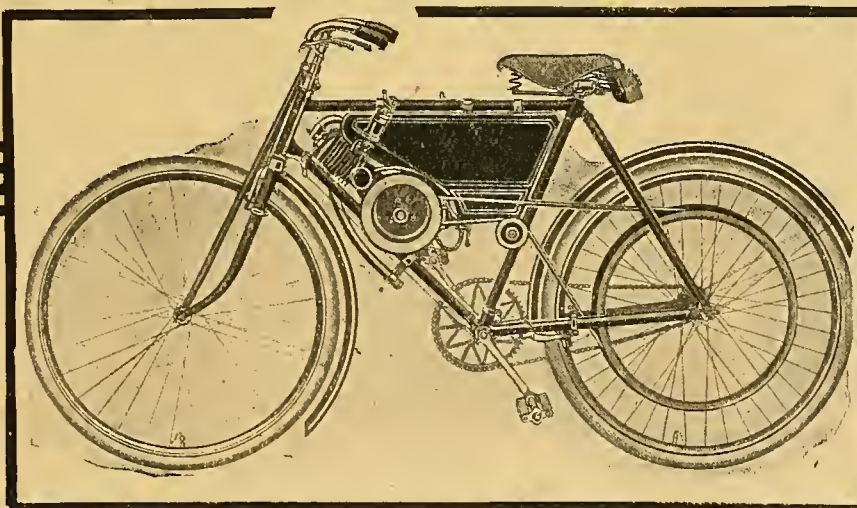
Wishing you every success, as you deserve,

Yours faithfully, H. W.

May we send you prices and particulars. Special offer to Readers of "The Motor Cycle."

THE COVENTRY RUBBER CO., COVENTRY.

A MOTOR CYCLE
WEIGHING
ONLY 60 LBS.



A PERFECT
MOTOR CYCLE AT
A BICYCLE PRICE.
£19 19 0 complete.
Fitted with Ruthardt
Magneto
£4 10 0 extra.

THIS IS QUITE THE LOWEST PRICE

at which it is possible to obtain an efficient motor cycle. The "Wolf" featherweight motor cycle is no toy—it is a marvel of sound construction and ingenuity, and with a wonderful hill-climbing capacity. The frame is specially built and the whole machine is British made.

THE "WOLF" FEATHERWEIGHT MOTOR CYCLE.

SPECIFICATION.

ENGINE—A. J. Stevens 2½ h.p.; bore 2½ in., stroke 2½ in.
COIL—Fuller.
ACCUMULATOR—Premier.
CARBURETTER—A. J. Stevens' automatic air inlet and throttle combined.
BELT—Best Chrome.
JOCKEY PULLEY—Ball Bearing.
FRAME—22 in. and 24 in.
TANK—To which combined petrol, lubricating oil, and coil compartments are fitted.

WHEELS—26 in. or 28 in.
TYRE—Wasp No. 1, 1½ in. diameter. Made specially by the Dunlop Rubber Co., Ltd.
CONTROLS—Valve lifter and ignition are controlled by one lever; when magneto, extra lever for ignition.
HANDLEBAR—Wide raised, to which a switch of neat design is fitted.
BRAKES—Wasp front and back roller or inverted levers.
FINISH—Best black enamel, lined two colours. Olive green, silver lines 10/- extra.

"Wolf" Tyres made by the Dunlop Rubber Co. Ltd., 2 in. to fit any standard 1½ in. rim 20/- extra. Write for lists.

WEARWELL MOTOR CARRIAGE CO., LTD., WOLVERHAMPTON.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London, by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, Warwickshire.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

NOT TOO LATE

even now to obtain exactly what you want in either new or second-hand mounts for the **AUGUST HOLIDAY**. Liberal terms of exchange arranged at once. All machines, new and second-hand, sent out ready for the road.

The following machines, and others, are all in our Showrooms:

NEW MODELS.

TRIUMPH 3½ h.p., 1908, magneto	£48 0
WARWICK, shop-soiled only	46 0
TRIUMPH 3½ h.p., 1907, magneto	39 0
N.S.U. 3½ h.p., 1908, magneto, new, 26" wheels	40 0
N.S.U. 3½ h.p., magneto, new, 1908, 24" wheels	40 0
N.S.U. 3½ h.p., 1908, twin, magneto, 24" wheels	45 0
N.S.U. 6 h.p., 1908, twin, magneto	54 0
N.S.U. 1½ h.p., 1908 lightweight, magneto	34 0
REX DE LUXE 3½ h.p., 1908, magneto, two-speed gear	50 0

Also various other new models, Motosacoche, F.N., Roc, Vindec, Warwick, etc., all in stock.

SOILED AND SECOND-HAND

N.S.U. 3½ h.p., 1908, accumulator, shop-soiled, cost £36	£28 0
G.B. ZEDEL 5-6 h.p., 1908, engine magneto, two-speed, spring forks, fan, footrests, perfect, cost over £70, will accept	35 0
TWIN ROC 5 h.p., Peugeot engine, magneto, free-engine	30 0
ROC 4 h.p., 1907, magneto, free-engine, Druid spring forks	25 0
ROC 3½ h.p., magneto, clutch, good running order	12 0
N.S.U. 3½ h.p., 1907, magneto, new Roc two-speed gear, spring forks	30 0
N.S.U. 6 h.p., 1908, new May, Roc clutch, improved gear, cost £75	55 0
REX TWIN TOURIST, magneto, '08, as new JAP, 6 h.p., magneto, '08, Chater Lea frame, not run	27 0
VINDEC SPECIAL 3½ h.p., magneto, Truffault spring forks	26 0
NOBLE, 3 h.p., long wheelbase, good order	12 0
WHITLEY 3½ h.p., spray carburetter	8 10
JAP, 6 h.p., Twin, Chater Lea frame, grand condition	20 0
KERRY 5 h.p., twin, two-speed, hand-starting	20 0
ANTOINE 4 h.p., low frame, free-engine	15 0
WERNER, twin, 4 h.p., recently overhauled and refinished	16 0
N.S.U. 5½ h.p., magneto, overhauled	25 0
ROVER, 3 h.p., Palmer tyres, Broo saddle, running well	10 10
REX 3½ h.p., John-o'-Groat's model	10 0

Others constantly arriving.

Let us give you details of the

WARWICK CAR-STYLE MOTOR CYCLE.

Hand-starting, ball bearing 4 h.p. engine, Bosch magneto, spring forks, Roc (licensed) clutch, epicyclic two-speed gear, started and driven like a car; several reasons in advance of ordinary motor cycle design.

Price 45 guineas.

TYRE BARGAINS.

Get your machine WELL SHOD for the Holidays. Sent on approval from our **BRAND NEW 1908 STOCK**.

PETER UNION COVER.

PREMIER PRICE.	ORDINARY PRICE.
24 x 2½ £0 18 0	..... £1 2 0
26 x 2½ 1 1 6	..... 1 8 0
26 x 2½ 1 5 0	..... 1 13 0

SHAMROCK COVERS, 26 x 2½, 12/6 each.

NEW TUBES—PETER UNION.		
PREMIER PRICE.		ORDINARY PRICE.
24 x 2½	....£0 8 0	..... £0 11 0
26 x 2½	.... 0 8 6	..... 0 12 0
26 x 2½	.... 0 10 6	..... 0 13 0

CLINCHER TUBES, New, Best Grey Quality.

PREMIER PRICE.	ORDINARY PRICE.
24 x 2½ £0 7 6	..... £0 11 6
26 x 2½ 0 7 6	..... 0 12 0

Delivery per return. Sent on APPROVAL for three days.

PREMIER ACCUMULATORS.

BRITISH-MADE. Sent on four days' actual TRIAL. Specially heavy plates—do not disintegrate.

10 amp. 9/6	} List on application.
20 amp. 12/6	

PREMIER MOTOR AGENCY,

Aston Road, BIRMINGHAM,
Telephone: 4310. Telegrams: "Primus," B'ham

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes to be sent for forwarding replies. Only the number appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, to the number given, c/o "The Motor Cycle," Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties advised of this receipt, and upon intimation of arrival and acceptance of the goods, the money forwarded less a charge of 1s. for registration. Time allowed for a decision after receipt of the goods three days. For all transactions exceeding £10 value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques money orders should be made payable to Iliffe Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive answer to their enquiries are requested to regard silence as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must be distinctly under what heading they appeared, and of issue.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

5-6 h.p. Twin Berceley, built June, 1908, in splendid condition, Chater-Lea through out, spare tube and belt; £20, no offers. Edward Irving, 13, Lowther Street, Penrith.

NEWCASTLE-ON-TYNE. — 5½ h.p. Brown, not done 500 miles, Palmer clutch, back, £37 10s., cost £54, take single part change; pair Collier spring forks, unused 10s. 6d.; agent for Brown motors; call and see them. — Nicholson, 79, Stanhope Street, Newcastle-on-Tyne.

4 h.p. Twin Werner, magneto, two-speed spring forks, Brooks saddle, footboard £25; also 4 h.p. Ormonde, Kelecom engine, very powerful, enamelled cream, in splendid condition, £15; also 3½ h.p. De Dion water-cooled head, £5 15s.; also A coupler, £1 2s. 6d.; also Montgomery car, 24in. wheel, £4 10s.—Stephenson, Moss side, Cleadon, near Sunderland.

ALDER'S are selling off their 1908 stock cycles at slaughter prices, every machine has guaranteed tyres, two or a free wheel, 3in. roller chain, plated rims, spokes, mudguards, beautifully enamelled and lined, guaranteed for five years; speed roadsters, £3 18s., were £6 6s.; doct models, with gear case, £5 10s., were £8 10s.; Model de Luxe, with three-speed gear, 10s., were £9; ladies' models 7s. 6d. extra. Alder's Motor Mart, Wheatshaf, Sunland.

SECTION II.

York and Lancashire.

5 h.p. Roc, two speeds, free engine, in condition; £43.—Cross, Jeweller, Rotham.

3½ h.p. Minerva, spring forks, good climber; £18.—Cross, Jeweller, Rotham.

TRIUMPH, 3 h.p., magneto, splendid condition, accessories; £26.—12, Lord Street, Leigh, Lancashire.

3½ h.p. Brown, low saddle, long bars, 32 boards, magneto, fast, reliable machine; £30.—129, Main Street, Bingley.

CARR, Fleet Street, Bury.—3½ h.p. Q. rant, spring forks, excellent condition throughout, horn, tools, registered, etc.;

CARR, Bury. — 3½ h.p. Rex, Longuem high frame, but excellent in every other way; £9.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

1 h.p. Triumph, perfect condition, spray, new cylinder, piston rings and tyre; 7 10s., bargain.—Peacock, Earl Shilton, Nckley.

VINDEC, 5 h.p., magneto, new, Longuemare carburetter, new lin. Dermatine lt, tyres good, non-skid, condition as new; 6 10s.—Plastow, Grimsby.

BIRMINGHAM.—3½ h.p. B.S.A.—Minerva, 28in. Palmers, Brooks B100 saddle, Whittle lt, fast, powerful; £13, or exchange lower value.—431, Monument Road.

MINERVA, 8-10 h.p., twin (specially built), speed 4 to over 70 miles per hour, new and perfect, with all accessories; £45 or offer.—430, The Motor Cycle Offices, Coventry.

TRIUMPH, 3½ h.p., magneto, delivered March, 1908, engine running well, tyres, camel, plating in good condition, Brooks spring seat; £42.—Box 415, The Motor Cycle Offices, Coventry.

1 h.p. Quadrant, magneto, spring forks, 2 heavy Clinchers, two speeds, lamp, ares, accessories, guaranteed perfect; gain, £16; tried by appointment. — 26, Church Gate, Loughborough.

ELEMENT-GARRARD and Garrard-Maxfield, new and second-hand, twin-cylinder, and 2½ h.p. singles, at reasonable prices. Garrard-Maxfield Motor Co. (makers, not agents), Aston Road, Birmingham.

1 h.p. Triumph, late 1907, as new, not ridden 450 miles, guaranteed absolutely perfect, handsome machine, separate generator lamp, horn, tools, etc., ready for ad; 28 guineas.—8, Murray Road, Rugby.

25.—Phelon and Moore, 2½ h.p., horn, acetylene lamp, detachable tubes, ares, perfect running order; owner bought r.—Apply, Stephens, Turner's Garage, Bathfield Road, Handsworth, Birmingham.

DE DION, 3 h.p., handle-bar button control, Longuemare carburetter, Dunlops, early new, Bowden lift, Watawata, excellent running condition, very easy starter, equal spares; photograph; £10, no offers.—Cutting, Vale, Stamford.

RIEL! Ariel!! Ariel!!!—For immediate delivery, the 2½ h.p. lightweight; write r catalogue and full particulars; also 3 p. and 5 h.p. twin-cylinder models; a few h.p. and 5 h.p. twins at clearance prices. Ariel Works, Bournbrook, Birmingham.

3 h.p. Aster, No. 6 Chater frame, foot-4 boards, Continentals, like new; 3½ h.p. ex, spring forks excellent condition; also h.p. Minerva, 26in. wheels, Clincher tyres, perfect; first reasonable offer secures each.—Smith, Ford Street, Saint Mary, Nottingham.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

TWIN Minerva, spring forks, magneto, like new, numerous spares.—Lambert, Thetford, Norfolk.

9 h.p. Bat, type late 1907, splendid running order; sacrifice £37 10s.—Reginald Parker, Bridge Street, St. Ives, Hunts.

h.p. Fafnir Engine, Chater-Lea fittings, B. and B., Palmers, stand, horn, bag, vo accumulators; £11.—94, Mill Road, Cambridge.

FOUR-CYLINDER 4½ h.p. F.N., magneto ignition, Palmer tyres, little used, and absolutely perfect condition; £25. — E. Criswell, Newmarket.

ZENITH Bicar, two-speed, free engine, complete, accessories, cost £62, new last November, makers just overhauled; £36; buying car.—"Zenith," Sidney Sussex College, Cambridge.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

h.p. Twin Rex, Nala two-speed, new Palmer tyres; cheap.—Walker, 15, Wandsworth Avenue, Cardiff.

TRIUMPH, 3½ h.p., 1907, perfect running order, lamp, horn, spares; £30 cash, new or second-hand push bike part exchange. Passey and Hall, Ross, Herefordshire.

NEW ARIELS.

We are now stocking the latest 2½ h.p. Ariel lightweight as well as the 3 h.p. and 6 h.p. (Jap engine) models.

Lists, etc., upon request.

Offers wanted for

MINERVA, 4½ h.p., perfect	£26	0	0
SAFOLEA, 6 h.p., spring forks	22	0	0
WERNER, twin, 4 h.p.	20	0	0
REX, 5 h.p., twin, '07 machine	18	0	0
ZENITH, 3 h.p., two speeds	27	0	0
N.S.U., 3½ h.p., two speeds	18	0	0

NEW MACHINES.

2½ h.p. ARIEL, coil and accumulator	32	gns.
2½ h.p. ARIEL, magneto	37	"
3½ h.p. VINDEC	£48	10 0
5 h.p. VINDEC	53	0 0
5 h.p. TOURIST	52	0 0
2½ h.p. MINERVA	20	0 0
3½ h.p. MINERVA	32	0 0
4½ h.p. MINERVA	39	0 0
7-8 h.p. MINERVA	45	0 0
1½ h.p. F.N.	35	0 0
4½ h.p. F.N.	50	0 0

Let us quote you for Exchange for any of the above.

Prices rock bottom. Cash or Exchange.

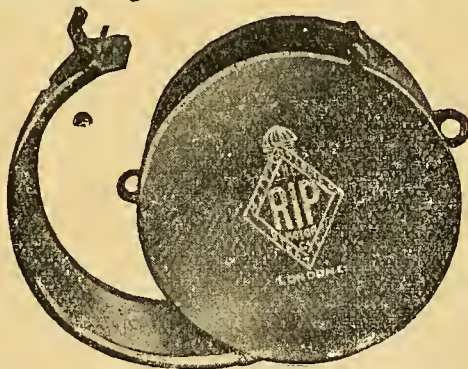
Any other make gladly quoted upon request.

TRICARS.

REXETTE, 8 h.p., twin tyre, two speeds and reverse, water-cooled, wheel steering	£60	0	0
HUBBARD, water-cooled, two speeds	20	0	0

ACCESSORIES.

1908 Bosch Magneto (new), single	£4	0	0
1908 Bosch Magneto, twin	5	0	0
Long Carburetter, perfect	15	0	0
VARIABLE PULLEYS, try one on appro. State engine only	10	6	
Trailer, suit tradesman	1	10	0
28 x 2½ in. Cover, new	9	6	
Gear Box, two speeds and reverse	2	0	0
Car Chassis and Wheels	2	0	0
Headlight (car)	10	6	
Mabon free engine Clutch	2	0	0

**RIP BOXES.**

The finest extant for carrying tubes or belts. Try one on approval. A quality, 7/6; B quality, 4/6.

BELT BOXES.

Hold nine feet. Any size easily fitted. A quality, 8/6; B quality, 5/6. Trade terms on request.

PALMER TYRES (Cord).

Cover.	Tube.	Cover.	Tube.
26 x 2, 43/6	10/-	28 x 2, 50/3	10/-
26 x 2½, 58/9	11/-	28 x 2½, 63/6	11/-
26 x 2½, 59/3	16/3	28 x 2½, 64/3	17/6

11/- allowed on old covers and 2/6 on tubes.

TUBES.—Fully guaranteed.

26 x 2in.	6/-	28 x 2in.	7/-
26 x 2½in.	7/-	28 x 2½in.	7/6
26 x 2½in.	8/-	28 x 2½in.	8/-

Immediate Delivery. Approval.

COVERS.

26 x 2in.	16/-	28 x 2in.	17/-
26 x 2½in.	17/6	28 x 2½in.	18/-
26 x 2½in.	21/3	28 x 2½in.	22/-

MAUDE'S MOTOR MART,

Powell Street, HALIFAX.

National Telephone 433.

MOTOR BICYCLES FOR SALE.

MOTO Reve, new May, 1908, perfect condition, has not done 500 miles; £24.—Hopkins, Alveston House, Ledbury.

2½ h.p. De Dion Engine, Chater-Lea frame, 24 Palmer tyres, new inners, splendid running order; price £16.—Southall, Selborne Road, Worcester.

5 h.p. Twin Brown, magneto, two-speed, latest model, almost unused; cost £70, cash offers; consider 3½ h.p. part exchange.—Jones, Gilwern, Abergavenny.

5½ h.p. Rex Twin, 1906, cantilever seat, two-way switch, Bluemel's 30 amp. hour accumulator, lamp, horn, stand, toolbag, butt-ended Michelin back, Lucas lamp bracket; £22, or offers.—Tudor Thomas, Bryncaerau, Llanelly.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

2½ h.p. Minerva, 1908, as new, not ridden 50 miles; £27 10s.

5 h.p. Twin Antoine, spring forks, new batteries, coil, R.O.M. synchronised contact breaker, horn, lamps, etc., in fine order; £15.

2½ h.p. Excelsior, surface carburetter, Palmer back tyre, Clincher front, in good order; £8.

2 h.p. Minerva, float carburetter; £6.

1½ h.p. Werner; £5.

2½ h.p. Werner; £7.

THE Above Cycles are to be seen at W. J. Randall's Garage, 3, High Street, Andover.

TWIN Rex and Sidecar, in new condition; £20.—Strong, Sidmouth Street, Devizes.

2 h.p. Minerva Motor Bike, good climber, spray; cheap.—C. B. Barnard, Whitchurch, Hants.

2½ h.p. Jap, long bars, low, and light, perfect condition throughout; bargain. £12.—T. Simpson, Sandhurst, Berks.

2½ h.p. Ariel, in first-class condition; owner must sell to nearest to £10.—Fry, 21, Leigh Road South, Clifton, Bristol.

3 h.p. Brown Midget, Fafnir engine, Lincoln belt, two accumulators, new tyre, excellent condition; £15.—Palmer, Mandora Barracks, Aldershot.

1907 3½ h.p. Triumph, magneto, lamp, horn, spares, Advance adjustable, unused Goodrich, guaranteed; £30.—7, Dursley Road, Shirehampton, Bristol.

4 h.p. two-speed magneto Roc, handle starting, Longuemare, run 500 miles, 2½ Dunlops, excellent condition, all spares; £34.—Moore, Stoke Bishop, Bristol.

REX, 3½ h.p., Advance pulley, Stanley, Longuemare, new Dunlops oil, petrol gauges, spares, splendid condition; £18.—Pool, Station Road, Fleet, Hants.

£11.—Ormond, 4 h.p., perfect order, fit for immediate use, Dunlop tyres, new, splendid machine, new belt, coil, accumulator; bargain.—Hewett, Alton, Hants.

BRISTOL.—2½ h.p. Kerry, splendid hill-climber, enamel, plating, tyres in excellent condition, smart machine; 12 guineas.—6, Longmead Avenue, Gloucester Road.

3½ h.p. Lloyd, magneto, Longuemare, 32 Chater-Lea, spring forks, new Dunlop and Goodrich non-skid, excellent running order; £27.—Moore, Stoke Bishop, Bristol.

BARGAIN.—Genuine 2½ h.p. Minerva, Eadie fittings, enamelling and plating like new, just overhauled, thorough reliable machine; approval; ten guineas.—F. Hirst, Bream, Lydney.

2½ h.p. Minerva, Chater-Lea, inclined, spray, Clinchers, 26 by 2, Watawata, splendid condition, new Gradior piston, rebushed; £10, offer; good twin wanted.—Morgan, 72, Campbell Road, Salisbury.

MOTOR BICYCLES FOR SALE.**SECTION VIII.**

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

£7.—2 h.p. Quadrant, good running order.—15, Station Road, Chingford.

£9.—2½ h.p. Humber, chain drive.—Roach, 10, Erpingham Road, Putney.

1908 3 h.p. Kerry, low, very little used; £18.—Michell, Roydon, Essex.

3½ h.p. Rex, perfect order; £8 10s., a bargain.—110, Derinton Road, Tooting.

1½ h.p. Minerva, running order; £3 15s.—Wauchope's, 9, Shoe Lane, London, E.C.

2½ h.p. Minerva, 1907, perfect condition, new belt; £18.—Allen, 43, Lavender Hill, S.W.

2½ h.p. Kerry, very low, reliable machine; £9.—Corley, 55, Choumert Road, Peckham.

MOTOR Cycle, Minerva, 2½ h.p., as new; cheap.—Apply, 34, Raleigh Road, Hornsey.

£8.—2½ h.p. Genuine De Dion, splendid condition throughout.—39, Arngask Road, Catford.

2½ h.p. Kerry, like new; £9 10s.; owner bought twin.—25, The Gardens, East Dulwich.

2½ h.p. Zedel, very fast, excellent condition; £12.—Bert Trask, 137, Brockley Road, S.E.

2 h.p. Werner, in good running order; £6 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, E.C.

2½ h.p. Minerva, low, fast; sale, or exchange.—2, Aldridge Road Villas, Bayswater.

FAIRY Lightweight, good condition; £12 10s.; must be sold; offers.—301, Seaside, Eastbourne.

1½ h.p. Minerva, low, splendid condition, spray, B. and B., an ideal machine; £6.—See below.

3½ h.p. Ormonde, good order, Kelecom, excellent condition; £13.—Morgan, Borough, Farnham, Surrey.

3½ h.p. Rex, spring forks, Longuemare, Continentals; £15.—Laming, 9, Tregothnan Road, Clapham.

TRIUMPH, 1907, perfect condition, with spares; £33 10s.—Farrant, 193, High Street, Peckham.

F.N., 1½ h.p., useful machine, good order; £8, with accessories.—Darby, 27, Park Avenue, Chelmsford.

£18.—3½ h.p. Quadrant, splendid condition, very fast, long bars.—A.C.J., 11, Stanmar Gardens, Acton.

1908 Motosacoche, condition as new, accumulator ignition.—8, Barrett Street, Manchester Square, W.

1904 Rex, good sterling machine; price £6 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

3½ h.p., tyres good, ready for riding, climb any hill.—25, Charlotte Street, Caledonian Road, London.

6 h.p. Antoine Twin, Chater-Lea frame, quite new, too fast; £35; photo.—A.C., 199, High Street, Watford.

2½ h.p. Minerva, in excellent running order; £10 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

J.A.P., 2½ h.p., very fast, low, long handlebars, stand, etc.; £12 12s.—Wood, 249, Rotherhithe New Road, S.E.

1907 3½ h.p. Minerva, spring forks, seen very little use; £19 19s.—Seen at Wauchope's, 9, Shoe Lane, E.C.

3½ h.p. Humber, recently overhauled, cylinder rebored; receipts shown; £11.—Young, 34, Cazenove Road, N.

F.N., four-cylinder, 4½ h.p., splendid condition; £23; owner buying 5-6 h.p.—West, 106, Great Portland Street, W.

2½ h.p. Minerva, Chater, spare tyre, tube, lamp, selling out; only wants seeing; £13.—M., 10, South Road, Ealing.

3½ h.p. Minerva, 1906 model, a good sterling machine; £16 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, E.C.

THEY ALL GO.

Cash, exchange, or extended payments.

TWINS—OFFERS WANTED.

6 h.p. Twin Rex, £17 17s. or £4 and '07 Single Rex, or £8 and '05 Single Rex, or level exchange with Single Magneto Rex.

SPECIFICATION.—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

5 h.p. REX Tourist (new) .. 1908 £42 0

5 h.p. REX DE LUXE (new) 1908 52 10

5½ h.p. N.S.U., magneto (new) 1908 52 0

5 h.p. Twin VINDEC, magneto .. 35 0

5½ h.p. REX DE LUXE (soiled) .. 35 0

6 h.p. Twin REX, blue lines .. 17 17

5½ h.p. Twin REX, spring forks .. 17 17

5½ h.p. REX DE LUXE, magneto 27 10

Twin REX, blue lines, new tyres 18 18

6 h.p. Twin REX, non-skids 18 18

5½ h.p. Twin REX, magneto, 1907 23 10

4-5 h.p. Twin ALCYON, two speeds 20 0

4 h.p. Twin WERNER, fine machine 19 19

5 h.p. Twin SAROLEA, long frame 13 18

6 h.p. Twin ANTOINE, R.O.M. ... 22 0

Twin CLEMENT, spring forks 14 0

5 h.p. Twin ONAWAY, very low 19 0

6 h.p. Twin ANTOINE, spg. fks. 22 0

SINGLES—OFFERS WANTED.

2½ h.p. REX (new) 1908 £26 5

3½ h.p. REX Tourist (new) .. 1908 36 15

3 h.p. REX DE LUXE (new) 1908 47 5

N.S.U. Lightweight (new) .. 1908 34 10

3½ h.p. N.S.U., magneto (new) 1908 42 0

3½ h.p. TRIUMPH, 1907 32 10

3 h.p. TRIUMPH, magneto 24 10

3½ h.p. REX, 1907, 2½ tyres 17 17

4 h.p. ROC, 2-speed, like new .. 35 0

3½ h.p. 1906 REX, spring forks 15 0

3½ h.p. Magneto REX RACER .. 25 0

3½ h.p. REX, spray, 21½ frame 11 10

3½ h.p. 1906 REX, spring forks 15 0

3½ h.p. REX, spray, fine climber 11 10

2½ h.p. Magneto REX, 1908 22 0

3½ h.p. MINERVA, M.O.V. 16 10

3 h.p. GIVAUDAN, nearly new 16 0

3 h.p. ROVER, 26 × 2½ Palmers 13 10

3 h.p. LLOYD'S, 26 × 2½ Palmers 13 10

4 h.p. ANTOINE, spring forks .. 16 0

2½ h.p. MINERVA, fine condition 14 10

2½ h.p. CLYDE, magneto 15 0

4 h.p. ANTOINE, 26 × 2½ tyres .. 16 10

3½ h.p. SIMMS, mag., 2½ Palmers 17 10

3½ h.p. QUADRANT, 1906 18 10

3½ h.p. CENTAUR, free engine .. 16 0

2½ h.p. PHENIX, spray, 26" wh'ls 10 10

3 h.p. HUMBER, spray 10 10

3 h.p. FAFNIR, very low, spray 13 10

2½ h.p. CORONET, free engine .. 10 10

2½ h.p. REX, 22 frame 11 10

2½ h.p. MINERVA, 26 × 2, spray 11 10

3 h.p. BROWN 12 10

3 h.p. SINGER, magneto 14 0

3½ h.p. EXCELSIOR 12 10

2½ h.p. COVENTRY EAGLE 10 0

3½ h.p. Two-speed REX 13 10

2½ h.p. CLEMENT, very low 11 0

2½ h.p. KERRY, spray, low 10 10

1½ h.p. MINERVA 5 15

2 h.p. RALPH, spray 8 0

2½ h.p. ROYAL, vertical, spray .. 8 0

2½ h.p. SINGER, magneto 8 10

TRICARS.

4½ h.p. W.C. BRADBURY £37 10

5½ h.p. QUADRANT Carrette 35 0

REX-Mills-Fulford 13 0

4½ h.p. STEVENS 17 10

Twin REXETTE, W.C. 47 10

"PERFECTION" Leather V Belting—

1 in. 9d., 1 in. 10d., 1 in. 1/-, 1 in. 1/1.

"SERRATRIX" Rubber Canvas Belting.

Best on test—1 in. 9d., 1 in. 1/-, 1 in. 1/4.

1 in. 1/8 per foot.

H.E. HALIFAX MOTOR EXCHANGE,

16, WESTGATE, HALIFAX.

Telephone 766 Telegrams, "Perfection."

MOTOR BICYCLES FOR SALE.

QUADRANT, 3 h.p., surface, good go order, tyres excellent; cash £7 10s.—4, Margery Park Road, Forest Gate.

QUADRANT, 2 h.p., spring forks, spray, tyres and condition perfect; 10s.—Collis, High Street, Strood, Kent.

BRIGHTON Bargains.—De Dion-Bat, spring frame, in perfect condition all over offers wanted.—Johnstone's, Brighton.

BRIGHTON Bargains.—Twin Alcyon, fast and powerful, a grand machine; 4—Johnstone's, Kensington Gardens, Brighton.

TWIN Rex, 1907, in actual running order any trial; lower power wanted.—St. Leonards Street, Bromley by Bow, E.

£8 10s.—2½ h.p. Noble, Chater-Lea, fast, reliable, splendid order, climb anything trial.—59, Barking Road, Canning Town.

2½ h.p. Jap, Chater-Lea frame, Dunlop low built, fast; £15; new.—Camer 219, Beckenham Road, Beckenham, Kent.

2 h.p. Minerva Motor Cycle, in perfect running order, M.O. valve; £6 10s. Wauchope's, 9, Shoe Lane, Fleet Street.

£14.—2½ h.p. Kerry, excellent order, low, fast, new accumulators, Clinch—Evan Thomas, Charterhouse, Godalming.

3½ h.p. Minerva Engine, Chater-Lea frame Palmer tyres; £10; trial by appointment.—Stevens, 45, Dryburgh Road, Putney.

THE Latest New 2½ h.p. 1908 and 9 April low built, magneto, lightweight, on show at Wauchope's, 9, Shoe Lane, London.

2 h.p. inclined Minerva, in perfect condition, good tyres, rubber belt; £8 photo.—Minerva, 199, High Street, Watford.

3½ h.p. Centaur, good condition, footboard Longuemare, Palmer and Clinch £13.—Kew, 160, Manor Park Road, Harleside.

3½ h.p. 1907 Triumph, good running order £27 10s., low price to clear.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

2½ h.p. Bowden, F.N. engine, handle control, with tools and all accessories £8 8s.; photo.—A.B., 199, High Street, Watford.

1908 3½ h.p. Minerva, magneto, used little; £29, unprecedented opportunity.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

3½ h.p. 1906 Minerva, Continental tyres 26 in., 2½ in., M.O. valves, first order; £17.—Berry, 193, Old Street, Shoreditch.

ZENITH Bicar, with forecar attachment, spring frame, two speeds, free engine Fafnir, good order.—Genn, Gap Road, Watlington.

F.N., four-cylinder, 4½ h.p., in excellent order; first reasonable offer accepted. Seen and tried at the Portman Garage, Mortlake.

2½ h.p. Brown, 1906, low and perfect, 2½ h.p. Buchet, 1907, ditto, £11; available, deposit system.—80, Bispham Road, Southport.

3½ h.p. 1906 Rex, spring forks, M.O.V., excellent condition; £16 10s.—Bailey, Westcliffe, Herts.

6 h.p. Twin Antoine, Matchless, good condition, £18; motor trailer, good condition, £2 10s.—Motor, St. Mawes, Brighton Road, Purley.

3½ h.p. 1906 Minerva, splendid condition, good hill-climber, fast, reliable; after 8 p.m.; £16 10s.—47, Hornsey Park Road, Hornsey, N.

TWIN Kerry, 5 h.p., Longuemare, new Continental belt, S.N.P. stand, climb anything; £20.—53, Kingsley Avenue, Westing, London.

2½ h.p. Minerva, splendid goer, complete and ready for the road; £5 cash, good class push bike.—F. Jermy, Frinton Green, Surrey.

LIGHTWEIGHT Two-speed Clementine, light, weight about 70 lbs., all accessories; price £8.—S. Harris, 41, Albert Road, Stratford, E.

2 h.p. Peugeot Motor Cycle, B.S.A. fitted weight 95 lbs., good running order, Phillips, Thortit Villas, Queen's Road, Putney, Middlesex.

MOTOR BICYCLES FOR SALE.

2 h.p. Minerva, front tyre Continent. 1, back tyre Dunlop, new, Richford accumulator, engine good running order; nearest offer £6 10s.—Cobb, Dorchester House, Mill End, Rickmansworth, Herts.

2³/₄ h.p. Minerva, Chater-Lea frame, Longuemare, overhauled thoroughly, good running order, good cause sale; two accumulators; £11 10s. — H.B., 22, Hadley Street, Kentish Town, N.W.

5 h.p. Twin Vindoc, latest 1908, bought last month, £42; also new De Luxe Montgomery flexible detachable sidecar, bought same time, £8, or together £49, cost £56.—207, Fordwych Road, Cricklewood.

24 h.p. Genuine Minerva, splendid condition, fast, reliable; bargain; only wants seeing; footboards, two accumulators, two belts, plenty spares; experts invited; offer.—Myrtle Villa, Oliver Road, Leyton.

3 h.p. Quadrant, spring forks, magnificent engine, fast, powerful, very reliable, light, handy, beat many 3½ h.p. machines; absolute bargain, £12 10s.; no time to ride.—R. Hoffman, 61, Chiswell Street, London.

31 h.p. Humber, absolutely perfect through-
32 out, good as new, magnificent hill-
climber, beautiful engine, easily take side-
car; genuine bargain, sacrifice £12 10s.—Mo-
torist, 11, French Place, Shoreditch, London.

4½ h.p., twin-cylinder, fast and powerful, Longuemare, Castle accumulator, two Nilmelior coils, non-trembler, Dunlop tyres, footrests, Millennium stand; bargain, best offer over £15.—W. Knight, Riverhead, Kent.

3½ h.p. Centaur and Sidecar, chain drive, new tyres throughout, new spare tyre and tube, valve, tools, perfect condition; a bargain, £24, or will sell separate.—Pennycook, 36, Mill Hill Road, Acton, London.

19⁰⁷ $3\frac{1}{2}$ h.p. Triumph, magneto, spring forks, as new, absolutely most reliable machine in existence, extraordinarily wonderful engine; genuine bargain, £33.—Triumph, 86, Colvestone Crescent, Dalston, London.

4 h.p. Oracle, No. 6 Chater-Lea frame, 6 rose and Clincher tyres, Brooks saddle, Brown and Barlow, Fuller accumulator and syntonio coil, Dermatine belt, footboards, absolutely new; £25.—Motor, 5, Temple Road, Croydon.

FOUR-CYLINDER F.N., new condition in every respect; this machine is not rubbish, but a little beauty, and is troubleless; any trial to purchaser; lowest £29 10s.; good reasons for selling.—W., 36, Moyser Road, Streatham.

3½ h.p. Fafnir engine, Chater-Lea fittings, Montgomery sidecar, spare tube, all accessories, perfect condition; recently cost £48, £28, or near offer, or £18 and good exchange.—Dr. Moxey, Victoria Avenue, Finchley, London, N.

24 h.p. Motor Cycle, M.M.C. engine, Chater-Lea frame, two new Dunlops, new Watawata belt, lamp, horn, and few spares; bargain, £10; also Millford cane trailer, £3; both in good going order.—Palmer, Kingsway, Twickenham.

1^{**1**}/₄ h.p. F.N. Lightweight, without side fly-wheel, one of the best little lightweights going, vertical engine, machine and tyres in good condition and running order; price £6 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

21 h.p. J.A.P. Motor Cycle, vertical engine, torpedo tank, Chater-Lea fittings, spray carburetter, low frame, handy, light, runabout; splendid bargain, £12 10s., or near offer.—On sale at Wauchope's, 9, Shoe Lane, Fleet Street, London.

5½ h.p. Rex de Luxe, 1907 model, fitted with twin back tyres and free engine clutch, magneto, sprung back and front, very low reach, starts like a car with handle, condition throughout is excellent; this machine is for sale at the low price of £22 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

1908 3½ h.p. Phoenix Cob, open frame, two-speed gear, magneto ignition, starts like a car, gears, chain, and back wheel are all covered in, condition of the machine as new, it would be suitable for lady or gent, complete with lamp, horn, and spares; price £32 10s., exchange arranged.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

tion "*The Motor Cycle.*"

MOTOR Cycle, new Peter-Union tyres, Longuemare, just re-bored; £6 10s.—40, Pomphouse Road, Fulham. Pair second-hand Palmer covers, 26 by '2, new 30 a.h. calculators, offers.

h.p. Minerva, spring forks, Advance pulley, stand and carrier, lamp and generator, footrests; a bargain; must sell; —Reynolds, 240, High Street, East Ham. one, 157, East Ham.

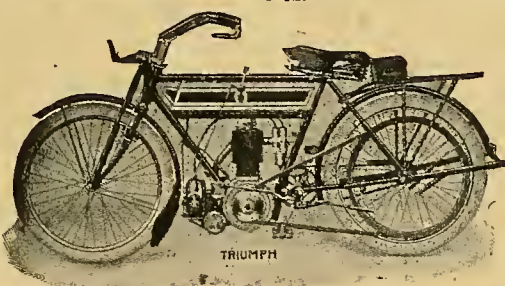
HCENIX, 3½ h.p., two-speed, chain drive, free engine, petrol and oil gauges, adle starting, in first-class running order, ranteed in sound condition.—Cooke, th Mymms, Hatfield.

h.p. Minerva, Chater-Lea, new Palmer
back, as good as new, climbs Reigate
£8 10s.; new twin high speed trembler
E.I.C., never used, what offers?—63,
Rod Road, Streatham.

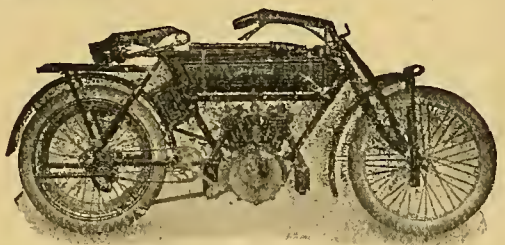
INERVA, 3½ h.p., Chater-Lea frame, low position, long handle-bars, Brooks saddle, in perfect going order; bargain, £12. J. Barton, 133, Shaftesbury Avenue. Restaurant. To be seen after 2 o'clock.

OR Sale, 3½ h.p. Fafnir, 1906 engine, Charter-Lea frame, Longuemare carburettor, new Continental tyres, accumulator ignition; lowest price taken £15.—Apply, Carter, Graham Street, Islington, London.

h.p. White and Poppe, Chater-Lea, low,
long, new back tyre, comfortable, pow-
erful, reliable; sacrifice £12; cash badly
needed.—Morris Langridge, jun., 7, Bodney
ad, Hackney, London.



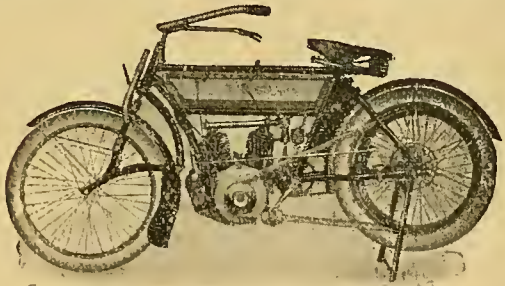
1908 STANDARD TRIUMPH now fitted with non-skid tyre to back wheel, £48. Second-hand motor cycles, light cars, or tricar taken in part payment, good market value allowed by WAUCHOPE'S. Address as above.



1908 MINERVAS.

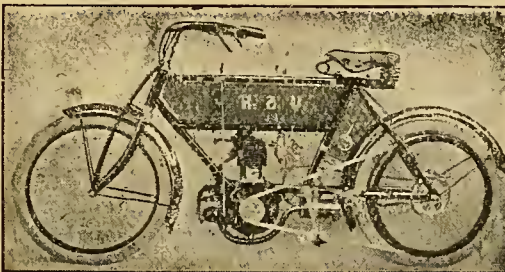
2½ h.p., £29. 3½ h.p., £32. 4½ h.p., £39. 7-8 h.p., £45.

You can get them at WAUCHOPE'S. Send particulars of your second-hand machine and we will submit price of allowance unseen, subject to machine tallying at sight. Carriage will be paid in one direction by us should we fail to come to terms.



1908 VINDEC SPECIAL.

You can get them at WAUCHOPE'S. Exchanges arranged.



1908 N.S.U's.

You can get them at WAUCHOPE'S. Exchanges arranged. Liberal allowance.

1908 F.N., 4-cylinder, 5-6 h.p., £52 10s.
Lightweight F.N., latest model, £35.

You can get them at WAUCHOPE'S, 9, SHOE LANE,
FLEET STREET, LONDON.

Second-hand machines will be allowed for in part payment.

1908 Lightweight Arrels, magneto and spring forks,
37 Guineas.
You can get them at WAUCHOPE'S.

WAUCHOPE'S
9, Shoe Lane, Fleet Street, London.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

2 h.p. Minerva, mechanical valves, 26in. wheels, low, perfect, £6 10s.; 2 h.p. light-weight, grand machine, £14; 4½ h.p. Barnes, Stevens engine, 50 an hour, £14; exchanges arranged.—Buckhurst, 1, Lansdowne Place, Upper Norwood, S.E.

CLYDE, 2½ h.p., magneto, long and low, Phoenix two-speed, spring forks, handle-bar control, belt, tyres, enamelling and plating perfect, Premier searchlight, Price's stand.—Metzgar, Stand 261, Machinery Hall, Franco-British Exhibition.

TWIN Norton, 4 h.p., Peugeot engine, Druid spring forks, low built, nearly new, fitted Marconi coil, two accumulators, £100 saddle, Acetyphote lamp, stand, spare Rich's tube, Veeder trip cyclometer; sacrifice, £25.—Sprunt, 138, London Road, Kingston-on-Thames.

5-6 h.p. Twin Rex, 1906, 50-guinea model, spring forks, cantilever seat, two accumulators, footboards, 2½ Peter-Union re-enforced tyres, new, splendid condition, not ridden 2000 miles; £18 10s., real bargain.—Motorist, 108, Bruce Grove, Tottenham, N.

31 h.p. White and Poppe, perfect condition, 32 and flexible sidecar, new Moseley tyres, with Bates non-skid on back, punctureproof bands, Rich tube back, two accumulators, two pulleys, spare Rich tube; £20.—White, 218, Portobello Road, Notting Hill, W.

BROWN, 3½ h.p., 1908, fitted with Brown two-speed gear and free engine, Palmer tyres plated footrests, with rubber pedals, plating and enamel as new; cost £53, price £33, a genuine bargain; machine guaranteed in perfect order.—Smith, 42, Preston Street, Brighton.

41 h.p. Special Racing Werner, 86 by 90, 42 thoroughly fitted for road, Longuemare, Advance pulley, Bowden lift, good silencer, wide mudguards, long handle-bars, low saddle, optional cylinder, exhaust ports, exceedingly fast; £20.—Davies, 18, Birkbeck Road, Acton.

MR. DOUGLAS FAWCETT, selling his twin Jap-Bat, 6 h.p. Roc clutch, spring frame, magneto, tuned, very fast and splendid climber, cut-out, two extra tubes and spares; cost over £65 June, 1907, bargain £35; fine condition.—Write, 46d, Clanricarde Gardens, Hyde Park, W.

1906 3 h.p. Triumph, spring forks, practically new, absolutely perfect, little used, tyres as new, one of the best machines ever made, complete with new Autoclipse lamp, all spares and accessories; £25; greatest bargain ever offered.—Motor, 86, Colvestone Crescent, Dalston, London.

31 h.p. (bargain), brand new machine; £17; 32 Chater-Lea No. 6 frame, very low, enamel and plating smart, tyres unscratched, engine 80 by 80, Imperi, M.O.V., Mabon free engine clutch, B. and B., Fuller trembler, handle-bar control.—R. Vaughan, 4, Lymington Road, West Hampstead, London.

1908 Triumph, perfect condition, complete with new Autoclipse lamp and generator, spare tube and belt (unused), hooter, Lucas foot pump, contact breaker, and spare inlet and exhaust valves; £39 cash; bought Tourist Trophy model of same make.—Powell, 14, Elder Avenue, Crouch End, London, N.

MINERVA, 2 h.p., vertical, Chater-Lea fittings, long bars, Dunlop tyres, Longuemare carburetter, Mason and Brown switch, new tyres, new belt, new engine, Lucas Acetyphote, all spares and accessories, very fast, complete with old engine; £7 15s.; no offers; any trial; seen any time.—6, Gowlett Road, Peckham Rye.

BARGAIN.—3½ h.p. Minerva, Chater-Lea frame and fittings, Advance adjustable pulley, new Palmer cord back, extra Stark Continental front, just been thoroughly overhauled and new piston and rings fitted, a splendid hill-climber, in first-class running order; sacrifice, as money wanted; £16 10s.—C. Altman, The Lodge, Watford.

THIS Week's Bargain.—3½ h.p. Kerry, low, speedy, climb anything, smart, enamelled green, plated wheels and fittings, excellent condition, Brown and Barlow, Shamrock-Gloria, Clincher A Won (26in.), several spares, accumulator, Duco lamp, stand, etc., must sell; bought tricar; first £14 secures it; seen and tried after seven.—Browning, 25, Gloucester Street, Clerkenwell, E.C.

DERMATINE BELTS
HOLD ALL RECORDS.**End-to-End Record, June 9th and 10th :**

Mr. A.W. Bentley, using Dermatine belt.

M.C.C. 24 Hours' Ride to Edinburgh, June 5th and 6th :

35 were successful, using Dermatine belts.

Stadium Race Meeting, June 8th :

Harry Martin, First in Ten Miles Race.

Stadium Race Meeting, June 24th :

Again the first, Second, and Third winners

were fitted with Dermatine belts.

No other belt holds such records. The Original Rubber and Canvas Belt. **BEWARE OF IMITATIONS.** The standard belt that is adopted by all leading manufacturers.**End-to-End Record.**

Read the testimonial from the Triumph Co.

Coventry, June 22nd, 1908.

Mr. Stanley Webb, 32, London Road, Bromley, Kent.

Dear Sir,—I do not know whether we have written to you about the Bentley End-to-End record. Mr. Bentley had a Stanley Dermatine Belt fitted to his motor cycle. It gave him entire satisfaction, and had not to be touched once during the whole ride of 886 miles.

Yours faithfully, M. J. SCHULTE,
Manager Director, Triumph Motor Co., Ltd.

Second season in use, and still going strong,

125, Bunhill Row, E.C., 12/6/08.

Dear Sir,—You will be pleased to hear that the "Dermatine" Belt I used in this year's London-Edinburgh run gave me no trouble whatever, and that, moreover, it was the identical belt I used in last year's L.-E. run. It is still going strong, though having run nearly 3,000 miles. Yours faithfully, J. P. LE GRAND.

800 miles, and no trouble nor once shortened.

Southernhay, Loughton, June 12th, 1908.

Dear Sir,—I must again congratulate you upon your excellent belts, as the one I used on my 3½ Vindec in the Schulte Cup Competition to Edinboro' and back gave me no trouble whatever, and was not even shortened once in 800 miles. I consider this a severe test, and a splendid proof of efficiency.

Yours faithfully, OWEN L. SUMMERS.

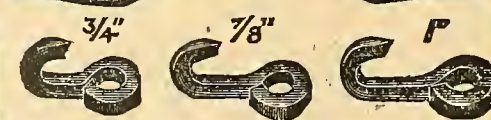
Hundreds of Testimonials. British Made.**NOTE THE PRICES.**

3in.	4in.	5in.	6in.
1/2	1/4	1/8	1/11 per ft.

POST FREE.

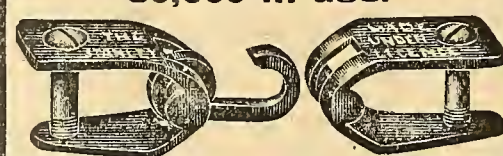
The Stanley Adjustable Fastener.

A long-felt want at last for adjustable pulleys.



Can be used with existing Stanley Fasteners. It is also most useful for starting out with hook fitted, and in case belt slips, to shorten simply take out the hook. Belt shorten ½ in.; time, one second.

Price Stanley Fastener, complete with set hooks, 1/6. Set of hooks, separate, price 1/-.

The Stanley Detachable Fastener.**80,000 in use.**

With Unbreakable Hook. Guaranteed. (Made under Simplex Patent.) In sizes 3in., 4in., 5in., 6in., 1/- each. Wholesale and Retail.

The STANLEY DERMATINE MOTOR BELT CO.,

32, London Road, BROMLEY, KENT.

STANLEY WEBB, Manager

MOTOR BICYCLES FOR SALE

TRIUMPH, 1908, handle-bar control, brand new, delivered ten days ago, £5 worth of accessories and spares, also insurance policy, value £3 10s., covering rider, cyclist third party; sacrifice £49.—F.P., 229, High Street, Camden Town, London.

31 h.p. Vindec Special, late 1906, magneto and accumulator ignitions, spring forks, absolutely perfect, hardly used, machine for a gentleman; accept £28, cheaper machine and cash.—Stanton, 8 Colvestone Crescent, Dalston, London.

REX, 3½ h.p., surface, re-enamelled and plated, engine re-bored and bushed, new 2½ Palmer cord on driving, new Dunlop front, new 1in. Whittle belt, adjustable pulley, two accumulators and coil, two-way switch and Liberty sidecar, with new Palmer tyre, good hill-climber, all in new condition, £22, a bargain; trial any time; own bought car.—D. B. Foulger, 241, Plash Road, Upton Park, E.

3 h.p. Raleigh, chain drive, two speed and free engine, 28in. wheels, 2½in. A.W. tyres, butt ended, and Riches tubes, spring handle-bars, footboard, two accumulator, M. and B. switch, Bowden brakes, B. saddle, Fafnir engine, Longuemare carburetter, Main-Hilton stand, spare tube, plug tools, Acetyphote, and spares, also new sidecar, to suit, motor tyre, spare tyre and petrol can, take two persons anywhere; trial, London; £28 the lot; would separate; offered; considered; have bought car.—Hodde, Crofton Road, Camberwell.

ZEDEL, twin, 85 by 95 mm. special bearing racing engine, well built, short Chater-Lea frame, fitted latest Dawson's tank, with petrol gauge, enamelled grey, lined white, long bars, with drop ends, very low position, fitted heavy Na two-speed hub, giving normal 3 to 1 and 6 to 1. Extra racing pulley giving about 1½ to 1 (will climb anything with this gear). Brand new heavy 2½in. Continentals front and rear accumulators, spare belts and valves. The whole is absolutely new, and will carry guarantee. Built entirely for speed, but proved too fast for owner. An exceptional comprehensive insurance policy, with year to run, providing for death, disablement, fire, damage, and third party risk price for the whole, 45 guineas, cost double.—Apply, Beech Cottage, Uxbridge Road, Hampton Hill, Middlesex.

SECTION X.**Scotland.**

7-9 h.p. Peugeot, Chater-Lea, footboards, excellent order; £35.—J. B. Stoddart, Balerno, N.B.

N.S.U., 5½ h.p., twin, magneto, free engine, studded tyre, condition as new; £30.—J. B. Stoddart, Balerno, N.B.

31 h.p. N.S.U., with two-speed gear and 32 Montgomery sidecarriage, in excellent order.—McMichael and Binnie, All N.B.

£10.—3 h.p. Enfield, Minerva engine, 1in. belt, pulley, rim, back tyre, accumulator, overhauled, splendid going order.—R. 10, Inglis Street, Inverness, N.B.

2 h.p. Minerva, vertical, girder forks, spring seat, tyres as new, just re-bored, piston, rebushed, enamelling and plating like new; £7; deposit.—Ritchie, Braes House, Kilmarnock.

EDINBURGH Exhibition, Industrial Hall, Stands 126 and 127; finest exhibition of motor cycles ever shown on any one stand from May till October.—Alexander's Motor Exchange, Lothian Road.

EDINBURGH.—Vindecs, Quadrants, Re Adlers, Moto Reeves, Ariels, Zenit Minervas, Griffons, Nortons, N.S.U., Vincennes, Rocs, etc., in stock, and to be seen at Alexander's Motor Exchange, Edinburgh.

23 h.p. Genuine F.N., magneto, spring forks, run one season, practically new tyres, and splendid goer, lamp, horn, star tools, also leather jacket, cap, and over everything complete; £25.—Macrory, Quarry Street, Hamilton.

EDINBURGH.—Scottish readers be sure to miss our grand show of motor cycles, Stands 126 and 127, Industrial Hall, Scottish National Exhibition; 16 different machines shown by Alexander's Motor Exchange, Lothian Road, Edinburgh.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

DECARS AND FORECARS.

RT Mills-Fulford Forecar, Dunlop
tyres, wing mudguards; £4 5s.—47, Cam-
rove, Peckham.

IL Sidecar, rigid, left, 26in. wheel, cane
body, upholstered red, first-class con-
£3 12s. 6d.—23, Arden Road, Hands-

MGOMERY Sidecar, used few times,
upholstered green, 26in. by 24in. Con-
£6 10s.—Bradley, Eaglescliffe, Co.
m.

RTY Sidecar, fit any machine, 26 or
in. wheel, very strong; must be sold.
—Stevens, 44, Lawton Road, Francis
Leyton.

TON.—Sidecar, 26in. wheel, cane
basket, upholstered, splendid condition;
£3 10s.; fits any frame.—496, Kingsland
London.

MGOMERY, latest, non-skid joints,
Dunlop tyre, 26in., roomy basket for
ger and child; £5 15s.—Jennings, 268,
y Road, Holloway.

p. Rex, with Millford forecar, Osborne
ree engine, spring forks, all spares
vert, £22; forecar separately, £6.—
Godstall Lane, Chester.

D Sidecar, left side, splendid condi-
on, art cane, red morocco, Continen-
£5, or best offer.—J. Clayton, Cor-
n Road, Middlesbrough.

T MERY Flexible, 28 by 2 Clincher
otor, fit anything, upholstered dark
with cushion and apron; £4.—Mor-
Campbell Road, Salisbury.

FORD HILL.—Famous rigid sidecars,
stant delivery, none better, fit your
e, £4 18s. 6d.; Millford sidecar, £4 7s.
berty, £4; Montgomery, £5 5s.—128,
oad, Tottenham.

Twin Givaudan, long, low frame,
in. tyres, torpedo tank, Montgomery
sidecar, perfect order, cycle built
bargain, £30, or offer.—2, Farring-
oad, Stratford, Essex.

. Forecar, art cane, upholstered,
ron, two almost new Peter-Union
4 by 2½, one spare, grand condition;
£10 10s., cost April last, £19 10s. —
188, Westbourne Grove, London, W.

AINS in Sidecars, complete with
werful two-speed motor bicycles, guar-
sound, and in perfect running order;
or particulars and prices.—W. Mont-
Ensign Cycle Works, Bury St. Ed-

Vord, if you're not off on an Oakleigh
ear you won't have a very enjoyable
No strain with an Oakleigh sidecar,
e-slip either; nothing better on the
£5; fit any machine. — Oakleigh
Ltd., 65a, Rosendale Road, west
h.

MOTOR TRICYCLES.

OR Tricycle, in good condition; cost
0, accept £9 10s. — Smith, 8, Carlton
Halifax.

p. Phoenix Trimo Tricycle, thorough
order; cheap.—428, The Motor Cycle
Coventry.

OR Tricycle, genuine De Dion, with
ry large and comfortable seat, would
elderly person, tyres (Dunlop) new
ar; £8.—Apply, 6, Brownwood Park,
Hornsey.

p. Minerva-Abingdon Tricycle, King
Dick, with detachable tandem seat,
cord tyres, guaranteed in every de-
and perfect running; will run
to any intending purchaser; £12.—
25, Frederick's Road, Custom House,
E.

AIN.—Genuine De Dion motor tri-
cle, 2½ h.p., in good order, Dunlop
lamp, horn, and tool box, £5 10s.;
h.p. petrol engine, £1 5s.; good plain
dynamo, shunt wound, in splendid
suit large hall or workshop, £7 10s.,
£15; seen any time.—James Cooke,
ck, Sandbach, Cheshire.

ELS AND APARTMENTS.

N Visiting London stay at Waver-
ley Temperance Hotel, 17 Euston
Bed, breakfast, attendance from 3s.

PLEASE NOTE

We can supply all parts for 2½ and
3½ h.p. F.N. Engines.

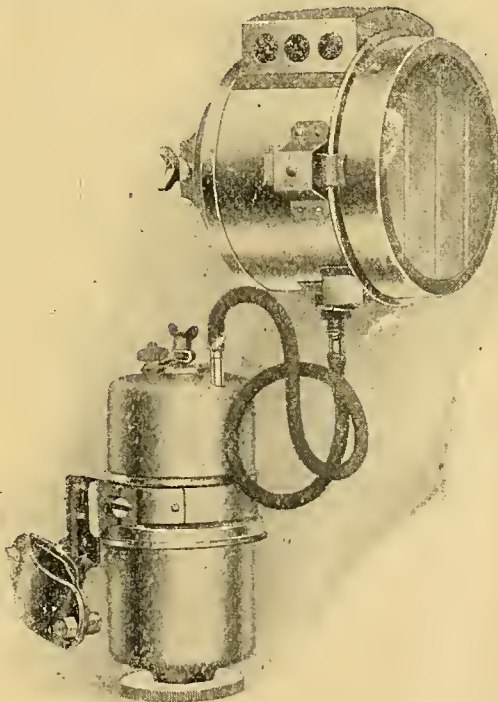
"VINDEC" Adjustable Pulleys for
2½ h.p. F.N. Engines, 10/- each.

"VINDEC" Adjustable Pulleys for
3½ h.p. F.N. and 3½ or 5 h.p. Peugeot
Engines, 15/- each.



"KUMFO" Sponge Rubber Grips, ¾ in.
or 1 in. bars, 2/6 per pair.

South British Trading Co., Ltd.,
13-15, Wilson St., London, E.C.

NEW LAMPS FOR OLD.

For a limited period we will make a liberal allowance
on any second-hand motor cycle lamp sent to us in
exchange for the **PREMIER SEARCHLIGHT**. Send
your lamp here with a label bearing your name and
address and we will quote allowance. The price of
Searchlight, generator with bracket, and tube
complete is 30/-; or lamp only, 24/-. Light
projection, 200ft. Dissected front glass prevents glare.
Mirror lens. **PREMIER Searchlights** are sent on
three days' actual trial. Sole London Agents:

Brown Brothers Ltd., Great Eastern Street, E.C.
PREMIER MOTOR Co., Ltd., Aston, Birmingham.

GARAGES.

BRIGHTON. — Black Lion Garage, back
of Sea View Hotel, Black Lion
Street, fifth turning from Aquarium on
right, along front; specially for motor
cyclists; repairs on Sundays.

INSURANCE.

PLEASE Send for full covering Motor Cycle
Policy, from 19s. per annum.—Bass, In-
surance Broker, Ongar.

INSURANCE Policies of every description
for motor cycles are issued by Hugh J.
Boswell, insurance broker, Norwich, at ex-
ceptionally low rates; fire or self-ignition.
2s. 6d.; third party, 7s. 6d.; accident to cycle,
15s.—Write for full particulars.

QUADCARS.

3½ h.p. Quadcar, seats three, water-cooled,
3½ like car, good order, luxurious, wheel
steering, £15; trial; 1½ h.p. Werner engine
and parts, £2 10s.; 2½ h.p. cylinder, De Dion,
15s.—Rev. Slipper, c/o Pretty, Scole, Norfolk.

7 h.p. Phoenix Quadcar, twin Fafnir en-
gine, two speeds and reverse, in mag-
nificent condition throughout, fast, climb
anything, the finest touring machine ever
produced; sacrifice quick cash £36.—R. Else,
Leawood, near Matlock.

GENUINE De Dion Quadcar, 3½ h.p., Phoe-
nix style wheel steering, very powerful,
water-cooled, two speeds, two brakes, handle
starting, carries three, bucket seat, electric
light back number, good condition; advised
to give up motoring through accident on
motor cycle; best offer over £15.—W. Mead,
draper, Croxley Green, Herts.

ABSOLUTELY the finest runabout on the
road.—A 7-8 h.p. Phoenix Quadcar, in
almost new condition, only driven a few
hundred miles, bonnet in place of front
seat, complete with handsome lamps, horn,
etc., etc.; cost £120, will accept £45, or
Triumph motor cycle in part payment.—
Garaged at Wauchope's, Shoe Lane, who will
negotiate the business for owner.

CARS FOR SALE.

8 h.p. Rex, two-seater, three speeds and re-
verse, in good order; £20.—Below.

18 h.p. Gobron-Brillie char-a-banc, to carry
ten and driver, three speeds and re-
verse, recently overhauled; £75.—Below.

6 h.p. Stirling Dogcart, in splendid order,
three speeds and reverse; £25.—Below.

COILS, cycle engines, carburettors, at low-
est prices.—Below.

4½ h.p. Benz, four-seater, complete, in good
order; £12.—Harper, Week Street,
Maidstone.

6 h.p., two-seater, first-class condition, Cape
hood; trial.—118, Highbury Hill.

CARR, Bury.—7 h.p. Swift Car, three seats,
any trial, very smart, all lamps, horn,
tools; £70.

CARR, Fleet Street, Bury.—8 h.p. De Dion-
Rothwell, four-seater, nice car, cheap
to run; £70.

5½ h.p. Aster, three speeds, bucket seats,
equal artillery wheels; photo; £35,
exchange.—7, Blair Grove, Southport.

15 h.p. Car, three cylinders, side entrance,
1906 model; cost £500; for good two-
seater, De Dion preferred.—98, Potternewton
Lane, Leeds.

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cellent order; bargain, £30, or good tricar
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and spares; £60.—Francis, 29, High Street,
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SIMMS Tonneau Car, about 8 h.p., tonneau,
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good open frame tricar, or twin and sidecar;
cash either way.—128, High Road, Totten-
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new tyres on back, front very good, two
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gain, 40 guineas, or exchange two-speed tri-
car and cash.—Frank Swindall, 18, Newland,
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MUIR screw-cutting and surfacing lathe, 6in. centres, complete, as new; £14 10s.—L. N. Palmer, 190, Mellison Road, Tooting.

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10-12 h.p. Durkopp, two-cylinder, detachable tonneau, perfect order; £45.—Tickner.

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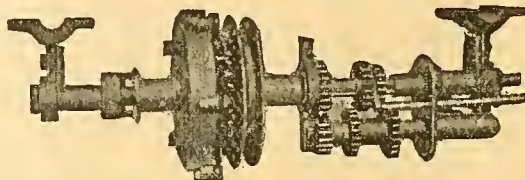
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THE Unito connects the steering and ensures faultless alignment.

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THE MOTOR CYCLE

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Some Experiments with Crank-case Compression.

By J. OKILL, M.I.A.E.

THE motor cyclist as a rule is a very keen observer of cause and effect with regard to his engine, be the effect ever so small, and in this connection the recent remarks by "Ixion" in the *The Motor Cycle* for May 13th on "the increase of power developed by engines when the pressure in the crank case is released" form interesting reading, phenomena being, as "Ixion" says, worth experimental investigation.

The conditions cited under which increase in power is experienced are not quite similar. In the one a clear opening was made in the crank case, and the other four or five relief valves were fitted to the crank case.

Now, the conditions under which the least waste of engine power would take place would be with the crank case entirely removed, the moving parts of the engine being exposed, as in the ordinary open frame engine. This is, of course, an impracticable construction for a motor cycle engine. The next arrangement in order of efficiency would be to have the crank case made completely airtight. With this latter arrangement, when the piston descended the air contained in the crank case would be compressed to a few pounds per square inch above atmospheric pressure, the temperature of the air at this instant being somewhat above that of the atmosphere. On the up stroke the piston practically all the work of compression could be given back, except for slight transfer of heat and from the atmosphere, and the arrangement would be a good one from the point of view of efficiency. If the crank case, piston, etc., were perfect non-

conductors of heat, the only energy wasted would be due to the eddying motion of the air contained in the crank case, set up by the moving parts of the engine. A perfectly air-tight crank case, besides being almost an impossibility, is not desirable. Trouble would be experienced by lubricating oil being forced out through the shaft bearings; further than this, it is always advisable to provide for the escape of any exploded or unexploded vapour that may have leaked past the piston into the crank case.

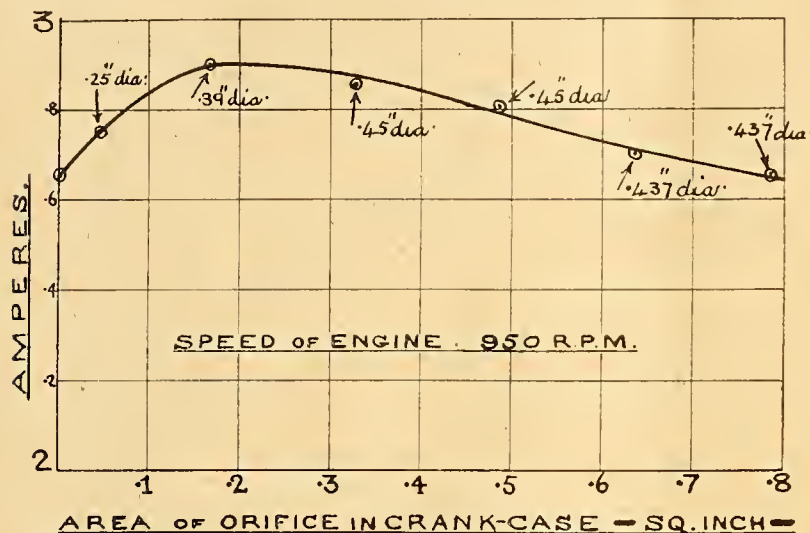
Pressure in the Crank Case.

As a rule, all engine crank cases are open to the atmosphere at some point, and air relief valves fitted to engines whose crank case volume varies with piston movement so as to cause compression. When an air valve is fitted, this latter opens on the downstroke of the piston, so that when the piston is at the bottom of its stroke, the pressure in the crank case will be atmospheric. If the air valve is tight, and there are no leakages, the pressure in the crank case at the end of the upstroke of the piston will be below that of the atmosphere, so that in this case the air valve will be of no further use. As a matter of fact, it is impossible to prevent air leakage past the shaft bearings, etc., into the crank case during the upstroke of the piston. The result is there is always some air passing through the air valve on the downstroke, and this is the condition of things we have in practice. Unless the leaks are great, one valve should be ample to allow of the escape of this air leakage.

In order to determine the actual effect on the power of the engine when a number of relief valves are fitted,

Some Experiments with Crank-case Compression.—

and also to determine the effect when a number of orifices are made in the crank case, the writer has made a series of experiments on a new $3\frac{1}{2}$ h.p. Fafnir engine. The most suitable method that suggested itself, so that accurate conclusions could be arrived at, was to drive the engine by means of an electric motor, measuring instruments being placed in the circuit so that the power taken to drive the engine under the various conditions could be accurately noted. As the engine was new, the bearings would be in good condition, air leakage thus being reduced to a minimum. The cylinder proper was open to the atmosphere, the inlet valve and its seating having been removed.



In all the experiments the engine was driven at a speed of 950 r.p.m. The first experiments were made with the crank case completely closed, no air vents being provided, air leakage being prevented as far as possible.

The current reading under these conditions was 2.65 amps. (this reading including the current necessary to drive a line of shafting from a pulley on which the engine was driven). Without stopping the engine, one air relief valve of light and sensitive construction was allowed to come into action, but no alteration in the ammeter reading was apparent. The introduction of a second and then a third air valve made no measurable difference in the power required, and as the relief valves were of large area, it is obvious that additional valves fitted to the crank case of an engine, while not detrimental, are at the same time unnecessary.

The second series of observations were made with

orifices in the crank case, the results being plotted the accompanying diagram.

The current reading with the crank case closed, before, was 2.65 amps. The first orifice opened was of .25in. diameter, the current reading rising to 2.9 amps. The second orifice of .39in. diameter gave a current reading of 2.9 amps. On opening a third orifice of .45in. diameter, the current reading fell to 2.8 amps., while on opening a fourth orifice of .45in. diameter the current reading fell to 2.8 amps. On opening two more orifices of .437in. diameter the current required to drive the engine was exactly the same as with the crank case completely closed, i.e. 2.65 amps. As the combined areas of the orifices was .787 sq. in., and it was impossible to arrange further openings without mutilating the crank case, no further experiments were made, the results obtained being sufficiently definite to enable one to draw conclusions as to the utility of orifices.

Deductions from the Experiments.

The interesting feature about the second series of experiments is that they show a critical area of orifice, or an area at which the power required to drive the engine is a maximum, being .077 h.p. above the power required with a closed crank case. The increase in power required with the first orifice open represents the work done against friction of the air passing through the orifice, and the extra eddy motion of the air in the crank case caused by opening the orifice. By opening the second orifice, in this case, the resistance becomes a maximum. The fall in current when a third orifice is opened is due to decreased air velocity, etc., through the orifices. This is still less when the remaining orifices are opened. Even with a total orifice area of .787 sq. in., as before mentioned, the current required is the same as with the crank case completely closed and fitted with a valve. The character of the curve, however, would seem to indicate that if the orifice area was increased above .787 sq. inch, there might be a gain in engine power, when compared with a closed crank case or one fitted with an air valve. The phenomenon that it takes more power to drive an engine with an orifice in the crank case than without is well known to those motorists who have experienced a parallel case, i.e., driven a two-cylinder engine with only one cylinder firing, the other cylinder simply compressing and expanding, in the one case with the sparking plug removed, and in the other with the plug in place.

SIDECARS AND WIND RESISTANCE.

One thing noticeable with sidecar attachments is the amount they are slowed when travelling against a wind. This is, of course, owing to the width of the sidecar and the amount of surface offering resistance to the wind. We made an interesting comparison the other day with a 1908 Triumph bicycle and Montgomery sidecar when travelling before and against a wind. The gear used was $4\frac{3}{4}$ to 1. On an outward run of seventy-two miles on Midland roads with the wind, passengers weighing nineteen stones, an average speed of twenty-four miles an hour was maintained, and the petrol consumption was only three quarts, equalling nearly one hundred miles to the gallon. On the return run against the wind the average speed worked out at eighteen miles per hour,

and the consumption of petrol nearly five quarts. On the occasion of this run, we may mention, we had the first opportunity of trying the Montgomery sidecar over several miles of really muddy roads, and we were most favourably impressed by its stability.

We have received copies of *La Voiturette*—a French journal published fortnightly, dealing particularly with its title indicates, with small cars. The majority of the paper is printed in the French language, but it has an English section. The offices of the journal are situated at 78, Rue Charles Laffitte, Neuilly, Paris, and the editor is M. Georges Dupuy. In view of the great interest evoked by the Grand Prix des Voiturettes, this journal should be of interest to British readers.

More about the Lightweight.

SO much interest seems to have been aroused by the lady's lightweight that possibly a few further details as to its capabilities may prove welcome to readers. A good many of my own sex are undecided about taking the plunge and entering the ranks of motor cyclists. They need hesitate no longer, for a machine weighing only 80 lbs. removes most of the drawbacks hitherto attendant on the pastime. If you tell people what can be done even with an engine of $1\frac{1}{4}$ h.p., they say, "Oh, that's very well in the hands of a professional, who can pedal for all he is worth. I am only an amateur." Precisely. So am I, and past my first youth at that. For long I had cherished a secret ambition to do a record ride (for me) on my Motosacoche, built by the Clyde Co., of Leicester. The cook was away, the mechanic was away, the groom was away, and last, but not least, my husband was away. I was free as air. No bothering meals to think of, order, and preside over. Now or never was my chance. I am a firm believer in reparations, which save many a delay on the road. I made mine in the previous afternoon—took out and cleaned the plug, saw to the points on the magneto, cleaned the terminal, oiled every bearing, including the free-wheel and the two-speed pedalling gear, pumped up the tyres, filled tanks with oil and petrol, and poured some of little Miss Motosacoche's special lubricant into a medicine bottle, which I proposed to carry with me, for the dainty dame has a special fancy for Price's Motorine C.

Up with the Lark.

The next day I rose at twenty past four, dressed, and had a slice of bread and butter and a glass of milk placed in my room overnight. My driving licence? Yes. Knife, indelible pencil, and spare rag in my left pocket. Nothing was forgotten. I crept out of the house, unlocking the back door, and repaired to the motor house, expecting to make an immediate start. But little delays arise in an extraordinary manner. My front tyre had run down a bit during the night. I pumped it up. Then the compression of that little $1\frac{1}{4}$ h.p. engine was something phenomenal. I could not pedal fast enough to start it. Paraffin, of course, I gave a liberal supply through the compression tap; but I had to renew the operation six times before the engine would turn freely. Then it buzzed away, and I set the carburetter to all air. After that came a tussle with Price's stand. One leg was easy enough to manipulate, but the other tuck, and proved extremely awkward. After that I had to clean my hands and refill my little can with paraffin. However, a quarter past six saw me make a start. The morning was glorious, and, although I carried a cape, for once in this island clime the day looked like being fine. Past Kibworth and Glenn I

bowled, and at Oadby turned up a hilly, stony lane, which avoided the Leicester traffic and brought me out clear of the town by Thurmaston. Although a mile or two longer, this route cheats the trams. Once clear of the villages, I was able to travel at a good pace, and, reaching Melton, went straight through to Grantham. On this portion of the road there are some severe hills. My little machine took all save one without a stroke of the pedals, and then the belt started to slip. I profited by the presence of a steam roller to dismount and tighten it, and, not halting at Grantham, rode straight on to Newark-on-Trent. Here I took in sixpennyworth of petrol.

Starting Quite Easy.

Between Newark and Tuxford I found the gates of three level crossings closed against me. This caused delay, and also a dismount and remount on each occasion. Fortunately, starting did not possess any terrors, as in the olden days. Slipping in the low speed pedalling gear, I could get off again with ease. Four hours and eight minutes from the start saw me at Tuxford, a distance of seventy-five miles, if not a trifle more. At 10.30 I sat down to lunch, for I was ravenous. After that meal I took a stroll, my limbs being somewhat stiff from sitting so long in the same posture, and then looked round my good little bicycle, oiling it all over, and tightening the belt. At twelve I started for home, and, stopping at Newark, bought sixpennyworth more petrol, so as to run no risks. My tank holds five pints, and on this I can go from eighty to ninety miles. From Newark to Harborough I made a non-stop run, and did the entire return journey in 3h. 45m. I had



The writer with her Motosacoche, built by the Clyde Co.

achieved my object of doing 150 miles in the day, and might have done another 50 had I been so inclined. But I had done enough to show what a lightweight, low-powered machine is capable of in the hands of an amateur lady. What little may be lost in actual speed is gained in handiness and convenience and ease of manipulation. On my former bicycles that weighed about 180 lbs., each time I dismounted I quaked as to how I was going to get on again, and had to beg passing cyclists and drovers to give me a push. On this journey I was completely independent. I could get off when I chose and mount when I chose. Neither did I feel any nervousness at going so far from home entirely alone. With money in my pocket in the event of trouble I had only to unhook the belt and pedal to the nearest station or town, precisely as one might do on an ordinary bicycle.

In Praise of the Lightweight.

The Motosacoche engine is a marvel. It will take one almost anywhere. Of course, it cannot compare

More About the Lightweights.—

with a speed monster, and for long and serious touring possibly a 3 h.p. or 4 h.p. with two-speed gear might be preferable. But what the great bulk of lady riders want is a mount simple, light, easy to manage, that will not strand them on the road or tax their strength to the point of utter exhaustion. Such a bicycle is now to be had, and one that answers all reasonable requirements. If I have demonstrated that it is no toy, but a mount to be relied upon to carry its rider anywhere in reason, and can persuade others of my own sex to take up the delightful pastime of motor

cycling, I shall be indeed well pleased. In conclusion, the petrol for 150 miles works out at 1s. 6d.—9d. for the petrol in the tank at starting and 1s. paid on the road. There remains enough to go quite thirty miles, which reduces the sum to 1s. 6d. Put down 6d. for oil and 1s. for depreciation—total 3s. What other conveyance is there can take you a 150 miles at such a price, and at the same time confer so much pleasure and interest? Hurry up, ladies, hurry up! Time is fleeting, and you are missing one of the best joys in life whilst you hesitate and procrastinate, so hesitate no longer. MRS. EDWARD KENNARD.

OCCASIONAL COMMENTS.

By "IXION."

Magneto Bell Crank.

Two riders have remarked to me upon the wear in the ball end of the bell crank on magneto contact breakers, of which I wrote recently. Mr. W. A. Jacobs says he remedies it by bending the crank with a slight outward "set," as to bring the ball end nearer the fibre ring. This has proved efficacious when wear had gone so far as to prevent the points breaking at all. Mr. B. H. Davies says it is very kind of me glibly to advise riders to buy a new part, but there is such a wide variation in the exact shape and dimensions of these cranks as manufactured in different years that a new and unworn part may make matters worse. This warning led me to sort out my own assortment, and I find I possess five, all slightly varying in either size or shape. I had a curious confirmation of this only last week. A machine I had carefully tuned up was running badly, and a fierce hill loomed ahead. I was in a hurry, so I hastily took off my contact breaker and put in an unused spare. The engine refused to fire at all, simply because the new bell crank was a different shape, and prevented a break at the platina. Mr. Davies says he tried two spares of his own a little time ago and two more that he borrowed, and that originally fitted to the machine was the only one of the five on which the engine would fire until he began bending them about.

Spare Belt Carriers.

I suppose most riders carry an extra belt when touring. In most cases the extra belt is a leather one, and that on the pulleys a rubber one. The leather belt, tied anyhow to the sides of the carrier, starts well greased, to preserve the nature of the leather. The rider leaves home on a fine day, and wind and suction deposit a nice layer of dust on the sides of the belt. Then it begins to rain. Finally, the rubber belt starts slipping or breaks. But, alack and alas, by now the leather belt is in such a messy condition that it requires half an hour's preparation before it is fit to put on the pulleys.

There are two sound methods of carrying a spare leather belt. One is to curl it up, lay it on a square of waterproof or American cloth, fold the corners over it, and lay it flat on the carrier to be strapped on beneath the bag. But this untidy method will offend the owner of one of those swagger pigskin kitbags with brass locks. He may care to copy a belt carrier I saw last week. It consisted of two light discs of wood about 10 in. in diameter, mounted on a spindle, so as to

form a bobbin. Three light clips held one disc to the carrier stays rigidly, and the whole was painted French grey. The belt hook was hitched to the central spindle, and the belt was then wound tightly round the spindle between the discs. When wound up, the top layer of the belt lay about half an inch below the edges of the discs. A strap, the width of which exactly coincided with the distance between the two discs, was then buckled tightly round the belt, and so for the expenditure of a little time and a few pence the proud owner had acquired a light, inexpensive, and efficient belt box.

Front Forks without Girders.

The fracture of a couple of pairs of front forks in the End-to-end confirms an old assertion of mine that to ride a motor cycle without girdered forks is courting an early death. The unfortunate riders in the trial escaped with a few cuts and bruises, but a friend of mine was killed on the spot some years ago through such a fracture, and we all remember how a keen clerical motor cyclist met his death in the same way. When Mr. Oakley was killed, a friend of mine took a first-grade pedal cycle, which he had ridden for eight years, to have its forks tested, and they snapped in half under a cross strain of a very few pounds indeed proving that his precaution had averted a very nasty accident. I feel a very real anxiety about the number of light machines now running with untrussed forks. You can put a steel or wooden liner up the steering head, but that does not strengthen the forks in any way, and I for one would not ride a pair of single forks for more than a single season. It is a thousand pities those forks collapsed in the trial, as the previous performances of the two machines concerned had been simply superb, both up hill and down dale, but if manufacturers learn the appropriate lesson, our deep regret will be somewhat lessened, though our sympathy with the victims remains unimpaired. Crystallisation of the metal is set up within a few years on the much slower pedal cycle. On a motor bicycle, however light and slow, it is sheer folly to expect single forks to remain safe after one season, and new forks, or the addition of trussed girders, are the smallest precaution prudence can take. If it were ever my melancholy task to sit on a jury in such a fatality, I suppose my sympathetic verdict would be "Accidental death." But in strict honesty, if the victim were the manufacturer, the verdict should be "Suicide"; and if a customer, the verdict should be one of manslaughter against the manufacture of the machine.

The Eisemann Self-contained Magneto.

ONE of the first high-tension magnetos to be successful on a motor cycle was the Eisemann, which made its appearance in England as early as 1902. It became much better known in this country when the N.S.U. motor bicycles became more widely used. In the meantime,

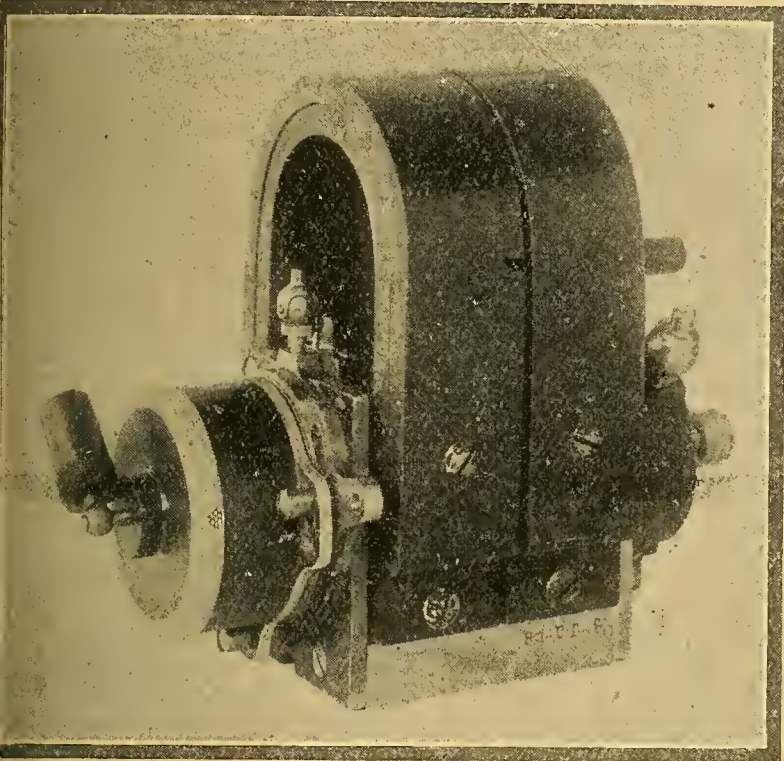


Fig. 1.—The complete magneto

Messrs. Eisemann have not remained idle. They perfected their magneto with a separate coil, and, having done that, they have now designed a self-contained magneto, which is sold by the company's sole agents in this country, the United Motor Industries, 15, Poland Street, W., and Coventry. The magneto in question is a splendid example of workmanship; it is simple, most accessible, and very highly efficient. Fig. 1 shows the complete magneto; fig. 3 shows the armature casing, together with the pole pieces A and the ball race C; fig. 4 shows the contact breaker. In the case of this par-

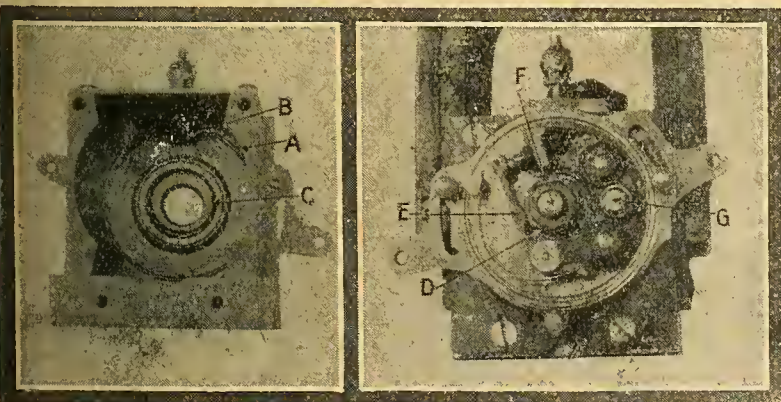


Fig. 3.

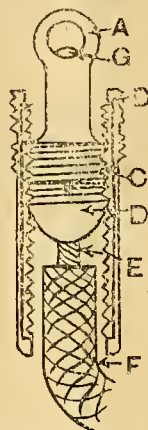
Armature casing showing pole pieces A, carbon brush B, and ball race C.

Fig. 4.—Contact breaker.

- D. Fibre ring.
- E. Rocking arm carrying platinum point.
- F. Earth connection.
- G. Condenser connection.

icular magneto the cam D working the rocking arm E is of fibre. The platinum points are of substantial proportions, easily attached and adjusted, while the plate to which the contact breaker is fixed is held in

position by a stud at its back fitting into a recess on the carrier, with the result that when the cover is removed the whole of the contact breaker mechanism except the cam can be lifted away.



The H.T. Terminal.

- A. Eyelet with spring ball connection G.
- B. Vulcanite tube lined with threaded brass tube having a drilled portion C.
- D. Small screw with circular end through which wire passes and is splayed out as C and held by D.
- F. Insulation.

The spring connection G makes contact with the condenser, and the copper terminal F makes contact with the carbon brush connected to the earth terminal, to which the switch is attached. Turning to fig. 5, we see the armature H showing the collector ring I, the ball bearing J, and the end of the spindle carrying the sprocket or gear wheel which runs in a plain bearing. The right-hand picture shows the end plate fitted to the magneto, the high-tension terminal L, the carbon brush M which makes contact with the collector ring I (shown in the illustration below), and the lubricator wick N, which delivers the oil to the plain bearing above referred to. This end plate is hollow, and forms an oil reservoir, the oil being conveyed by capillary attraction through the wick N. The safety spark gap O is also clearly shown. The left-hand illustration depicts the contact breaker cover Q, which contains the condenser. This magneto is particularly efficient at low speeds, and produces an exceedingly hot spark. The whole magneto is a production worthy of Messrs. Eisemann.

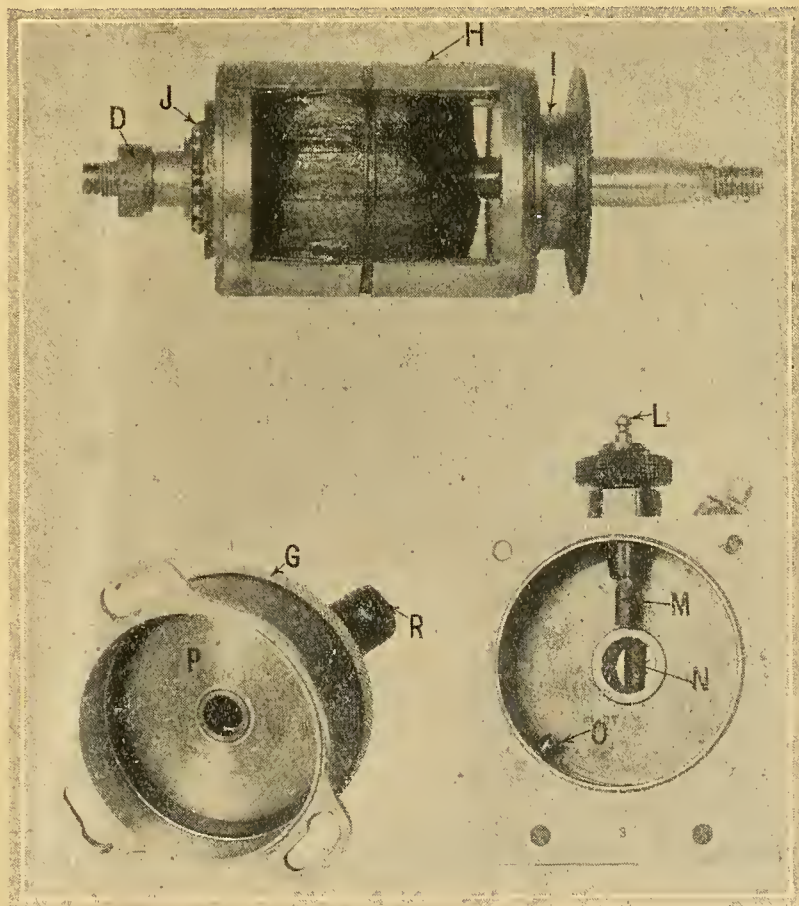


Fig. 5.

- D. Fibre ring.
- H. Armature.
- I. Collector ring.
- J. Ball bearing.
- L. High tension terminal.
- M. Carbon brush.
- N. Wick lubricator.
- O. Safety spark gap.
- P. Condenser.
- Q. Contact breaker cover containing condenser.
- R. Earth terminal.

Questions & Replies.

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, must be accompanied with a stamped addressed envelope for reply.

Air Adapter of Carburettor Loose.

? My engine, a $3\frac{1}{2}$ h.p. 1907 model Rex, overheats. The carburettor is Longuemare pattern, the choke tube of which is supplied in various sizes. This air adapter funnel merely stands over the airholes; it is not fixed in anyway, and is therefore free to jump up and down. The question is, would this movement of the adapter affect the mixture and so contribute to overheating?—B.A.H.

If the adapter is allowed any movement it will naturally upset the mixture to a large extent, but would not cause overheating unless the engine misfires. The adapter should be packed in firmly with the aid of a thin metal washer.

Detachable Air Tubes.

Q. I am riding a 5 h.p. Peugeot motor bicycle, and at present am using ordinary endless inner tubes. For convenience in puncture troubles I should like a detachable tube. Would you advise the change, and if so, what make would be most suitable?—A.B.

Detachable tubes are quite satisfactory, and very handy in case of a puncture or burst tyre, as it is unnecessary to take the back wheel out to replace a tube. The Rich and the Hermetic are the best known detachable tubes with a continuous air current. The makers of the former are the Rich Detachable Air Tube Co., Crawley, Sussex, and the latter the Self-sealing Rubber Co., Ltd., Ryland Street, Birmingham.

Fitting a Sidecar Attachment.

? I have a .6 h.p. Bat with J.A.P. engine, 3 to 1 gear. (1.) I propose, if possible, to fix a sidecar. What gear would you recommend me to use? (2.) Is it possible to fix a sidecar to a spring frame like the Bat has, and which type do you advise, rigid or flexible? (3.) Is it possible to fit Palmer cord tyres to my present standard rims?—J.R., Thornton Heath.

(1.) About $4\frac{1}{2}$ to 1 and a two-speed gear if you can manage it. (2.) Yes, a Bat spring frame would make no difference. Whether you fit a rigid or flexible sidecar depends on your own preference. Both are good, and have their advantages. If possible, try and obtain a trial with each pattern. (3.) No, the tyres in question will not fit your rims.

The Speed of Motor Cycle Engines.

? About 1,800 r.p.m. is often stated as the engine speed of a $3\frac{1}{2}$ h.p. engine. Does that mean 1,800 is the maximum number of revolutions that engine is capable of, or is this only what is called the normal number? When is an engine running at its normal number of r.p.m.? Also how can the maximum number of r.p.m. be obtained, and would it be safe and would the efficiency of an engine be increased if used at its maximum r.p.m. to aid in a hill-climb?—ANXIOUS.

1,800 r.p.m. is about the average number of revolutions at which the engine develops $3\frac{1}{2}$ h.p. It is often capable of acceleration up to 2,000 or 2,500, when it may for a short time develop as much as $4\frac{1}{2}$ h.p. An engine generally runs at its normal number of revolutions on a level road with the wind behind, spark well advanced, and throttle not quite half open. The maximum number of revolutions is, of course, obtained by opening the throttle to its fullest extent. The way to obtain the maximum revolutions of the engine is to see that everything is in order, and get the correct gear for the particular hill that you wish to climb, keeping the engine speed high.

Tricar Transmission.

? My tricar has a $\frac{7}{8}$ in. belt, and it does not last any length of time. Would it be advisable to fit a chain?—E.L., Skipton. The alteration to chain transmission will be expensive. Try a $1\frac{1}{8}$ in. belt, and fit an adjustable pulley and wider belt rim.

Pitting of Contact Points.

? I am riding a 7 h.p. Peugeot, and find same very destructive with the platinum points of contact breaker. When contact is broken the spark is not a mere bluish flame, such as I have seen on other motors I have possessed, but a most vicious spark, which at times might almost be described as a firework. I have quite recently had new platinum points fitted to blades at a cost of 10s. 6d., and they are already much pitted and burnt away. Do you think this is due to the coil (which is a plain one)? and if so, what remedy would you suggest?—H.J., Nottingham.

If the points are of genuine platinum or iridium, the trouble is due to the coil, the condenser of which is not working properly. If you continue to use a coil you had better buy the best that money can procure. A first-class coil should enable the platinum to last 1,000 miles without adjustment.



End-to-end Trials. Another view of the last bend on Berriedale. M. W. Randle's 10 h.p. Lagonda disappearing from view.



Often imitated!
Never equalled!
End to End run,
28 Awards
out of 42.
London-
Edinburgh.
37 Awards
including
M.C.C. Cup.

Note correct position of canvas core eliminating the faults of the cheap-class belt.

"I have noticed articles from time to time in *The Motor Cycle* as to the relative merits of leather and rubber belts, and several assertions that rubber belts are useless in wet weather on account of their slipping. As a user of rubber belts for the past two years on a high-powered machine, I can honestly say that I have never had the slightest delay in wet weather from a good rubber belt slipping. In the recent Land's End to John-o'-Groat's Reliability Trial, where there was an almost continued succession of rain and muddy roads, I used one Shamrock Gloria belt from beginning to end, and never had any trouble with the belt slipping, and I only took half an inch out of the belt in the entire journey. Although running continuously in mud and slush, the belt at the finish was as good as when I started out. Now certainly if anyone wants more than this they are very hard to please. I can only think that dissatisfied users of rubber belts have pulleys and belt rims fitted on their machines which are not of the correct angle or in line with each other.

"Yours truly, W. H. WELLS."

"I am very glad to say that the S.G. belt gave perfect satisfaction during the very severe conditions that were experienced. I would point out that its chief merit was that it was only a $\frac{3}{4}$ in. on a 5 h.p. machine. You can understand that owing to the conditions mentioned the belt came in for some exceptionally bad treatment, all of which it stood without calling for attention. I might mention that since above unfair treatment, the same belt has covered 700 miles, and yet shows very little signs of wear.

"Yours faithfully, ARCHIBALD J. SPROSTON."

"I have much pleasure in informing you that while using your Shamrock Gloria rubber belting on my N.S.U. motor cycle in the recent A.C.U. End-to-end Trials, I gained a gold medal with the loss of no marks. The belt gave me the greatest satisfaction, and is without doubt the best belt used for the purpose.

"Yours faithfully, S. W. CARTY."

The predominance of SHAMROCK-GLORIAS in all long distance runs is remarkable.

No doubt the S.G. Belt is again the most successful belt of the year.

SUTTON BANK.

2 Firsts and 2 Thirds.

Of grooved rubber belts S.G.'s. score exclusively.

BARNESLEY HILL CLIMB.

First and Second, also Fastest Time.

WALTHAMSTOW 100 Miles Run.

2 Non-Stops out of 3.

Mr. C. R. Collier lowers 5 MILE RECORD at Birmingham, using S. G. Belt.

SOLE MANUFACTURERS—

THE HANOVER RUBBER CO.,
29-31, Old Street, London, E.C.

The Leading Tyre for 1908.

End to
End Run.

17

Awards.



MADE
under
License.
Patent
No. 13457

London
to

Edinburgh

24

Awards.

Write for List.

All sizes 24in. and 26in. made. Beaded edge only.

Also 26in. by $1\frac{1}{4}$ in. for Lightweights.

Bands fitted to 26in. covers.

"I have much pleasure in informing you that I completed the End-to-end Trials on my 6 h.p. N.S.U. without losing a single mark, and gaining a gold medal. The Shamrock Excelsior studded tyre, which was fitted to my back wheel, was a perfect boon. There was not a sign of sideslip, even on the worst of roads, neither did I have a single puncture in the back wheel the whole run. The Shamrock Gloria belt was only shortened once, and did not give a moment's trouble, which speaks volumes for the quality of the same, taking into consideration that I was riding a 6 h.p. machine.

"Yours faithfully, M. GEIGER."

"I am pleased to inform you that in the Land's End to John-o'-Groat's Trial I got through without losing a single mark. I used one of your belts, a $\frac{3}{4}$ in. Shamrock Gloria, also I had one of your Shamrock Excelsior covers on my back wheel, which withstood the bad roads splendidly. I had not a single puncture, and have great pleasure in congratulating you on having such a splendid tyre. I might mention that I have used your belts for racing purposes as well as for touring for a considerable time. I also came home by road 550 miles."

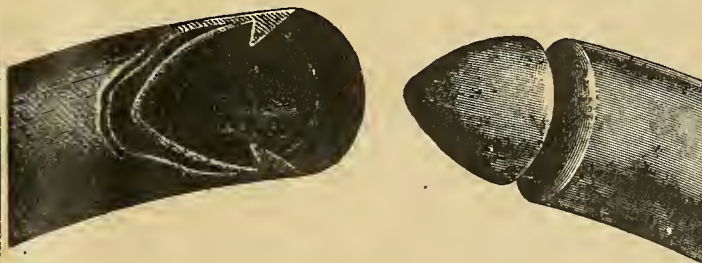
"Yours faithfully, P. H. COCKCROFT."

"You will be pleased to learn that in the recent End-to-end Competition I did not lose any marks, and have qualified for a gold medal. I was fortunate in not having a single puncture, and the two Shamrock Excelsior tyres stood up splendidly, and never were pumped up between Land's End and John-o'-Groat's. The Shamrock Gloria belts were also satisfactory.

"Yours faithfully, ARTHUR D. NICHOLSON."

"I have much pleasure in testifying to the good results gained by me in the End-to-end Reliability Trial by using one of your Shamrock Excelsior covers. I never had a single puncture all the way, the belt also answering satisfactorily. One of the successful competitors,

"ROBERT KING."



S.E. Butted Tubes are reliable, safe, simple, and easy to fit.

All sizes made.

S.G. and S.E. Specialities are obtainable of all factors.

India: F. B. Stewart & Son, Poona.

Sole Manufacturers:

THE HANOVER RUBBER CO.,
29-31, Old Street, LONDON, E.C.

July 20th, 1908.

Messrs. The N.S.U. Motor Co.

Gentlemen,—In the recent A.C.U. Land's End to John-o'-Groat's Reliability Trials I gained Gold Medal with the loss of no marks on my $3\frac{3}{4}$ h.p. N.S.U. (two-speed gear). I had a splendid ride in spite of continual rain and bad and greasy roads, the machine giving me every satisfaction. The two-speed was a source of joy to me, as I was able to climb hills and face head winds, using it where machines of greater horse-power and less total weight miserably failed.

(Signed), S. W. CARTY.

Things you ought to have .
N.S.U. non-skid device 3/6.
N.S.U. sparking plug.
N.S.U. belt fasteners.
N.S.U. two-speed gear.

Have you read it?

We published Mr. Carty's letter last week—probably you saw it. We repeat it this week not only to call your attention to the splendid performance of the N.S.U. but to point out to you the importance of the last paragraph.

The two-speed gear referred to in the letter is the N.S.U. Now it is well known that a machine fitted with a two-speed gear will climb hills better than one that is not. If the machine is the N.S.U. fitted with the N.S.U. two-speed gear, you can say goodbye to all future hill-climbing difficulties.

N.S.U.

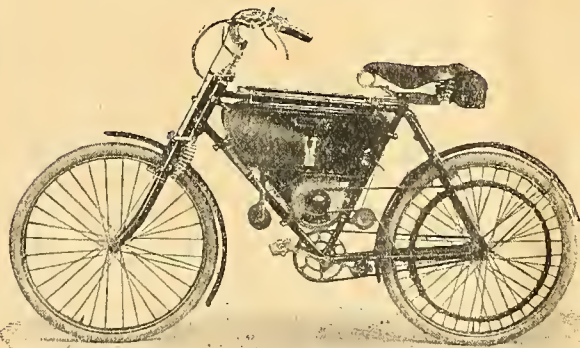
Models from
 $1\frac{1}{2}$ h p lightweight
to 6 h.p. Twin.

N.S.U. Motor Co., Ltd., 78, Charlotte St., London, W.

BRAVO

STILL THE LEADING LIGHTWEIGHT.

**LAND'S END TO JOHN-O'-GROAT'S
900 MILES.**



THE MOTOSACOCHE

was awarded a **BRONZE MEDAL.**

Further testimony to its all round efficiency.

Write for full particulars to:

**H. & A. DUFAUX (ENGLAND), LTD.,
65, HOLBORN VIADUCT, E.C.**

MOTOSACOCHE

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

Adjustments to obtain Slow Running.

My twin-cylinder machine is a real flier, but unfortunately it will not run slowly, that is at six miles an hour, unless I continually lift the exhaust valves. I would sacrifice a little speed in order to run slower in traffic, and shall be glad of advice as to what to do to make the engine run slowly. I may mention it has magneto ignition, automatic inlet valves, and Longuemare carburetter.—MICK.

I could either time the magneto a little slower or fit inlet valve springs of slightly weaker tension than those in use on the machine. These alterations would enable you to run over, and a still further improvement could be effected by careful adjustment of the carburetter and handle-bar cone. Try one size smaller air adapter spray, and note the difference.

The Winding of Magneto Armatures.

I should be pleased if you could answer the following questions with regard to a Bosch magneto, which I wish to re-wind: (1.) What gauge of wire is used for the primary, and how many layers? Also the gauge of the secondary? (2.) Are the layers of the secondary insulated in the same way as the layers of a coil, viz., with waxed paper? (3.) What is the longest spark that I may expect if the winding is a success? I have wound several spark coils with good results, so do not think that a magneto armature should be any more difficult.—H.J.S., Liverpool.

It would be absolutely inadvisable for you to attempt to wind the armature of a magneto. There are only a few expert workmen who can accomplish this, and special machinery is required. (2.) The exact quality and quantity of the wire is only known to the makers. (3.) A properly wired magneto armature should give a $\frac{1}{2}$ in. spark easily.

Route from North to South.

I wish to go to Bexhill-on-Sea, *via* Nottingham, and to miss London and as many large towns as possible. I shall be greatly obliged if you can tell me which is the best route for me to take? (3½ h.p. Phelon and Moore, two speeds.) I should also like to have a good route from Bexhill to Yeovil, and thence up again to Darlington, omitting Wales. I do not wish to do too long a run daily, and have plenty of time to do it in, and you can suggest reasonable breaks under these conditions I shall be glad.—G.D.W., Darlington.

Your best route would be as follows: Darlington, Northallerton, Boroughgate, Wetherby, Aberford, Doncaster, Worksop, Mansfield, Nottingham, Leicester, Northampton, Newport Pagnell, Woburn, Hockliffe, Dunstable, High Wycombe, Chesham, Slough, Windsor, Egham, Cobham, Leatherhead, Dorking, Horsham, Cowfold, Hurstpierpoint, Lewes, Polegate, and Bexhill. From Bexhill to Yeovil will be as follows: Bexhill, Pevensey, Lewes, Sturminster Newton, Partridge Green,

Billingshurst, Petworth, Midhurst, Petersfield, Winchester, Stockbridge, Salisbury, Shaftesbury, Sherborne, and Yeovil. From Yeovil to Darlington proceed as follows: Yeovil, Sparkford, Bruton, Frome, Bradford, Chippenham, Malmesbury, Cirencester, Burford, Chipping Norton, Banbury, Daventry, Kilsby, Catthorpe, Market Harborough, Corby, Weldon, Stamford, and then up the Great North Road to Darlington. You can easily arrange the breaks yourself. About 150 miles per day would be a suitable distance to cover.



R. Moore (3½ h.p. two-speed P. & M.), winner of a gold medal in the End-to-end Run. In four consecutive A.C.U. six days' trials, this rider has performed successfully.

How to Drive and Causes of Knocking.

(1.) Please say which of the following mixtures will heat my 3½ h.p. motor cycle engine the least. Smallest portion possible of gas, which will not allow any extra air, or a medium allowance of gas which will take half extra air. Will you please also enlighten me on the following: (2.) I take it knocking in an engine occurs when spark is advanced too far consistent with speed. Why should it occur when spark is quite retarded? I should also be glad to know the actual cause of the sound, and its probable effect on the engine if allowed to continue? (3.) What size jet and choke tube would you advise for summer riding? I am a nine stone rider, 3½ h.p. engine.—H.C.

(1.) The most economical way of running would be to drive on as little gas as possible, and use extra air if the engine will take it. (2.) Knocking may also be caused by too high compression and wear of the engine bearings. The higher the compression the more easily the charge is exploded, and if the cylinder is very hot the charge is often exploded independently of the spark. The cause of the sound of knocking is due to the explosion taking place before the piston has reached the top of the compression stroke. The ultimate result is excessive wear of the engine and connecting rod bearings. (3.) The correct size jet and choke tube can only be arrived at by experiment.

READERS' REPLIES.

Route to Scarborough.

The answer you give to an enquirer for the best route from London to Scarborough is not the best in my opinion. There is a small ferry across the river to Howden, and the approaches on both sides are bad; the road across the Yorkshire Wolds from Driffield is also very hilly. He should not go to Doncaster, but turn off the North Road at Bawtry, then by Thorne, Snaith, Selby, York, and Malton. I have ridden these routes on a push bicycle, so speak from experience.—YORKSHIRE TIKE.

The G. and A. Carburetter.

I have one of these on a 4½ h.p. twin Minerva, and I climbed Pebble Hill, gear about 4 to 1, weight of rider twelve stones, and rubber belt. My machine is a Chater-Lea No. 6 frame with 4½ h.p. engine. As for consumption of petrol, I have not really tested it, but with forecar attached I went to Brighton and back—about 115 miles—on two gallons. It is rather difficult to adjust, but when adjusted is O.K. By taking out two or three balls in hot weather one can cut down petrol consumption. For climbing hills I am certain an extra air slot on inlet pipe would be an advantage, for as the machine slows up there is not enough suction to lift the balls, and you are taking in nearly pure petrol, but for touring they are really good, especially in traffic, when after slowing down you have not got to grab at extra air lever to start again without misfiring. Can thoroughly recommend one. If "R.G.P." gets one I shall be pleased to give him a tip for adjusting same.—A. H. DOHERTY.

Difficulty in Starting.

In reply to "B.B." N.B., who complains of hard starting and inability to throttle down with a Longuemare carburetter on Phoenix Trimco. If this machine is fitted with a throttle of the butterfly or disc pattern, he will most probably find that the spindle of this has worn and got considerable play, and thus allows a large leakage of air into the inlet pipe. In your reply you advise fitting a smaller choke tube, and this would certainly facilitate starting and slow running, but I should advise him to see if the above defect exists first, and if so to remedy it, when I think his trouble will vanish. The query of "H.H." Chiswick, also reads as if his machine suffered from the same defect. I have been troubled in the same way myself with a twin Rex, and have seen the same fault on various machines, one only recently. The owner complained of hard starting, difficulty in slow running, and high consumption, and I am sure there are scores of machines with this form of throttle. They may be remedied either by truing the hole and fitting a new spindle, or a good makeshift is to get a stout piece of leather and bind round the pipe with wire and fit the old spindle through the leather. This will last even longer than metal, but is rather unsightly. A new throttle disc will also probably be required, as the old one will be worn inside the pipe.—H.K.

HINTS AND TIPS FOR MOTOR CYCLISTS. By Road Rider

(Continued from page 602.)

MISFIRES (CONTINUED).**2. MISFIRES AT SPEED.**

All the previously mentioned troubles will be noticed most at speed.

Mixture can now be tested by altering air lever.

Trembler needs firmer adjustment—most probable solution.

Valve sticking.

Wiper of contact maker jumping its segment.

Spark plug sooty, or too wide a gap at points.

Carburettor drained dry of petrol.

3. OCCASIONAL MISFIRES.

Pre-ignition through hot particle in cylinder.

Moving some part of machine, such as timing lever, sets up a short circuit in a particular position.

Small particle of dirt in carburettor.

Fragment of carbon on plug points.

Exhaust or inlet valve momentarily sticking up.

Loose dirt or dirty oil in contact breaker.

Swinging wire, or loose packing of coil and batteries.

4. MISFIRES SOON AFTER STARTING.

Plug developing fault when warmed.

Batteries running down.

Valve distorted with heat, or too tight a fit in guide, and so sticking.

Note.—With a high tension magneto, always suspect the sparking plug as the most likely culprit for misfires; with a trembler coil, suspect the coil trembler first; with a plain coil, suspect the make and break contacts.

METALLIC NOISES.

247. An unaccustomed metallic noise in the engine should fetch the rider to a standstill faster than the raised hand of a policeman, and under no circumstances should he proceed till the cause of the noise is found and removed. It is almost certain to be due to under-lubrication, and if oil is injected and worked into the parts by revolving the engine by hand or foot, the noise will probably cease.

OVERHEATING.

248. A motor cyclist is prone to accuse his engine of overheating whenever it misbehaves and simultaneously runs rather warm. Real overheating is the rarest thing in the world, but some of the following are frequently mistaken for it:

1. A choked exhaust, due to weak exhaust valve spring, dirty silencer, narrow or much-bended exhaust pipe, wear on valve cam, camshaft, valve tappet, wrong timing of exhaust valve, and movement of adjustable tappet.

2. Failure of lubrication through pump going amiss, through too much web on top of crankcase, choking of an oilway, stoppage of pipe, use of unsuitable or counterfeited oil, loss of drain tap, over driving the engine without extra lubricating, and forgetfulness to oil up.

3. Collection of carbon on piston head and cylinder, which raises compression.

4. Too high a gear (very common when overheating is supposed to occur only on hills).

5. Too rich a mixture, causing engine to get too hot, and so preventing lubrication.

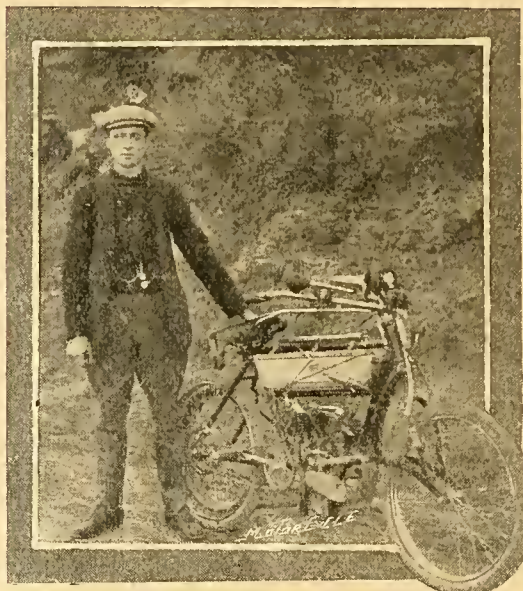
6. Pre-ignition through a particle of metal, porcelain, carbon, or rough edge on casting getting incandescent, and causing engine to fire early or to continue firing when switch is off. Sparking plug insulation may fail altogether.

7. Ignition too far retarded for speed of engine and work it has to do.

8. Failure of water system by pump stoppage, choked tubes, dirty radiators; inefficient cooling by air flanges owing to encrusted mud and oil.

9. Very tight piston rings, or connecting rod or crankshaft bearings; valve expanding and sticking in guide; valve expanding and fouling tappet when tappet is down.

10. Overdriving the engine for long periods on a very low gear.



C. G. Hogan (twin Vindee) first on handicap and fastest time, in the first motor cycle hill-climb held in South Tasmania on May 30th.

REMOVING TIMING GEAR.

249. When compelled to dismount the timing gear of the valves or ignition, the trouble of re-timing in the event of the pinions being unmarked is easily avoided by gently prising the cover away from its joint, and then holding wheels in mesh with a wire or spoke before cover is lifted off. If the wheels are not stamped for re-engagement, they may now be stamped with punch or marked with a file before they are disturbed.

RUSTY RIMS.

250. Rust between the beads of the rim is a deadly foe to the tyres. Once or twice in a season the rims should be bared and sandpapered clean. A coat of enamel may then be given.

SHORT CIRCUITS.

251. "Shorts" may be due to grease, metallic contact, or broken wires. The commonest forms are due to a wire chafing through where it runs close to the tank or frame. The apertures in accumulator box should always

be large, and the wire should have double protection where it issues from them. Until expert enough to trace shorts by the eye, always carry a length of bell wire, and if no spark is found at the contact breaker or the sparking plug, detach each piece of wire in turn and replace by the length of bell wire temporarily; then see if the errand spark has returned. This is the sure and shortest method for novices, but machine be at all new it is fair to be certain to arise from a loose wire terminal.

Avoid frayed strands of wire at connections, which may touch other terminals.

Avoid small and flimsy switches, which shorts are very common.

A blow on cover of contact breaker will often cause a short; notice if cover be dented.

Keep wire as short as possible, and if possible run all wires inside rubber tubes slipped over them.

Water on switch, contact breaker, exterior of magneto is a sure conveyor of shorts if on the right place.

Cheap low tension wire often snags under its insulation, and should be avoided.

If a very tricky spasmodic short occurs, a sure test is to watch for it with machine running on stand in darkness. It is likely to be inside the coil box. High tension wiring becomes porous in time, and the current will leap through it to any adjacent metal.

SOLDERING.

252. Every motor cyclist who does not know how to solder should teach himself. Neat pocket cases may be had for a couple of shillings containing spirit, solder, iron, and an automatic blow lamp.

SPRINGS FOR AUTOMATIC INLET VALVES.

253. The opening of an automatic inlet valve has a greater bearing on the running of the engine than the spring, and is usually set to open too far. 3-32in. or even 1-16in. is usually right. The spring may for speed events be as strong as the engine will start on, i.e. if the spring be so strong that the engine cannot suck it open when the machine is pushed to start it, a slightly weaker spring must be fitted. With twin-cylinder engines press the stems of the two valves together, and adjust springs so that both valves open simultaneously.

TESTING SPARKING PLUGS.

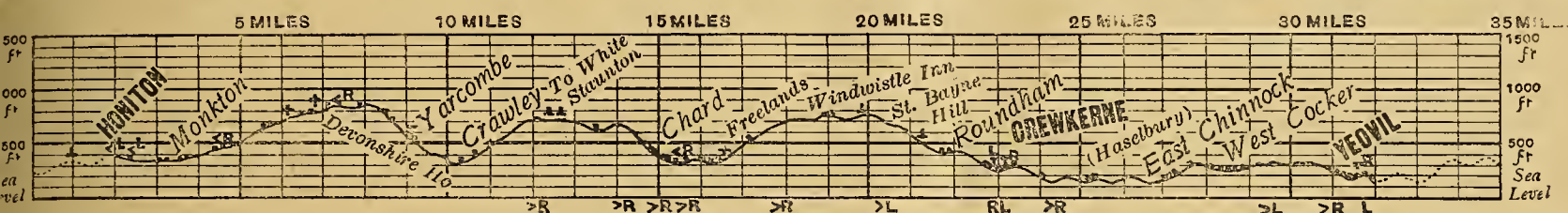
254. No sight is commoner than that of an irate motor cyclist testing his exposed sparking plugs for sparks. He puts them on the cylinder head while he breaks or makes contact, and they roll off; he holds the wire with one hand, and takes a healthy shock. It is the simplest thing in the world to bolt a light iron bracket to the engine with a drop hole to catch plug body in such a position that the plug is comfortably supported with its head to frame contact.

(To be continued.)

A.C.U. TWENTY-FOUR HOURS RIDE.

THE annual twenty-four hours run from London to Plymouth and back—a distance of about 420 miles—will start from the Angel Hotel, Thames Ditton, on Friday, August 7th, at 9 p.m., and the route followed will be *via* Guildford, Salisbury,

the time allowed being 1h. 32m. each way, and competitors who arrive within three minutes either in advance of or behind this time will qualify for a gold medal, provided the performance on the other part of the journey merits it. Those competitors who com-

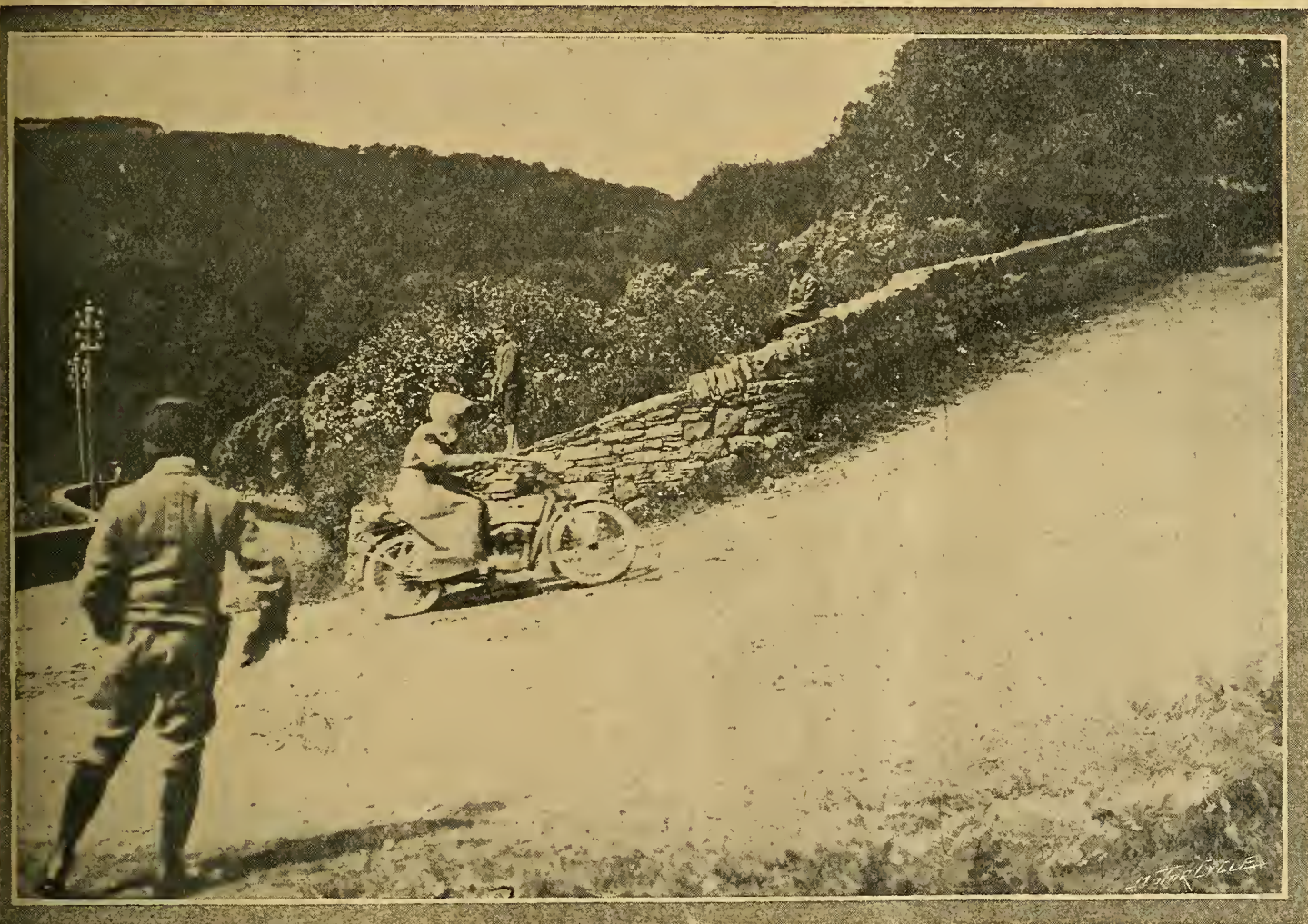


Reproduced from the Contour Road Book of England by permission of Messrs. Gall and Inglis.

veovil, Honiton, Crewkerne, Exeter, Ivybridge, Plymouth, and the reverse for the return journey. Between veovil and Honiton (see contour section reproduced) there will be a timed test, outwards and homewards,

plete the journey but fail to ride the timed section within the limits allowed will qualify for a silver medal.

Mr. G. H. Levick has kindly offered to present three silver cups in connection with this run.



End-to-end Trials. Some idea of the severity of Berriedale Hill can be gained from this illustration showing Miss Hind negotiating the last bend of the hill on her twin Rex.

Will readers kindly note that the telegraphic address of the Dunlop Tyre Co. is not "Pneumatic," Birmingham, but "Covers," Birmingham?

The Moto-Rêve Company write: "With reference to the table of results (pages 600-602) given in last week's issue of *The Motor Cycle*, we would like to bring to your notice the fact that the Moto-Rêve which was ridden by W. Smith did not retire on account of broken works, as reported. He had no trouble whatsoever with these or with any other portion of his machine until about eighteen miles from Inverness. Up to this point we are given to understand that he had not lost a single mark. A portion of a sparking plug when broke (the star portion), and, falling into the cylinder, caused breakage of the latter and his consequent retirement."

Brown Bros., Ltd., Great Eastern Street, E.C., inform us that they have in stock a few shop-soiled, but otherwise perfectly new, Brown motor bicycles with coil and accumulator ignition, which are being offered at exceptionally low prices.

Mr. J. N. Taylor, of Adelaide, has just been presented by the Automobile Club of South Australia with a certificate for a fifty-two miles reliability and speed-judging competition. The contest was over all classes of road, up and down hill, the competitors having to ride throughout at a pace of eighteen miles per hour. This was a very difficult matter, there being no mileposts, no watches being allowed, and the competitors, who did not know the time when they started, were forbidden to enquire *en route*. Mr. Taylor's performance was achieved on a $2\frac{3}{4}$ h.p. Minerva motor cycle.

CURRENT CHAT

Sydney
R. Jones 1908

Open Hill-climb at Newnham.

Entries for the Coventry M.C. open hill-climb at Newnham, Daventry, on August 15th, close on Saturday next, the 8th inst. Already a good number has been received.

Germany's Trade in Motor Cycles.

During the first five months of 1908 Germany exported motor cycles weighing 67,600 kilos., as against 92,500 kilos. during a like period in 1907. Exports to Holland and Denmark dropped, while Great Britain took 22,400 kilos. in lieu of 18,500 kilos. Germany imported 12,100 kilos., the bulk coming from Belgium. Austria-Hungary sending across 1,900 kilos.

Great Orme's Head Climbed.

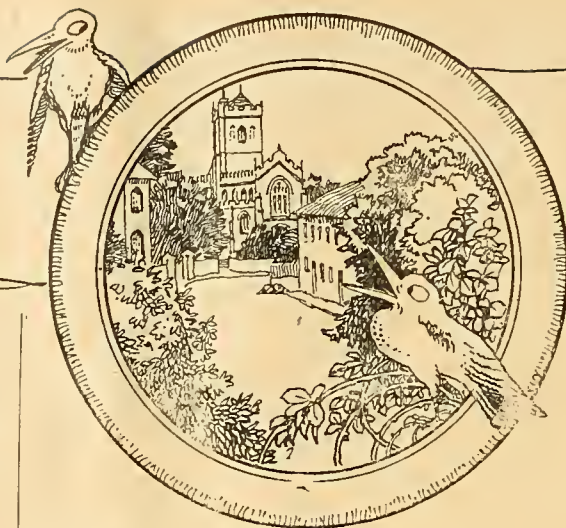
Great Orme's Head, Llandudno, was climbed on Monday of last week by Councillor W. D. Coddington, of Southport, driving a 60 h.p. car. We understand Mr. R. C. Griesbach, a motor cyclist who was staying at Llandudno, afterwards had a try on his 3½ h.p. 1908 Triumph, and made two ascents without a stop, this with a gear of 5½ to 1. This is not the first occasion on which the Orme has been scaled on a motor cycle, as Mr. J. Edge, of Liverpool, two or three years ago accomplished a similar feat. Great Orme rises 700 feet above the sea level, the average gradient for half a mile is 1 in 5, and then after a sharp turn the gradient for eighty yards is said to be 1 in 3½. The last 200 yards is trackless, lumpy turf, and strewn with large stones. Quite a number of visitors witnessed the ascents.

Racy-looking Motor Cycles.

A reader tells us that it is not always advisable to make a machine look racy in appearance. The police in his district are keeping a most vigilant eye upon him, merely because he has had one or two alterations made to his machine which have made it look somewhat racy, whereas it is not so by any means.

The Late Mr. Cecil Edge.

We regret to have to record the death of Mr. Cecil Edge, cousin of Mr. S. F. Edge. Mr. Cecil Edge had been ailing for some considerable time with a serious chest complaint, and he passed away on Monday evening of last week. He was at one time a very successful motor cyclist, and won many events on single track machines. In the first 1,000 miles trials he occupied the front seat of an Ariel quadricycle driven by Mr. J. W. Stocks. Latterly, he has been closely connected with the business of the Napier Co.



Motor Union Provincial Dinner.

The Motor Union eleventh provincial dinner was held at the Hotel Majestic, Harrogate, on the 25th ult., the chair being taken by Mr. E. H. Heppie, chairman of the Yorkshire A.C., supported by the Mayor of Harrogate and several other influential Northern motorists. The chairman of the Motor Union, Mr. Joynson-Hicks, M.P., was prevented from attending owing to the late sitting of the House.

Special Features

SOME EXPERIMENTS WITH CRANK-CASE COMPRESSION.

HOLIDAY EVENTS (ILLUSTRATED).

costs, his speed being 24½ miles per hour. Is there any justice in these two decisions? What excuse the judges can have for inflicting such unproportionate fines it is difficult to say. If they have been reversed probably there would have been less surprise on either side. What a pity these cases do not receive more intelligent consideration.

Motor Cycling A.A. Scouts.

In *The Motor Cycle* of the 22nd ult. we remarked upon the inefficient scouting on the Maidstone and Sevenoaks Roads where the police are active. In the *Daily Telegraph* of the following Saturday the following advertisement appeared: "Motor cyclists.—The Automobile Association has a few vacancies for smart, intelligent men, of good class, riding their own machines.—Apply with full particulars, make, h.p., experience, etc., letters only, A.A., Prince's Buildings, Coventry Street, W." Undoubtedly the motor cycle mounted scout and inspector will be at a big advantage. We are confident that the Kent authorities will give the scouts their assistance, if not leave the control of motor traffic entirely in their hands. A motor cyclist of experience, thoroughly acquainted with Kent roads, has offered his services. The new move of the A.A. should effectually check excessive speeding, as road hogs will not be able to escape the scout mounted on a good motor bicycle. As most of our readers know, American police are used by

for the suppression of furious driving.

Road Race in France.

The Motor Cycle Club of Lyons held a road race on the 26th ult. over a distance of 192 kilometres. The course was forty-eight kilometres in length, and had to be covered four times. The winner rode a Magnat-Debon 2¾ h.p. motor bicycle, and completed the course in 4h. 24m., the second and third successful competitors rode similar machines. To show the difference between reliability and pure speed Dravoub, on a Peugeot motor bicycle, covered one lap of the course in 55m., but was only placed fourth in the actual contest. Dravoub's speed is equal to 32¾ miles per hour. The winner's time is equal to an average of 27¼ miles per hour over the whole distance.

FUTURE EVENTS.

- Aug. 7—A.C.U. 24 Hours' Ride London to Plymouth and back.
- " 8—Essex M.C. Open Race Meeting for Motor Cycles at the Stadium.
- " 15—Coventry M.C. Open Hill Climb for Motor Bicycles and Passenger Motor Cycles at Newnham Hill, Daventry.
- " 21-22—Motor Cycle Union of Ireland Open 400 Miles Reliability Trials for the Muratti Trophy.
- " 22—A.C.U. Annual Race Meeting at the new Stadium, Shepherd's Bush.
- " 22—General Inter-club Meet of Motor Cyclists at Stratford-on-Avon, organised by the Birmingham M.C.C.
- " 29—Essex M.C. Open 200 Miles Non-stop Run for Motor Cycles.
- Sep. 12—Motor Cycling Club Petrol Consumption Tests.
- " 23—The International Auto Cycle Tourist Trophy Race in the Isle of Man.
- " —Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.
- Oct. 3—A.C.U. Council Meeting at Warwick.
- Nov. 20-28—Thirty-second Annual Stanley Show.

Essex M.C. Race Meeting at the Stadium.

On Saturday next, at the Stadium, the first purely motor cycle meeting will be held at this up-to-date track. This is the third annual meeting of the Essex M.C., and nearly all the cracks in the motor cycle world will compete. In addition to the events already mentioned, attempts will be made on the mile and ten miles records.

Another Case of Injustice.

The Northern Police Court (Dublin) about six weeks ago fined a motor cyclist £10 for exceeding the speed limit in the Phoenix Park, and £2 10s. on each of two other counts. Last week, for the same offence, a car driver, having the luck to appear before a different judge, was fined 1s. and 3s. 5d.

Police Traps.

Fines amounting to £51 12s. 8d. were imposed in one day by the Dorking Bench on motorists and motor cyclists for exceeding the speed limit at Mickleham.

There is a measured mile near Swansea, on Fairwood Common (the Port Eynon Road), Gower, Glamorganshire, and a four miles trap on the Pontardulais Road, worked from the Pentleagaer Police Station to the Pontardulais Police Station.

Crystal Palace Race Meeting.

On Bank Holiday Monday, the Anerley B.C. included four events for motor cycles at its race meeting at the Crystal Palace. The results were: Five miles handicap—1, H. A. Collier ($3\frac{1}{2}$ h.p. Matchless), scratch; 2, J. E. Bailey ($2\frac{3}{4}$ h.p. Eland), 20s. start; 3, R. G. Dendy ($3\frac{1}{2}$ h.p. Brown), 15s. Winner's time, 7m. 11 $\frac{1}{2}$ s. A mile match between R. G. Dendy (5s. start) and H. A. Collier was won by the latter in 1m. 39 $\frac{1}{2}$ s. Three miles match—1, R. G. Dendy (15s. start); 2, H. A. Collier (scratch). Won by four lengths. Time, 5m. 26s. Five miles match—1, H. A. Collier (scratch); 2, R. G. Dendy (25s. start). Time, 7m. 9 $\frac{1}{2}$ s.

M.C.U.I. (Dublin Centre).

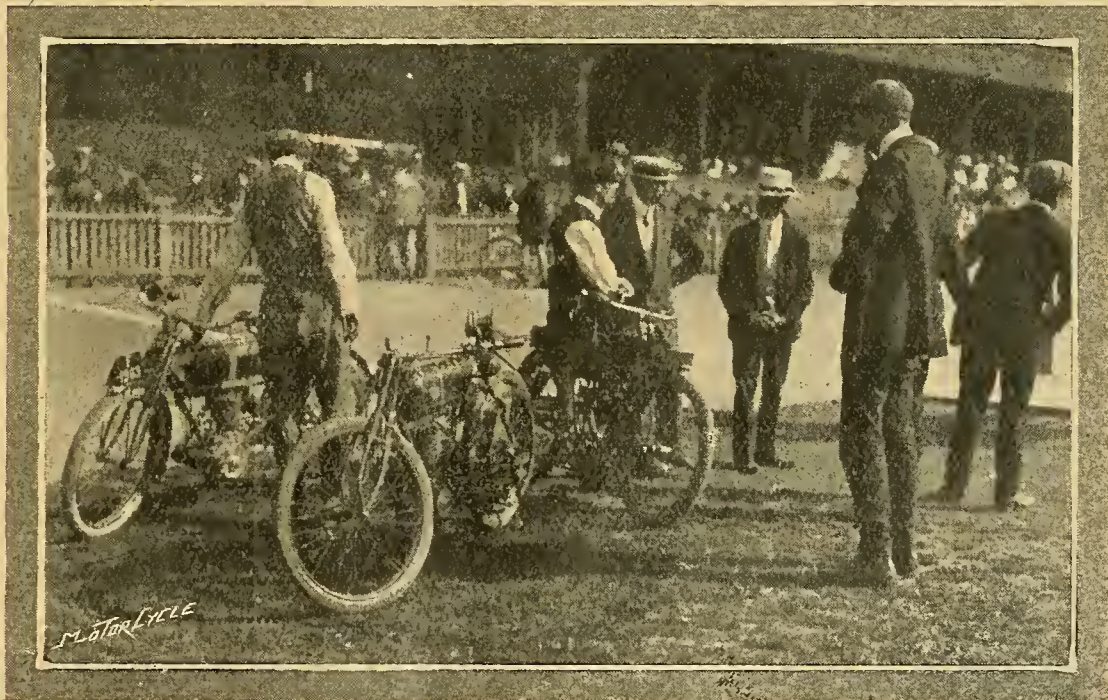
On Saturday afternoon last the members of the Dublin Centre of the Motor Cycle Union of Ireland held a hill-climbing competition on the hill leading from Kilmacanogue, Co. Wicklow, over the shoulder of the Great Sugarloaf, to the top of Calary bog. The weather was fine, and there was a large gathering of motor cyclists to witness the competition. As usual, there were two classes; in the first pedalling was allowed, while in the second it was barred except for the first 100 yards. The results were determined on a formula in which the weight of the machine and driver, the horse-power, and the time taken were the factors. Both classes were won by R. Walshe, and as the appended details will show, the placings in each class

were the same. Pedalling class.—R. Walshe (80 by 60 J.A.P.), 245 points, 1; D. Gill (85 by 76 J.A.P.), 247, 2; R. Dunphy (85 by 76 J.A.P.), 252, 3; H. Quinn (75 by 80 Triumph), 289, 4; P. Hurse (75 by 75 Peugeot), 337, 5; C. B. Franklin (82 by 85 twin Minerva), 350, 6. Non-pedalling class.—R. Walshe (85 by 60 J.A.P.), 231, 1; D. Gill (85 by 76 J.A.P.), 236, 2; R. Dunphy (85 by 76 J.A.P.), 241, 3; P. Hurse (75 by 75 Peugeot), 40, 4; C. B. Franklin (82 by 85 twin Minerva), 340, 5. Mr. J. A. Armstrong, the hon. sec., timed at the foot of the hill, and Mr. N. E. Drury, the assistant hon. sec., acted at the top.

The A.C.U. Defends a Motor Cyclist.

On behalf of the Motor Union, Mr. Maddocks, solicitor, Coventry, attended the hearing of a summons at Southam (Warwickshire) against Mr. W. G. McMinnies for exceeding the speed limit. This was a case where two

riders entered a measured distance with about ten or twelve yards between them, and came out of it in the same position. The first two constables in cross-examination admitted that neither of them had actually timed the defendant, who was behind, and only gave evidence as to speed, one of them stating that Mr. McMinnies was travelling very fast. The third constable only gave evidence as to signalling when Mr. Molyneux (the first rider) came past him, and admitted that he gave no signal respecting the defendant. It was contended that there was no evidence whatever of timing, and that the only ground upon which the magistrates could convict was that of the witnesses as to speed. As only one constable had spoken as to speed, the provision made by Section 9 applied, namely, that no person can be convicted on the evidence of one witness alone. After some deliberation the justices dismissed the case.



Anerley B.C. Race Meeting at the Crystal Palace. Ready for the Five Miles Open Handicap, won by H. A. Collier ($3\frac{1}{2}$ h.p. Matchless), in 7min. 11 $\frac{1}{2}$ secs.

M.U. MOTOR CYCLE NOTES.

The secretary informs us that judged by the number of applications received by the Motor Union the new scheme of membership for motor cyclists "fills the bill." The insurance arrangements appear to be particularly appreciated.

The M.U. has sent the following letter to a number of motor cycle clubs: "As you will be aware, the agreement that has been entered into by the Motor Union with the A.C.U. terminates the arrangements under which members of clubs affiliated to the A.C.U. were also members of the Motor Union. The connection which previously existed between your club and the Motor Union has, therefore, ceased. It is very possible, however, that there are many individual members of your club who wish to continue their connection with the Motor Union by joining it in an individual capacity. I enclose you herewith a new prospectus which the Motor Union has prepared for individual motor cyclists, and ask the assistance of yourself and your committee in bringing it to the attention of your members. Although official relations have been terminated the Motor Union at any time will be very glad to render your club any assistance in its power, and to do what it can to further the motor cycle movement in your district. This co-operation will be rendered more complete if there is a considerable number of motor cyclists who are members both of your club and the Motor Union."

The address of the secretary is 1, Albermarle Street, W.

A.C.U. TWENTY-FOUR HOURS' RIDE.

The following entries have been received for this event, which starts on Friday next, August 7th, at 9 p.m., from Thames Ditton.

H. G. Cove ($3\frac{1}{2}$ h.p. H.G.C.), H. M. Bentley ($3\frac{1}{2}$ h.p. Triumph), A. W. Bentley ($3\frac{1}{2}$ h.p. Triumph), W. O. Bentley (5 h.p. Rex), H. V. Davidson, jun. ($3\frac{1}{2}$ h.p. Zenette), F. C. Wood (6 h.p. N.S.U. with sidecar), C. H. Barfield ($3\frac{1}{2}$ h.p. Triumph), W. H. Bashall ($3\frac{1}{2}$ h.p. Triumph), W. Pratt ($3\frac{1}{2}$ h.p. L.M.C.), E. W. Ashworth (7 h.p. Minerva), E. Nelson (5 h.p. Rex), M. Geiger (6 h.p. N.S.U. with sidecar), G. E. Purchase ($3\frac{1}{2}$ h.p. Triumph), A. Stanley Phillips (5 h.p. Vindec Special), Eli Clark ($2\frac{3}{4}$ h.p. Douglas), W. W. Douglas ($2\frac{3}{4}$ h.p. Douglas), W. Smith (2 h.p. Moto-Rève), Gordon Fletcher (2 h.p. Moto-Rève), F. Toman (5 h.p. Laurin and Klement), W. E. Burkin ($2\frac{3}{4}$ h.p. Laurin and Klement), H. A. Cooper (3 h.p. Triumph), F. Hansford (5 h.p. Vindec Special), F. Cozens (10 h.p. Lagonda Tricar), F. W. Applebee (5 h.p. Rex), F. Applebee, jun. ($3\frac{1}{2}$ h.p. Rex), O. C. Godfrey ($3\frac{1}{2}$ h.p. Rex), O. Von Saal (5 $\frac{1}{2}$ h.p. Phänomen and sidecar), F. W. Barnes ($3\frac{1}{2}$ h.p. Zenette), and W. J. Newman (4 h.p. Roc).

Our Advertisement Department desires us to notify advertisers in the "Miscellaneous Advertisement" columns that, owing to the August Bank Holidays, all advertisements received after Thursday last have been unavoidably held over until the next issue.

M.C.C. London to Land's End and Back Run.

GLORIOUS weather favoured the start of the Motor Cycling Club's run from the Berkeley Arms Hotel, Cranford Bridge, near Hounslow, at 4 a.m., on Monday last, when the first of twenty-one riders was dispatched on the journey to Land's End and back, in competition for the Jarrott Cup. The other twenty competitors were started at intervals of two minutes. Mr. Charles Jarrott, the donor of the cup, and an erstwhile enthusiastic motor cyclist, was unable to be present, but sent a large car to carry the observers over the route. The officials on the programme were: Starter, W. H. Wells; timekeeper, F. T. Bidlake; sealer, Dr. Gibbons; travelling marshals, E. B. Dickson, F. J. Jenkins, R. H. Head, W. H. Wells, and Dr. Gibbons.

The starters were as follows: E. Gwynne (5 h.p. Vindec), G. Rowden (4 h.p. Jap), H. Myer (3½ h.p. Rex), C. C. Cooke (3½ h.p. Triumph), O. Summers (5 h.p. Vindec), Walter W. Adam (3½ h.p. Triumph), H. G. Bell (3½ h.p. Triumph), A. Sproston (5 h.p. Rex), D. S. Baddeley (5 h.p. Baddeley), C. Lacey (3½ h.p. F.N.), R. Clark (5 h.p. Fafnir), S. G. Frost (4½ h.p. Minerva), G. Fletcher (2 h.p. Moto-Rêve), W. Smith (2 h.p. Moto-Rêve), A. Bentley (3½ h.p. Triumph), W. Bentley (5 h.p. Rex), J. O. Dixon (5 h.p. Vindec), J. Winslow (5 h.p. Rex), V. Olsson (5 h.p. Vindec), H. Dougal (5 h.p. Vindec), and F. G. Smith (3½ h.p. Triumph).

The only non-starters were: H. Beasley (5 h.p. Rex), C. Seed (5 h.p. Vindec), L. A. Baddeley (3 h.p. Baddeley), W. H. Wells (5 h.p. Vindec), and A. S. Phillips (5 h.p. Vindec).

The route was by way of Staines, Bagshot, Basingstoke, Andover, Salisbury, Yeovil, Honiton, Exeter, Okehampton, Launceston, Bodmin, Redruth, and Pen-

Mist was encountered at Camborne (254½ miles); otherwise the weather was fine. The roads in many places were suffering from drought, and were consequently loose and stony, and many punctures were



Competitors in the M.C.C. Run en route for Land's End passing through Basingstoke at 5.30 a.m. on Monday last. The rider in the foreground is Arthur W. Bentley, the End-to-end record holder, who is contemplating further doughty deeds on his Triumph.

experienced. The order of arrival at Penzance on the return from Land's End was as follows: Gwynne, Summers, Bell, Adams, Frost, Baddeley, Lacey, Cooke, Dixon, Dougal, Smith, Sproston, Olsson, Fletcher, W. Bentley, A. Bentley, and W. Smith. The first competitor arrived at 7.42 p.m., the second at 7.46 p.m., the third and fourth together at 7.50 p.m., and the last at 8.53 p.m.

The return journey was made on Tuesday.

Position of the Magneto.

The frightful roads and weather encountered by the End-to-end riders in the later stages of their very trying run had a natural result. More than half of the riders were hung up more or less often with magneto troubles. Ninety per cent. of present-day machines carry the magneto low down on a tiny platform forward of the crank case. If the front mudguard has a big flap, it is quite inadequate to protect the magneto from the swish of water when the machine drops into a flooded pothole or rips through a pool. If covers are used, they are by no means impervious to water from above or beneath, and they are awkward to detach when the contact breaker needs a wipe over or a high-tension lead springs off its terminal. On the other hand, I have quite as strong a dislike to carrying the magneto in the tank. It spells unnecessary weight and an undesirable reduction of tank capacity. I don't think there is the least doubt that the Roc and Quadrant people are on the right track when they set their magnetos on a platform abaft the engine, high enough up to dodge the splashes, and sufficiently far away from the cylinder to be safe from heat. At any rate, I know a number of motor cyclists who would have given all they were worth in Scotland to have had magnetos so situated on their machines, and to this many a Colonial rider will ejaculate a stentorian "Hear, hear!"

IXION.



The M.C.C. London to Land's End and Back Run for the Jarrott Cup. Starting competitors from the Berkeley Arms, Cranford Bridge, at 4 a.m., August 3rd. F. T. Bidlake, official timekeeper, despatching O. Summers (5 h.p. Vindec) and W. W. Adams (3½ h.p. Triumph).

zance. a distance of 267¾ miles. Another ten miles took the riders to Land's End, where the first competitor was scheduled to arrive at 7.7 p.m., and the return to Penzance was immediately made, a stop of about eight and a half hours being allowed at the latter place.

CLUB NEWS.

Richmond and District M.C.C.

The picnic at Newlands Corner was thoroughly enjoyed by all present. A hill-climb on the same day was won by E. P. Lewis (5 h.p. Rex); 2, F. C. Wood (5 h.p. N.S.U. fitted with decar); 3, K. Lankester (9 h.p. Riley tricar). The president, the Marquis de Mouzilly St. Mars, has offered a challenge trophy for competition among members, and it has been decided to hold a reliability trial on August 5th and 16th, of about 150 to 200 miles, and that, in addition, medals shall be given to the winners. Entry forms can be obtained from Mr. H. C. King, hon. sec., Walton House, Surbiton Road, Kingston-on-Thames.

S.E. Auto Cycle Association.

The penalty run last Saturday was a great success, the following gaining full marks, having no mechanical trouble at all: H. A. Cooper, C. W. Evans, W. B. Whitaker, H. Gould, R. Boxer, and F. Munzing. Passenger class—W. Timms and the hon. sec. (H. B. Renner), who drove his h.p. tricar. Mr. Julian Orde, of the R.A.C., has accepted the office of president of the Association, and Mr. S. F. Edge vice-president. Full particulars of open hill-climb and light car trial can be had on application to the Hon. Sec., 31, Kidbrook Park Road, Blackheath, S.E.

Coventry M.C.

Entries for the open hill-climb at Newnham, near Daventry, will be accepted up to the first post on Monday, the 10th inst. It is likely that the complete list will be larger than in the case of the hill-climbing events held in 1906 and 1907. This year six classes have been included, embodying all types of motor bicycles and passenger machines at present in use. Further particulars and entry forms can be obtained from the trials hon. sec., Mr. W. F. Grew, 19, Hertford Street, Coventry. Messrs. W. H. Bashall (6 h.p. twin Jap), Guy Lee-Evans (5 h.p. Rex), Gordon Gibson (3½ h.p. Triumph), C. S. Burney (5 h.p. De Havilland), Geoffrey Smith (3½ h.p. Triumph), H. Tessier (6 h.p. Bat-Jap), C. A. Palmer (5 h.p. two-speed Roc), W. Newman (3½ h.p. two-speed Roc), J. Marshall (5 h.p. Triumph), and several others have already entered.

Barnoldswick M.C.

A successful hill-climbing competition was held at Salterforth Lane—a hill about half a mile in length, the steepest gradient of which is 1 in 9. Two thousand persons witnessed the competition. The results were worked out on the A.C.U. formula, and are as follows:

Rider and machine.		Time.
J. Windle (local make engine)	...	1m. 22½s.
F. Perry (2½ h.p. F.N.)	...	1m. 15½s.
W. Holden (2½ h.p. F.N.)	...	1m. 15½s.
H. Nutter (3½ h.p. Triumph)	...	56½s.
R. Nutter (3½ h.p. Triumph)	...	58½s.
P. Brown (2½ h.p. Bradbury)	...	1m. 21½s.
S. Wormwell (5 h.p. Vindec)	...	58½s.
J. Lomax (3½ h.p. N.S.U.)	...	1m. 15½s.
A. T. Elmer (8 h.p. Rexette)	...	2m. 22s.

The starter was J. T. Butterworth; timekeeper, F. Baldwin, with the assistance of H. Strickland.

Bolton and District M.C.C.

The above club held a speed-judgment contest on July 5th, the distance being two miles at a speed of eighteen miles an hour. The result was:

1. P. Yates (2½ h.p. F.N.)	...	6s. fast
2. A. Richards (2½ h.p. Minerva)	...	22s. "
3. J. Green (4½ h.p. Minerva)	...	36s. "
4. H. Holt (4 h.p. Roc)	...	1m. 13s. slow
5. J. Foster (3½ h.p. Triumph)	...	1m. 15s. "
6. J. Fishwick (6 h.p. N.S.U.)	...	1m. 48s. "
7. A. J. Moorhouse (5 h.p. Rex)	...	1m. 53s. "

A hill-climbing competition has been arranged for August 5th, divided into two classes, for single-cylinder and twin cylinder machines. No practising will be allowed on the hill. A gold medal will be presented for best placing on formula in each class, a bronze medal for second in each class, and a medal for fastest time in each class. Entrance fee, 6d. Entry forms can be obtained from the hon. sec., A. Richards, Sunny View, High Street, Bolton.

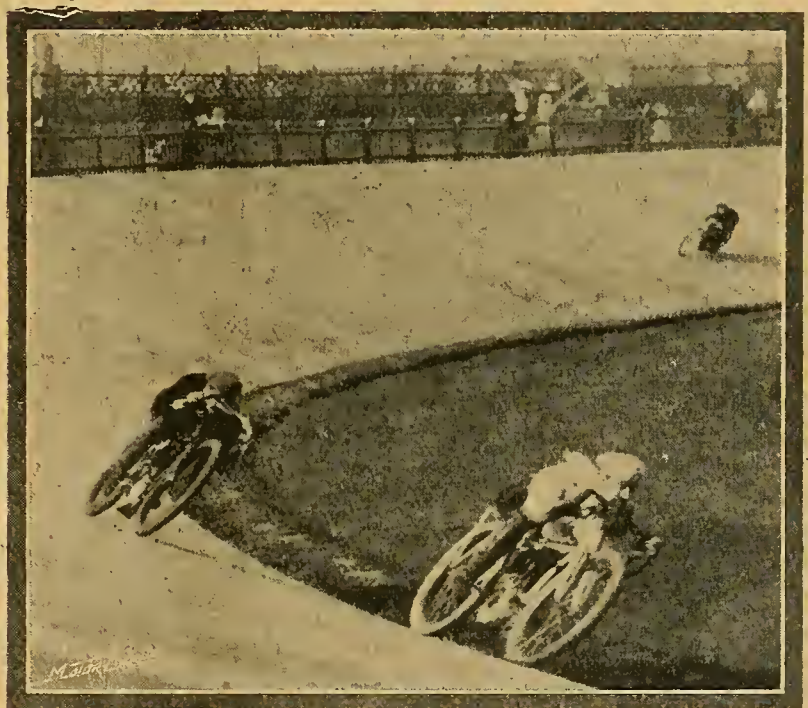
Bradford M.C.C.

On Saturday, July 25th, the annual hill-climbing competition for the Dyson Challenge Shield, so generously presented by Messrs. Dyson, Ltd., was held. The holder was E. S. Myers, but the trophy has now changed hands, and it will be in the keeping for the next twelve months of Mr. A. A. Scott, who rode a two-stroke 3 h.p. Scott of his own design. The results on formula and time are given below:

Rider and machine.	Fig. of merit.	Actual time.
1. A. Scott (3 h.p. twin-cylinder Scott)...	594	2m. 8¼s.
2. W. Jowett (3 h.p. twin-cylinder Scott)	681	2m. 5½s.
* P. Dyett (3½ h.p. T.T. Triumph)	703	1m. 30½s.
* E. Myers (3½ h.p. T.T. Triumph)	703	1m. 30½s.
4. P. Cockcroft (3½ h.p. T.T. Triumph)	738	1m. 37½s.
5. H. Shaw (3½ h.p. Triumph)	823	1m. 56½s.
6. H. Gerhartz (5 h.p. Vindec)	869	1m. 34½s.

* Tied for third place.

J. Scriven (5 h.p. Rex), who at his first attempt on the hill came to a standstill owing to the failure of the petrol supply, was officially timed to make the ascent in 1m. 30½s.,



Essex Beagles A. and C.C. Open Motor, Athletic and Cycling Meeting at Canning Town Track on Monday last. The only motor cycle event was a ten miles handicap for machines with engines not exceeding 76x76 mm., or the equivalent volume swept out. The winner was H. V. Colver (2½ h.p. Matchless-Jap), who in our picture is lying second. He completed the distance in 12 min. 30 sec., followed home by G. H. Gerhard (2½ h.p. Brooklands), who is last in the picture. Third place was occupied by T. A. Carter (2½ h.p. Matchless), who is depicted above cutting out the pace for Colver.

but was ruled ineligible for the trophy. The hill was nearly a mile in length, and the Chief of Police had very kindly sent constables to marshal the course. The trial was arranged by Mr. F. Scriven (trials hon. sec.), and Messrs. Forbes and Johnson acted as timekeepers and superintended the weighing in of competitors and their machines.

Manchester M.C.

The results of the motor cycle reliability trials held by the above club on the 2nd and 3rd inst. are as follows: Outward journey Manchester to Cheltenham 177 miles. Twenty-two entries were received, and the following made non-stop runs: J. Tytler (3½ h.p. Triumph), H. Reed (4 h.p. Dot), C. E. Kettle (3½ h.p. Triumph), W. H. Heaton (5 h.p. Rex), Otto Gross (4½ h.p. Eagle Runabout), and T. E. Leigh (3½ h.p. Triumph). The trial was a very severe one over hilly roads, and some of the competitors did not succeed in climbing Rock and New Invention Hill. A. Moorhouse, on a 5 h.p. Rex, did the fastest time in the timed hill-climb, but unfortunately thirty miles from home his tyre punctured badly, so spoiling his chance of winning the cup, as he failed to arrive at the control within schedule time. The return run was commenced on the 3rd at 8 a.m., the competitors travelling *via* Daventry, Lichfield, Stone, Nantwich, Knutsford, and Altrincham to Manchester.

Club News.—

Cambridgeshire M.C.C.

The tie between Messrs. W. King, C. W. Wilson, and P. V. Wallis for the reliability trial of the Cambridgeshire M.C.C. was decided by a hill-climb on formula, in which Mr. King gained the gold, Mr. Wilson the silver, and Mr. Wallis the bronze medals. After the hill-climb there was a speed-judging contest for motor bicycles and tricars, in which Mr. P. W. Cowell took first prize, and Messrs. Peters and Wallis tied for second place. For August 20th a picnic in the park at Hardwick has been organised, to be followed by a programme of sports. Members intending to be present at the picnic should inform the secretary not later than August 18th.

Sunderland and District M.C.C.

A speed-judging contest was decided on Wednesday, July 29th. The course laid was from High Barnes, Sunderland, to Chester Bridge, Chester, and Framwellgate Moor, returning *via* Cocker Bridge to High Barnes—a distance of twenty-six miles. Each competitor said the speed at which he would travel, and the merit of his performance was judged upon the estimated and actual time he took to cover the circular course. Details: V. Tiffin (car), set 17 miles an hour, actual 17.4 miles; E. J. Scott (2½ h.p. Minerva), 18 miles, actual 20; J. Kirton (3½ h.p. Minerva), 18 miles, actual 20.6; R. Herron (3½ h.p. Minerva), 18 miles, actual 20.8; W. F. Cross (3½ h.p. Minerva), 18, actual 20.8; E. J. Tiffin (7-8

h.p. Minerva), with sidecar carrying passenger, retired owing to a puncture; T. Jameson (4 h.p. Bat-Stevens), retired.

Newcastle and District M.C.C.

On the 26th ult. at Chatton, near Wooler, this club held a petrol consumption trial. Distance and time being fixed, Total weight in pounds winner was to be found from formula

Petrol in ounces.

Eleven machines started, but all were disqualified for being wrong on time except Mr. Robson Crosier on his 3½ h.p. N.S.U. two-speed, his figure of merit being 49.3.

The entries for the 420 miles reliability trial for the N.S.U. Cup on August 2nd and 3rd were: V. Corbett (5½ h.p. N.S.U.), H. Bell (4 h.p. N.S.U.), W. H. Outwin (3½ h.p. Triumph), S. W. Carty (3¾ h.p. N.S.U.), R. Crosier (3½ h.p. N.S.U.), R. Ellis (3½ h.p. Rex), G. S. Walker (3 h.p. F.D.W.), L. Austin (3¾ h.p. N.S.U.), R. L. Keene (3½ h.p. Triumph), F. Mallett (6 h.p. N.S.U.), D. Mallett (4 h.p. N.S.U.), J. Moule (3¾ h.p. N.S.U.), E. L. Bates (5½ h.p. N.S.U.), S. Hudson (3½ h.p. Hobart), L. Rosenvinge (3¾ h.p. N.S.U.), A. D. Nicholson (9 h.p. Riley tricar), Capt. Sir R. K. Arbuthnot, R.N. (3½ h.p. Triumph), A. Fenwick (5 h.p. Vindec), J. E. Reed (3 h.p. Rover), H. Bradford (6 h.p. Dene), R. B. Smith (6 h.p. N.S.U.), R. Embleton (3¾ h.p. N.S.U.), R. Wilson (4 h.p. N.S.U.), G. Dyson (3½ h.p. Triumph), J. Snowden (3¾ h.p. N.S.U.), J. Gilchrist (3½ h.p. Kerry), K. Reinhart (3½ h.p. N.S.U.), and G. Raper (6 h.p. N.S.U.) The results will be announced next week.

A.C.U. END-TO-END RELIABILITY TRIALS. COMPLETE LIST OF AWARDS.

THE committee of the Auto Cycle Union has confirmed the recommendations of the judges (Messrs. Brooker, Cove, Reynolds, and Sharp), and made the following awards:

Gold medals, no marks lost. Private owners.—A. F. Wilding (6 h.p. Bat-Jap), J. Tassell, A. M. Tatham (3½ h.p. Matchless-Japs), S. W. Carty (3¾ h.p. N.S.U. two-speed), A. D. Nicholson, Gordon Gibson, F. Dover, F. C. Mustard, C. E. Murphy, R. W. Duke, H. C. Hanrott, A. Manning-Lomax, H. H. Dommett, Robert King, Sir R. K. Arbuthnot, Bart., R.N., W. F. Merritt, J. Ewing Adam, H. D. Seale (3½ h.p. Triumphs), H. R. Dougal (5 h.p. Vindec), and J. Haslam (3½ h.p. Rex).

Gold medals, marks lost. Private owners.—F. S. Barnwell (3½ h.p. Rex two-speed), 79 marks; W. H. Outwin (3½ h.p. Triumph), 8 marks; A. H. Ormerod (5 h.p. four-cylinder F.N.), 10 marks; T. K. Hastings (5 h.p. Indian), 17 marks; W. Milnes (3½ h.p. Phelon-Moore two-speed), 13 marks; and H. B. Lewis (3½ h.p. Triumph), 11 marks.

Gold medals, no marks lost. Trade competitors.—W. H. Wells (5 h.p. Vindec), M. Geiger (6 h.p. N.S.U.), G. Lee Evans (3½ h.p. Rex), J. Slaughter, J. Marshall, P. H. Cockcroft (3½ h.p. Triumphs), R. Moore (3½ h.p. Phelon and Moore two-speed), and C. A. Palmer (5 h.p. Roc two-speed).

Gold medals, marks lost. Trade competitors.—F. W. Applebee (5 h.p. Rex), 7 marks; and O. C. Godfrey (3½ h.p. Rex), 18 marks.

Silver medals, marks lost. Private owners.—E. Gwynne (5 h.p. Vindec), 125 marks.

Silver medals, marks lost. Trade competitors.—A. J. Sproston (5 h.p. Rex), 195 marks; and F. W. Barnes (3½ h.p. Zenette, variable gear), 92 marks.

Bronze medals. Private competitors finishing the journey.—M. W. Randle (10 h.p. Lagonda), E. Nelson (5 h.p. Rex), H. R. Mayo (5 h.p. Vindec two-speed), Miss Muriel Hind (5 h.p. Rex), Rev. L. Cutler (3½ h.p. Triumph), A. D. E. Craig (5 h.p. four-cylinder F.N.), and J. O. M. Dixon (3½ h.p. Vindec two-speed).

Bronze medals. Trade competitors finishing the journey.—G. L. Fletcher (2 h.p. Moto-Rêve) and J. V. Robinson (1¼ h.p. Motosacoche).

Special Prizes.

The Motor Cycle medals.—Passenger class: M. W. Randle (10 h.p. Lagonda). Bicycle class: F. C. Mustard (3½ h.p. T.T. Triumph).

Mr. Wells's prize.—H. R. Dougal (5 h.p. Vindec).

Mr. Cove's prize.—A. F. Wilding (6 h.p. Bat-Jap).

Mr. Reynolds's prize.—Divided between H. H. Dommett (3½ h.p. Triumph) and Dr. H. R. Mayo (5 h.p. Vindec two-speed).

Mr. A. J. Wilson's prize.—J. V. Robinson (1¼ h.p. Motosacoche).

Best performance of trade competitor.—W. H. Wells (5 h.p. Vindec), J. Marshall (3½ h.p. T.T. Triumph), and R. Moore (3½ h.p. Phelon and Moore). The performances of these three riders were so equal that the judges were unable to differentiate between them, and therefore the prize has been divided.

(None of these last three machines had pedals.)

Mr. S. W. Carty writes that, in addition to having a Continental non-slipping tyre on the back wheel of his 3¾ h.p. N.S.U. in the above trials, he also had a Continental tyre on the front wheel, and they behaved splendidly.

Phelon and Moore write: "We notice in last week's issue of *The Motor Cycle*, in 'The Results of the End-to-end at a Glance' table, you remark that R. Moore's machine and tyres were in excellent condition, tyre replaced. In fairness to the Palmer Tyre, Ltd., we shall be pleased if you will correct this, as the machine ridden by our Mr. Moore ran through without a single puncture, and his only tyre trouble was due to the butted end of the Michelin inner tube giving way at the joint, and this had to be replaced with a new one."

Mr. W. Williamson writes: "I notice you state that Evans on a 3½ h.p. Rex changed a tyre. I should be obliged if you would correct this, as Evans tells me he had no trouble whatever with tyres. Perhaps under the circumstances it would be only fair to state that he rode Continental tyres."

H. and A. Dufaux (England), Ltd., write: "We think it would have been only fair to state that the broken crank and locked free-wheel (mentioned in the tabulated results, pages 600-602) were caused through a collision with a cart, within six miles of the finish."

Other things being equal—the man with two speeds has the most comfortable time.”—From “End-to-end Impressions.” By B. H. Davies



The **ROC** has come to the front by its truly wonderful clutch and gear system with hand starting. No other machine is capable of quite the same remarkable control and climbing power. Booklet describes the 4 h.p. Royal Military Model—low built—with these and other excellent features. Write the makers—

A. W. WALL, Ltd., Roc Motor Cycle Works, BIRMINGHAM.

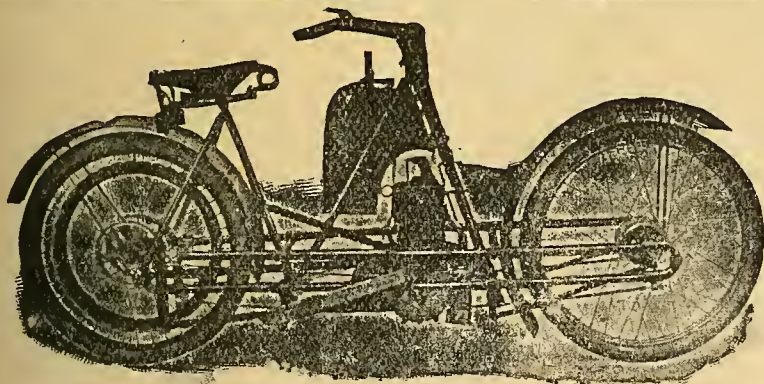
A Clever Salesman

may make you believe that black is white—whilst he is speaking—but **no amount of talking** will ever make a motor bicycle with rigid frame as free from vibration as a spring frame machine, scientifically designed, *i.e.*, not one with just spring forks or spring saddle pillar.

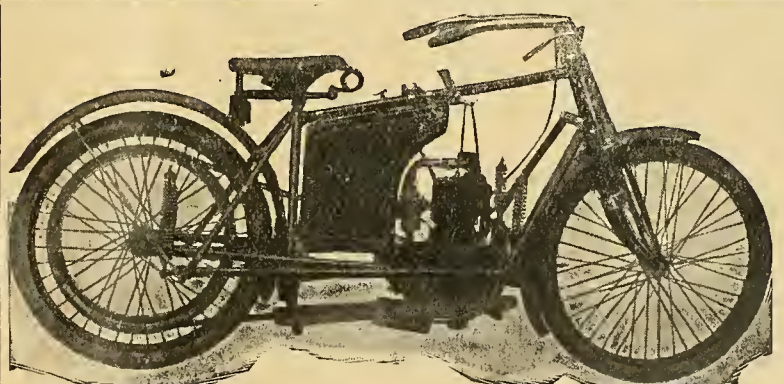
No amount of talking can render the ordinary design free from the nerve worrying risk of side-slip directly the roads get at all greasy.

No amount of talking will convince a practical engineer that the ordinary diamond-frame pattern, admittedly perfect for push cycling, is the ideal pattern for a motor cycle with an extra 100 lb. or so of machinery, on which the road shocks encountered are of an entirely different nature.

No amount of talking can possibly describe the general excellence—the marvellous comfort—the absolute luxury of the two spring-frame machines shown below, about the many merits of which riders are unanimously enthusiastic.



THE ZENITH BIGAR. 3½ h.p., Price 43 guineas nett cash.



“THE ZENETTE.” Price 50 gns., including the marvellous “Gradua” gear.

The marvellous “Gradua” infinite change-speed gear gives any gear from free-engine to 3½ to 1 by a simple turn of a wheel.

“The Motor Cycle” (12th Feb.) says: “We are delighted with the way the gear behaved on Muswell Hill. It started the machine from a standstill and enabled the hill to be climbed without a falter.”

“The Motor Cycle” (19th Feb.) says: “During the time the machine was in our hands the gear did everything which is claimed for it.”

“The Motor Cycle” (8th April) says: (re Cudham Hill Climb) re the “Zenette” (fitted with “Gradua”) “though it came up slowly it did so in good form, the variable gear working faultlessly.”

“The Motor Cycle” (15th April) says: “It was the first time this variable gear had appeared in competition, and it behaved admirably. I am sure that Barnes’s performance impressed any prospective motor cyclists that may have been present, more than the wild rush of other machines which leapt about on the uneven surface of the road in a manner calculated to frighten rather than please.”

A “Zenette” fitted with Gradua gear is on view at The Service Co., Ltd., 292, High Holborn, W.C., also at Scottish National Exhibition, Edinburgh.

ZENITH MOTORS, LTD., 101a, STROUD GREEN ROAD, LONDON, N. (Station—Finsbury Park.) Trial runs by appointment ONLY.

In answering either of these advertisements it is desirable that you mention “The Motor Cycle.”

The Service Co., Ltd.

can meet your requirements and assist you out of your difficulties, and the experience of our experts is always at your service. We carry a large stock of new and second-hand machines and owing to our contracts can give prompt delivery of most makes.

L.M.C.

The price of this machine, 3½ h.p. Magneto, is **45 guineas**—your old machine taken in part exchange and extended payments arranged.

TRIUMPH

Latest Model fitted with Clincher Non-Skid Tyre, price **£48**
Exchange and extended payments arranged.

REX

Prompt delivery of all models. Prices from **25 guineas**, fitted with magneto ignition. Our exchange system applies to this.

In addition to the above, N.S.U., Vindec, F.N., Phelon and Moores, Minervas, Phanomen, and all other leading makes our system of exchange and extended payments apply.

Second-hand Stock.

Write for latest list of bargains and state your requirements fully.

Good class up-to-date motor cycles purchased for cash or sold on commission. No sale, no charge for commission made.

Sidecars are one of our specialities. We have had experience with the leading makes. We can assist you in selecting the most suitable for your requirements. Prices from £8 8s. 0d.

ACCESSORIES.

We are informed by our numerous clients that we have the best and most varied selection. Call and judge for yourselves if this is true.



MOTOR CYCLE KIT.

A useful set of Tools, price 8/10. Post 4d. Leather roll to carry tools, prevents rattling, 2/7. Post 2d.

BELTS.

	1/2	1/4	1/8	1/11
Dermatine	1/9	2/2	2/6	2/10
Watawata				
Shamrock				
Gloria	1/7	1/8	2/2	2/3
Whittle	2/7	2/10	3/4	3/11
Camel	11d.	1/1	1/3	1/6
Eldorado	9d.	10d.	1/-	1/2

REPAIR OUTFITS.

Service Patchquick, equals vulcanizing, 2/8, postage 2d.
G.B., 1/3, postage 2d.
Miraculum Puncture Stopper, 5/- per tube.
Pneucure Tyre Stopping, 1/7½.
Patcho, 1/- and 2/- tubes.
Bates Cutcure, 6d. per tin, postage 1d.; large size, 1/4 per tin, postage 2d.

BAGS.

Brooks Carrier Bag, 19/-.
Brooks Pannier, 16/6.
Lycett's Toolbag, large size, 7/6;
Lycett's Medium, 5/10.
Triumph pattern, best English make, 8/6.
Postage on above, 4d.



SERVICE RECORD.

Splendid one, 7/6.
ROAD CLEARERS

4/9 and 5/9. postage 4d. Usually advertised at 8/3.

FASTENERS.

Dermatine, 10d. each; complete with three adjustable hooks, 1/6 each.

Watawata, 1/- each.

Service, 6d. each.

Star, 6d. and 8d. each.

TYRES.

Peter Union make, 26 x 2½, 16/6.
Shamrock Excelsior Non-skid Covers, 26 x 2½, 50/-.
Bates Non-skid Bands, F pattern, 8/6; fitted to tyre, 10/9. H B pattern, heavy, 10/-; fitted to tyre, 12/3.

SERVICE INNER TUBES.

26 x 2	..	..	..	6/3
26 x 2½	..	..	..	7/-
26 x 2½	..	..	..	7/6

PLUGS.

Oleo ace.	..	..	1/4
Oleo acc. magneto	..	..	3/4
New Bosch	..	..	3/6
Mars	..	..	3/6
Samson	..	..	3/-

OSBORNE 4-SPEED GEAR.

1908 Model, suit Rex de Luxe, £4 0 0.

END TO END.

The value of a first-class machine has been fully demonstrated in the recent Trials. Gold Medals have been awarded to the Phelon & Moore 2-speed motor cycle, Roc, Rex, Triumph, F.N., Vindec, N.S.U., Bat, and Matchless machines. We can give immediate delivery of most of these, and can supply either for cash, exchange, or on our unique method of extended payments.

P. & M.

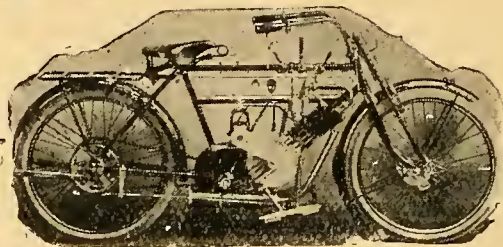
3½ h.p.

2 speeds.

Magneto.

Spring

Forks.



PRICE

£52

10s.

If you do not wish to invest in a new machine, write for list of our SECOND-HAND bargains, a selection from which is given below:

5 h.p. REX DE LUXE, Roc clutch, magneto	£25 0
3½ h.p. TRIUMPH, magneto	35 0
5 h.p. REX DE LUXE, 1907-08 pattern, new this year, twin wheel	32 0
2½ h.p. BAT pattern, splendid running	15 0
3½ h.p. REX, 1907-08 model, magneto, new	29 10
2½ h.p. CLEMENT-GARRARD, lightweight	10 0
2½ h.p. P. and M., two-speed, magneto, little used, 1908 model	45 0
2½ h.p. KERRY, spray, Palmer tyres	10 0
2½ h.p. N.S.U., fine touring machine	15 0
3½ h.p. PHENIX, two-speed, Minerva engine	16 16
2½ h.p. MINERVA engine, motor cycle, Palmer tyres	10 0
MILLS AND FULFORD Trailer	1 10

SIDECARS.—Trial runs and prompt delivery of the Castor Wheel or rigid. Write for "Other People's Opinions."

TRICARS.—The RILEY for touring is ideal. Prices from 85 Guineas.

ACCESSORIES.

We extend a hearty invitation to everyone interested in Motors and their equipment to pay a visit to our Showroom, where we have a large and varied stock of Motors, Engine Clutches, Variable Gears, Carburettor Controls, Non-skid Tyres, Belts, Lamps, Horns, Syrens, Rim Brakes, Foot-rests, Carriers, etc. We hope all our country and provincial friends will make a point of calling when in town. It will enable them to keep up-to-date, and see all the latest novelties. A few selections are given below. Complete list on application.



THE SERVICE MIRROR LENS.

Fitted with detachable mirror and supplied complete with generator and tubing.
N.P. or brass, 28/6.



ADJUSTABLE BELT FASTENERS.

Useful for adjustable pulleys or short belts. Price 2/6. Post 2d.



COMBINATION PLIERS.

Nipple plier, side and wire cutter, with rymmer and turnscrew.

Best Sheffield make.
5in. 2/-, 6in. 2/6. Post 3d.



BOSCH

MAGNETO.

Latest models.

DA2 single cyl., £4 15s.

DAV for V 2-cyl., £8.



SERVICE

HANDLE-BARS

Adds to your comfort.

7in. and 9in. stem, 7/-.

Swan Neck Seat-pillar, to suit above, gives a low and safe seat, 4/6.



HANDLE-BAR CONTROLS.

Thumb slide clip on handle bar.
Dual control 3/8
Single control 2/8
B. and B. handle-bar control 8/-
Complete with cable 10/0
Or with all attachments for converting 1907 models .. 15/6



SERVICE DANGER WARNER.
In two sizes, 4/9 and 5/9. Post 3d.
Usually advertised at 6/3.



MOTOR

TURN-SCREW.

A strong and useful tool. Beechwood handle, 10d.
Boxwood handle, 1/2. Post 2d.



CONTACT

FILES.

Invaluable for touching up.
Price 9d. Post 1d.
Pocket Knife and File, with metric rule, screwdriver, etc., a most useful tool. Price 2/9. Post 1d.



CABLE

TERMINALS.

High tension, twelve in box, 2/6, or 3d. each.
Low tension, 1/6, or 2d. each. Post 1d.

THE SERVICE CO., LTD.,

292, HIGH HOLBORN, LONDON, W.C.

(almost facing First Avenue Hotel).

Garage and Second-hand Department—FEATHERSTONE BUILDINGS.

Telegrams—"Admittedly."

Telephone—260 Central.

Special attention to Post, Telegraphic, and 'Phone orders.

THE SERVICE CO., LTD.,

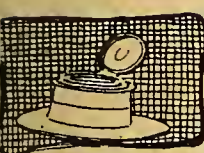
292, HIGH HOLBORN, LONDON, W.C.

(almost facing First Avenue Hotel).

Telephone—260 Central.

Telegrams—"Admittedly."

In answering this advertisement it is desirable that you mention "The Motor Cycle."



LETTERS TO THE EDITOR



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Gear Transmission.

[3454.]—In answer to 3432, I should like to state my experience of gear transmission. Returning from Sutton Bank on the occasion of the hill-climb there, one of the cogs in the transmission broke. A week after I sent the shaft to the agents for my machine, and am still patiently awaiting its return. Fancy, two months of the best part of the year and the machine lying an inert and useless article in the shed. Had it been belt driven I could have repaired the defect by means of the many excellent fasteners on the market in a few minutes. I think it is fortunate for the many users of the motor cycle that most makers have stuck religiously to the belt transmission. **PROOF.**

Converting to Magneto Ignition.

[3455.]—Having a motor cycle, the ignition of which is by accumulator and trembler coil, I have been wondering if it would be possible to wind the armature of a low-tension magneto to give low enough voltage and ampèreage enough to take the place of the accumulators. If so, could any reader give dimensions of magnets and size and quantity of wire to be wound on armature, and if it would be necessary to run the electricity into commutators, or if an alternating current would work coil? I am inclined to believe that this would interest a great number of motor cyclists, who, like myself, are mechanics, and would like to dispense with their accumulators. It would also open up an interesting discussion through the medium of your valuable paper.

H. G. KING.

Handlebars working Loose.

[3456.]—*Re* letter No. 3413, to do away with the ball-head clip in favour of a locked stem would, I am sure, only create new troubles for the motor cyclist. For every one clip giving way there are a hundred side-slips, and riders know what a fall would mean to the handle-bars with a locked stem. It would be a case of being stranded with a broken or badly bent handle-bar. Let me have a good fitting handle-bar stem—one that requires considerable force to work it down into position—and a good clip, and I do not fear disaster from that quarter, because if the clip did become useless, the stem would still be tight enough to steer the machine, and in most cases would gradually work round and warn the rider in time. Also, in case of a fall there is not the same shock to the machine when falling on handle-bars that turn in the fork stem, as there would be with locked handle-bar, and the bars can be straightened in a few minutes. **FRED WHITTAKER.**

Belts and their Fasteners.

[3457.]—In my past experience as a motor cyclist I have often had reason to lament the ease with which the average belt fastener pulls through the average rubber and canvas belt. Judging from reference to this trouble being made so frequently in your columns, one would infer that other motor cyclists experience the same trouble. That being so, the following useful hint, which I received from a friendly reader of *The Motor Cycle* some two years ago, may be of interest. I think all who have tried canvas and rubber belts will admit that the points of attachment of the belt fastener are the weak spots. There the belt has to withstand the greatest amount of wear and strain. The question is, How can one strengthen it there? Well, my plan is this: Take a strip of leather, tough and flexible—e.g., a bit of an old razor strap—lay it over the end of the belt in such a way that the screw of fastener passes through two layers of leather as well as the rubber and canvas belt. Let the strip of leather be long enough to extend a good two inches from the belt fastener; then bind it securely to the belt with tough line whip-cord (or waxed thread).

It is a good dodge to make the lower part of the leather strip rather wider than the lower surface of belt. By this you secure the protection of a leather surface for your rubber belt just where it is pinched by the belt fastener.

When complete the thing may look a bit clumsy, but I can assure you that it is a most efficient plan of prolonging the life of the belt. I have had reason for gratitude to the friendly motor cyclist who let me have the "tip."

Someone may ask, "How do you manage when it is necessary to shorten your belt on the road? Do you then go through all this lengthy business of leather-guarding your belt?" In reply, I would say that I use a belt made in two sections of very unequal length. Both ends of each bit are strengthened as above detailed. Then in my kit are two or three short bits of various lengths, all duly "leathered." Then Simplex (hook) fasteners make the job of a temporary shortening of the belt an easy one.

Regarding the remarks of "Jupiter" in a recent issue about the fasteners made by Mr. S. T. Robson, of Birmingham, I can heartily agree with the same.

I have used one on a heavy leather belt for over 3,000 miles, and the Vulcan fastener appears good for at least another 3,000. And a friend of mine who uses a big twin with sidecar is as fairly convinced as myself of the merits of the same fitment. I have no personal interest whatever in recommending the Vulcan fastener. **A.B.C.**

Hill-climbing.

[3458.]—I see in your issue of July 1st that a Mr. Allan Barker states that he has not heard of a motor cycle ever having been ridden up Clay Bank. I enclose you a photograph taken of me ascending the hill in the early part of this year. While touring in this district we came upon the



hill unexpectedly, and I was successful in riding up. Some of my companions doubted this, as they did not get to the top, so I descended and again rode up the hill on my 6 h.p. N.S.U., while one of my companions took the accompanying snap shot. Your correspondent in the issue of the 15th is correct when he describes the condition of the road, as it is impossible to remain seated. **GEO. W. RAPER.**

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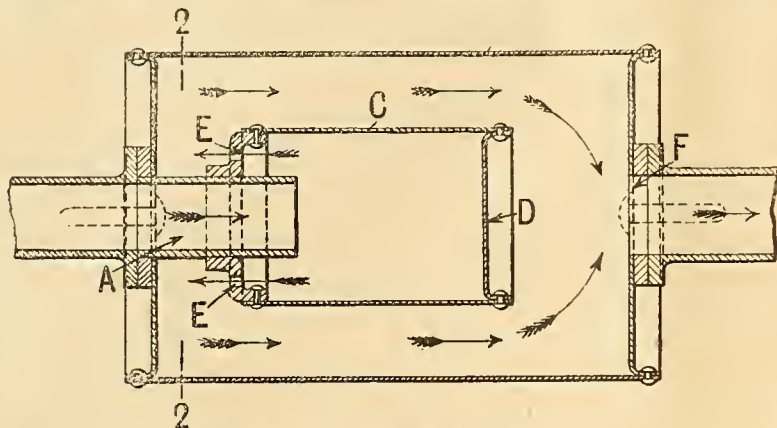
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RECENT PATENTS.

By ERIC W. WALFORD, F.C.I.P.A.

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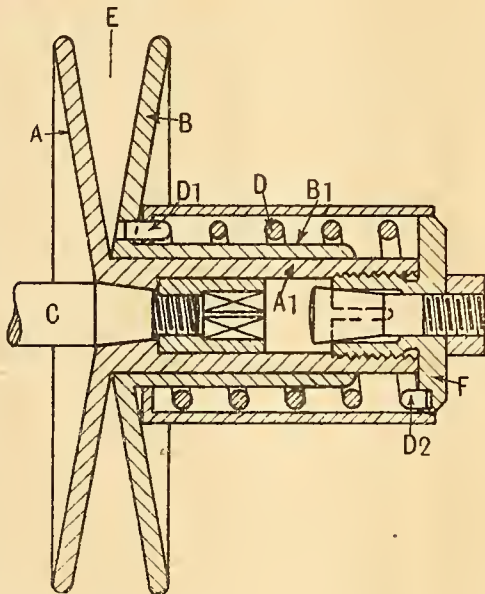
The exhaust is led through the pipe A into the pot C. The outlet holes E allow the gas to pass into the outer chamber, whence they issue by the pipe F. The inventor



states that by making the holes E at the same end of the pot C as the inlet pipe A, high efficiency is obtained.—E. H. Morgan, No. 9,297, 1907.

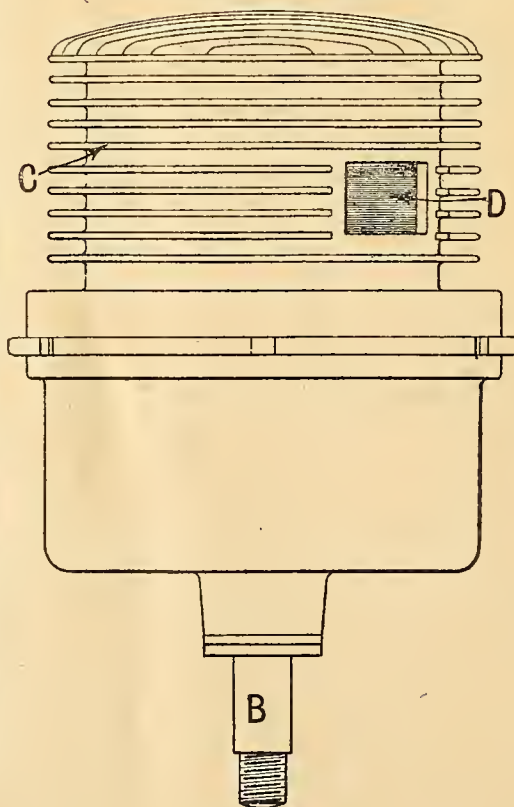
An Expanding Pulley.

The movable flange B slides upon the hub A¹ of the fixed flange. This hub A¹ has a stationary disc F screwed into it, and to this is attached one end of a coil spring D, the other end of which is attached at D¹ to the movable pulley flange. Thus the two flanges are connected together by a helical spring, and relative rotation is prevented. The object of the invention is not quite clear from the description, as it is not stated in the patent specification.—L. Tanner, No. 18,035, 1907.



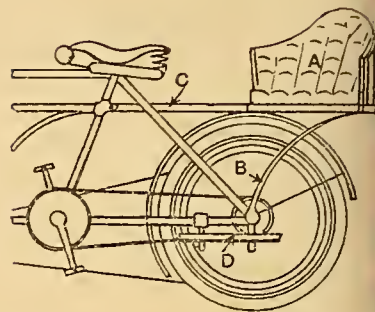
An Interesting Engine.

In this very interesting high-speed engine, the piston A reciprocates and also rotates. The rotation is transmitted to the driving-shaft, and the piston A in its rotation acts as a piston valve, uncovering ports in the cylinder C, one of which—D—is shown in one of the drawings. This port D happens to be the inlet port. As will be seen, the piston is conical, and carries a loose ring E attached to the bottom of the piston, this ring being forced outwards by the gas pressures, so that a tight joint is made in the cylinder without the use of piston rings. Cam mechanism, of a somewhat difficult nature to describe, is employed to transmit the rotation of the piston to the driving-shaft. A complete description of the engine cannot be given within the limits of a paragraph, but when it is stated that the engine is the joint invention of Peugeot Frères and Mr. Jules Gobiet (whose articles on high-speed engines appearing in this paper some years ago will be remembered) it can be taken that the construction is of great interest. Its external appearance can be gathered from one of the illustrations to be quite as extraordinary as its operation. It is, of course, understood that it is the inventors' intention to make the engine revolve at a very high number of revolutions per minute.—J. L. T. Gobiet and P. R. and J. Peugeot, No. 7,565, 1907.



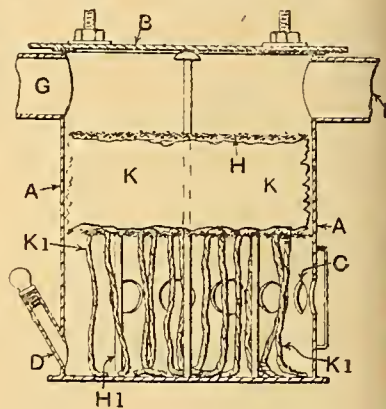
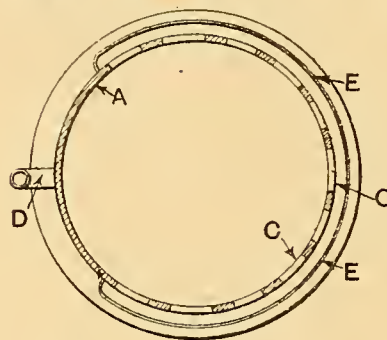
A Passenger Attachment.

A seat A is provided for this purpose, and is mounted over the back wheel. It is provided with supports B on both sides of the road wheel, and a connecting bar C. A platform or footrest D is also provided, so that the occupant is fairly comfortably carried.—A. Arendt, No. 25,029, 1907.

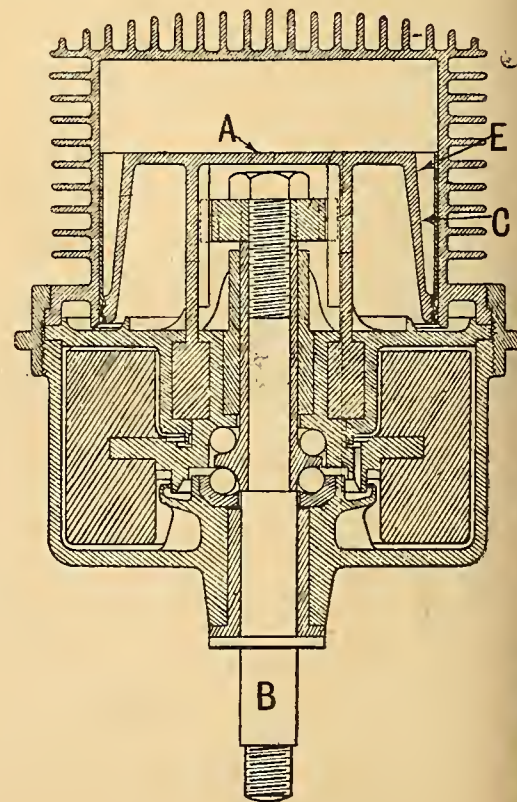


An Air Filter.

A moistened pad of absorbent material is the intercepting medium. A casing A having a removable cover B is provided with air inlet apertures C, located at a distance above the base of the casing. D is a supply pipe fitted with a cap for the admission of a supply of liquid to the base of the casing. The air inlet apertures C are protected with a covering of fine gauze E. At the head of the casing two outlet ways F and G are provided—one for connection with a carburetter, the other for connection with a source from which extra air may be drawn as required. Within the casing a frame H is provided, consisting of two grids, between which a pad



of absorbent material K is inserted. The frame is supported upon legs H₁, which rest on the base of the casing, and is fitted with capillary feeders K₁, which may consist of threads depending to the base of the casing for conveying liquid to the material K by capillary action, so as to keep the material moist. The construction permits the frame H and associated parts to be readily removed for cleaning when the cover of the casing is taken off. Absorbent materials of various kinds may be used, but the use of sponge is particularly efficient.—J. D. Macdougald, No. 15,572, 1907.



Telephone 5011 Gerrard.

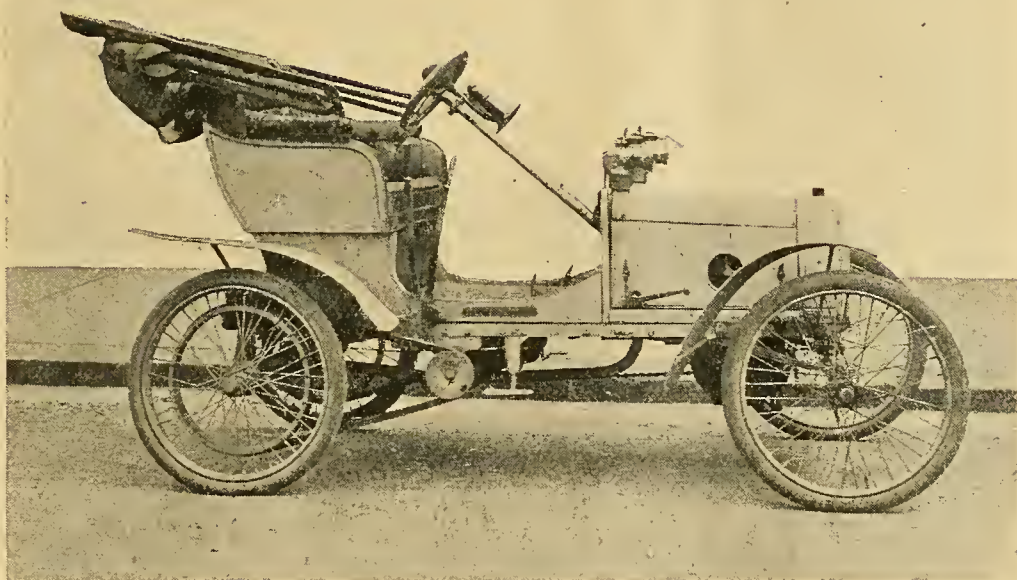
Telegraphic Address: "BERTELLI, LONDON."

THE O.T.A.V. VOITURETTE,

5½ h.p.

Price:
95 GUINEAS,
Complete.

Thirty miles
per hour
on the level.

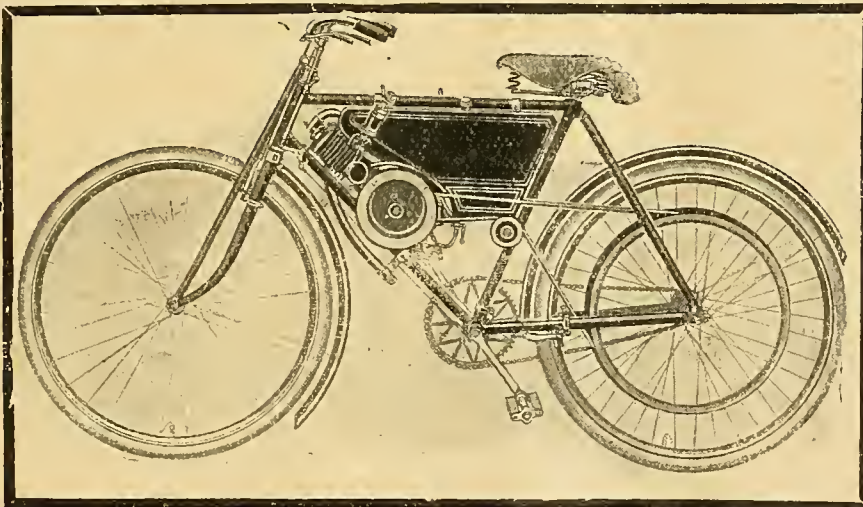


Guaranteed
for
Two Years.

Trials up
Netherhall
Gardens.

THE JUNIOR AND OTAV CARS COMPANY, LIMITED,
117, LONG ACRE, LONDON, W.C.

A MOTOR CYCLE
WEIGHING
ONLY 60 LBS.



A PERFECT
MOTOR CYCLE AT
A BICYCLE PRICE.
£19 19 0 complete.
*Fitted with Ruthardt
Magneto*
£4 10 0 extra.

THIS IS QUITE THE LOWEST PRICE

at which it is possible to obtain an efficient motor cycle. The "Wolf" featherweight motor cycle is no toy—it is a marvel of sound construction and ingenuity, and with a wonderful hill-climbing capacity. The frame is specially built and the whole machine is British made.

THE "WOLF" FEATHERWEIGHT MOTOR CYCLE.

SPECIFICATION.

ENGINE—A. J. Stevens 2½ h.p.; bore 2½ in., stroke 2½ in.
COIL—Fuller.
ACCUMULATOR—Premier.
CARBURETTER—A. J. Steven's automatic air inlet and throttle combined.
BELT—Best Chrome.
JOCKEY PULLEY—Ball Bearing.
FRAME—22 in. and 24 in.
TANK—To which combined petrol, lubricating oil, and coil compartments are fitted.

WHEELS—26 in. or 28 in.
TYRES—Wasp No. 1, 1½ in. diameter. Made specially by the Dunlop Rubber Co., Ltd.
CONTROLS—Valve lifter and ignition are controlled by one lever; when magneto, extra lever for ignition.
HANDLEBAR—Wide raised, to which a switch of neat design is fitted.
BRAKES—Wasp front and back roller or inverted levers.
FINISH—Best black enamel, lined two colours. Olive green, silver lines 10/- extra.

"Wolf" Tyres made by the Dunlop Rubber Co. Ltd., 2 in. to fit any standard 1½ in. rim 20/- extra. Write for lists.

WEARWELL MOTOR CARRIAGE CO., LTD., WOLVERHAMPTON.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London, by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

The PREMIER—

BEST HOUSE FOR
CASH, EXCHANGE,
EXTENDED PAYMENTS.

NEW MODELS.

TRIUMPH $3\frac{1}{2}$ h.p., 1908, magneto	£48 0
WARWICK, shop-soiled only	46 0
TRIUMPH $3\frac{1}{2}$ h.p., 1907, magneto	39 0
N.S.U. $3\frac{1}{2}$ h.p., 1908, magneto, new, 26" wheels	40 0
N.S.U. $3\frac{1}{2}$ h.p., magneto, new, 1908, 24" wheels	40 0
N.S.U. $3\frac{1}{2}$ h.p., 1908, twin, magneto, 24" wheels	45 0
N.S.U. 6 h.p., 1908, twin, magneto	54 0
N.S.U. $1\frac{1}{2}$ h.p., 1908 lightweight, magneto	34 0
REX DE LUXE $3\frac{1}{2}$ h.p., 1908, magneto, two-speed gear	50 0

Also various other new models, Motosacoche, F.N., Roc, Vindec, Warwick, etc., all in stock.

SOILED AND SECOND-HAND

N.S.U. $3\frac{1}{2}$ h.p., 1908, accumulator, shop-soiled, cost £36	£28 0
G.B. ZEDEL 5-6 h.p., 1908, engine magneto, two-speed, spring forks, fan, footrests, perfect, cost over £70, will accept	35 0
MINERVA TWIN 1908, Palmer cord tyres, rin. belt, perfect condition	30 0
TWIN ROC 5 h.p., Peugeot engine, magneto, free-engine	30 0
VINDEC SPECIAL, $3\frac{1}{2}$ h.p., two-speed	30 0
ROC 4 h.p., 1907, magneto, free-engine, Druid spring forks	25 0
ROC $3\frac{1}{2}$ h.p., magneto, clutch, good running order	12 0
N.S.U. $3\frac{1}{2}$ h.p., 1907, magneto, new Roc two-speed gear, spring forks	30 0
N.S.U. 6 h.p., 1908, new May, Roc clutch, improved gear, cost £75	55 0
REX TWIN TOURIST, magneto, '08, as new JAP, 6 h.p., magneto, '08, Chater Lea frame, not run	27 0
VINDEC SPECIAL $3\frac{1}{2}$ h.p., magneto, Truffault spring forks	26 0
F.N. Lightweight, magneto, spring fork, perfect	21 0
NOBLE, 3 h.p., long wheelbase, good order	12 0
WHITLEY $3\frac{1}{2}$ h.p., spray carburetter	8 10
JAP, 6 h.p., Twin, Chater Lea frame, grand condition	20 0
KERRY 5 h.p., twin, two-speed, hand-starting	20 0
ANTOINE 4 h.p., low frame, free-engine	15 0
WERNER, twin, 4 h.p., recently overhauled and refinished	16 0
N.S.U. $5\frac{1}{2}$ h.p., magneto, overhauled	25 0
ROVER, 3 h.p., Palmer tyres, Broo saddle, running well	10 10
REX $3\frac{1}{2}$ h.p., John-o'-Groat's model	10 0
MINERVA, 2 h.p., Clincher tyres, perfect running order	8 0

Others constantly arriving.

Let us give you details of the

WARWICK CAR-STYLE MOTOR CYCLE.

Hand-starting, ball bearing 4 h.p. engine, Bosch magneto, spring forks, Roc (licensed) clutch, epicyclic two-speed gear, started and driven like a car; several seasons in advance of ordinary motor cycle design.

Price 45 guineas.

TYRE BARGAINS.

Get your machine WELL SHOD.

Sent on approval from our BRAND NEW 1908 STOCK.

PETER UNION COVERS.

PREMIER PRICE.	ORDINARY PRICE.
24 x 2 $\frac{1}{2}$ £0 18 0	..... £1 2 0
26 x 2 $\frac{1}{2}$ 1 1 6	..... 1 8 0
26 x 2 $\frac{1}{2}$ 1 5 0	..... 1 13 0

SHAMROCK COVERS, 26 x 2 $\frac{1}{2}$, 12/6 each.

NEW TUBES—PETER UNION.

PREMIER PRICE.	ORDINARY PRICE.
24 x 2 $\frac{1}{2}$ £0 8 0	..... £0 11 0
26 x 2 $\frac{1}{2}$ 0 8 6	..... 0 12 0
26 x 2 $\frac{1}{2}$ 0 10 6	..... 0 13 0

CLINCHER TUBES, New, Best Grey Quality.

PREMIER PRICE.	ORDINARY PRICE.
24 x 2 $\frac{1}{2}$ £0 7 6	..... £0 11 6
26 x 2 $\frac{1}{2}$ 0 7 6	..... 0 12 0

Delivery per return. Sent on APPROVAL for three days.

PREMIER ACCUMULATORS.

BRITISH-MADE. Sent on four days' actual TRIAL.

Specially heavy plates—do not disintegrate.
10 amp. 9/6 } List on application.
20 amp. 12/6 }

PREMIER MOTOR AGENCY,

Aston Road, BIRMINGHAM.

Telephone: 4310. Telegrams: "Primus," B'ham.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes may be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 2 Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money forwarded less a charge of 1s. for registration. Time allowed for a decision after receipt of the goods three days. For all transactions exceeding £10 value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Liffé & Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive answer to their enquiries are requested to regard silence as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

31 h.p. N.S.U., magneto, spring forks, ju
32 overhauled, new back tyre, equal
new; £25.—Scott's, 78, High Street, Stockto
on-Tees.

31 h.p. Excelsior, M.M.C., good Contine
32 tals, very powerful, grand runni
order; £10 10s.—Musgrave, Norwood Vill
Windermere.

4 h.p. Spring Frame Bat, in splendid co
dition, and perfectly reliable, ne
tyres; exchange for less power and cash; r
rubbish; sell £24.—Young, 4, Blackwellgat
Darlington.

3 $\frac{1}{2}$ h.p. Rex, magneto, spring forks, variab
3 pulley, armoured tyre back wheel, ne
Gloria belt, complete with carrier, stan
lamp, horn, tools, and spares, etc., in sple
did order; owner going abroad; £22, n
nearest offer.—Langrishe, Brackenbee Cam
Appleyby.

SECTION II.

York and Lancashire.

4 h.p. Roc, two speeds, late model, soile
£35.—Motor Exchange, Westgate, Ha
fax.

31 h.p. Magneto Rex, winner Peeble Hi
32 climb; £25.—Motor Exchange, We
gate, Halifax.

5 h.p. Twin Vindec, magneto, spring for
smart; £35.—Motor Exchange, We
gate, Halifax.

21 h.p. Coronet, 26in. wheels, free engi
22 clutch, fine condition.—Motor E
change, Westgate, Halifax.

31 h.p. N.S.U., 1908 model, done about
32 miles; £30.—Motor Exchange, We
gate, Halifax.

31 h.p. Rex, 22in. frame, vertical engin
34 trembler coil.—Motor Exchange, We
gate, Halifax.

SNIPS.—45s. deposit and six monthly pa
ments of 29s. 6d. secures 2 $\frac{1}{2}$ h.p. Excelsio
3 h.p. Humber, 2 $\frac{1}{2}$ h.p. Minerva, 2 $\frac{1}{2}$ h.p. E
bart, 3 h.p. Lloyds, 2 $\frac{1}{2}$ h.p. Minerva, 3 $\frac{1}{2}$ h
Rex, 2 $\frac{1}{2}$ h.p. Aurora, 2 $\frac{1}{2}$ h.p. Kerry, 3 h
M.M.C.; all guaranteed running order.—
Westgate, Halifax.

MAGNETO Triumph, M.O.V., vertical e
ngine, good running order; £24 10s.—
Westgate, Halifax.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

07 3½ h.p. Minerva, spring forks, seen very little use; £19 19s.—Seen at Wauchope's, 9, Shoe Lane, E.C.

VINDEC, 5 h.p., 1907, twin, magneto; £35, or best quick offer.—Hayes, The Cottage, Victoria Drive, Eastbourne.

1 h.p. Minerva, in excellent running order; £10 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

1 h.p. Minerva, 1906 model, a good sterling machine; £16 10s.—Wauchope's, Shoe Lane, Fleet Street, E.C.

MINERVA, 2½ h.p., guaranteed perfect condition, with accessories; £12 12s.—3, Teor Road, Westcliff, Essex.

h.p. Minerva Motor Cycle, in perfect running order, M.O. valve; £6 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, E.C.

3 h.p. Calvert, B.S.A., F.N. carburetter, splendid running order; must sell; £8.—25, Basnett Road, Lavender Hill.

1 h.p. 1907 Triumph, good running order; £27 10s., low price to clear.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

h.p. F.N., 1908, magneto, lightweight, excellent condition, everything as new; £5.—Baker, 175, Church Street, Lower Edgmont.

08 3½ h.p. Minerva, magneto, used but little; £29, unprecedented opportunity. Wauchope's, 9, Shoe Lane, Fleet Street, London.

h.p. M.M.C.-Excelsior, Clinchers, excellent condition, fast, reliable, low, £10 15s.—55, Nightingale Road, Clapton, N.E.

1 h.p. Motor Cycle, guaranteed thorough working order; owner giving up riding; what offers?—Sampson, Medbury, Buckhurst Hill.

1 h.p. Minerva, late 1907, spring forks, G.B. sidecar, condition as new, powerful; lot, bargain, £26.—404, High Street N., Nor Park.

1 h.p. Minerva, late 1907, spring forks, 2 condition as new, with adjustable sidecar; £26.—404, High Street North, Nor Park.

30.—Quadrant, 3½ h.p., Bosch magneto, handle-bar control, new condition; particulars.—52, Ditton Court Road, Westcliff, Essex.

N., 2½ h.p., fast, perfect running order, Continental tyres; seen any time; £11.—Constitution, Cosway Street, Marylebone Road, N.W.

3 h.p. Minerva, splendid condition, modern improvements, accessories, complete; £12 18s. 6d.—24, Aldbourne Road, Shepherd's Bush.

h.p. Singer, magneto, engine rear wheel; £27; perfect order; call or write.—Eaton, Electrozone, Letchford's Buildings, Chesham Green, E.

LIGHTWEIGHT 1½ h.p. Werner, in good running order, just the machine for a beginner; £9.—Cliffe, 91, Yerbury Road, Upper Holloway, N.

h.p. 1907 Lightweight F.N., magneto, spring forks, in first-class order, as new; £21 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

TRIUMPH, 3½ h.p., 1907, new tyres and belt, magneto, condition as new, spares; best offer over £30.—Collings, 5, New Burlington Place, London.

1 h.p. Minerva, fitted with spring front forks; price £17 10s.; a good serviceable machine.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

1 h.p. Quadrant, perfect condition, tyres unscratched, fast, powerful, and reliable; £7, guaranteed.—16, Northumberland Avenue, Manor Park.

EXCELSIOR, 3½ h.p., grand condition, Clinchers, 26 by 2½, two accumulators; is genuine; seen any time; £12.—30, Teor Road, Wandsworth.

h.p. 1908 Lightweight F.N., perfect order, complete with lamp, horn, and spares; try trial; £20.—Castens, Sandown House, Hampton Road, Bexley Heath.

07 4 h.p. Roc, magneto ignition and two-speed gear, guaranteed in good running order; price £28, exchange.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

NEW ARIELS.

We are now stocking the latest 2½ h.p. Ariel lightweight as well as the 3 h.p. and 6 h.p. (Jap engine) models.

Lists, etc., upon request.

Offers wanted for

MINERVA, 4½ h.p., perfect	£26	0	0
SAROLEA, 6 h.p., spring forks	22	0	0
WERNER, twin, 4 h.p.	20	0	0
REX, 5 h.p., twin, '07 machine	18	0	0
ZENITH, 3 h.p., two speeds	27	0	0
N.S.U., 3½ h.p., two speeds	18	0	0

NEW MACHINES.

2½ h.p. ARIEL, coil and accumulator	32	gns.
2½ h.p. ARIEL, magneto	37	"
3½ h.p. VINDEC	£48	10 0
5 h.p. VINDEC	53	0 0
5 h.p. TOURIST	52	0 0
2½ h.p. MINERVA	20	0 0
3½ h.p. MINERVA	32	0 0
4½ h.p. MINERVA	39	0 0
7-8 h.p. MINERVA	45	0 0
1½ h.p. F.N.	35	0 0
4½ h.p. F.N.	50	0 0

Let us quote you for Exchange for any of the above.

Prices rock bottom. Cash or Exchange.

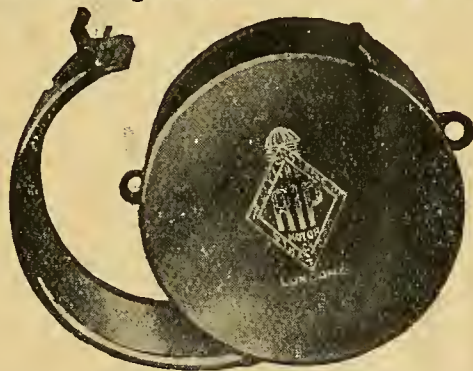
Any other make gladly quoted upon request.

TRICARS.

REXETTE, 8 h.p., twin tyre, two speeds and reverse, water-cooled, wheel steering	£60	0	0
HUBBARD, water-cooled, two speeds	20	0	0

ACCESSORIES.

1908 Bosch Magneto (new), single	£4	0	0
1908 Bosch Magneto, twin	5	0	0
Long Carburetter, perfect	15	0	0
VARIABLE PULLEYS, try one on appro. State engine only	10	6	
Trailer, suit tradesman	1	10	0
28 x 2½ in. Cover, new	9	6	
Gear Box, two speeds and reverse	2	0	0
Car Chassis and Wheels	2	0	0
Headlight (car)	10	6	
Mabon free engine Clutch	2	0	0



RIP BOXES.

The finest extant for carrying tubes or belts. Try one on approval. A quality, 7/6; B quality, 4/6.

BELT BOXES.

Hold nine feet. Any size easily fitted. A quality 8/6; B quality, 5/6. Trade terms on request.

PALMER TYRES (Gord).

Cover.	Tube.	Cover.	Tube.
26 x 2, 43/3	10/-	28 x 2, 50/3	10/-
26 x 2½, 53/9	11/-	28 x 2½, 63/6	11/-
26 x 2½, 59/3	16/3	28 x 2½, 64/3	17/6

11/- allowed on old covers and 2/6 on tubes.

TUBES.—Fully guaranteed.

26 x 2 in.	6/-	28 x 2 in.	7/-
26 x 2½ in.	7/-	28 x 2½ in.	7/6
26 x 2½ in.	8/-	28 x 2½ in.	8/-

Immediate Delivery. Approval.

COVERS.

26 x 2 in.	16/-	28 x 2 in.	17/-
26 x 2½ in.	17/6	28 x 2½ in.	18/-
26 x 2½ in.	21/6	28 x 2½ in.	22/-

MAUDE'S MOTOR MART,

Powell Street, HALIFAX.

National Telephone 433.

MOTOR BICYCLES FOR SALE.

ACTON.—4 h.p. N.S.U., twin, 1908, magneto ignition, 24in. by 2½in. Peter-Union tyres, two-speed gear and free engine, with sidecar; any trial; £38.

ACTON.—3½ h.p. Rover, M.O.V., long handle-bars, 26 by 2½ Peter-Union tyres, Gloria belt, equal to new; £15 10s.

ACTON.—3 h.p. Triumph, perfect condition, two accumulators, all accessories and spares; £18.

ACTON.—5½ h.p. N.S.U., twin, magneto ignition, 24 by 2½ Peter-Union tyres, 1in. belt; £25.

ACTON.—3½ h.p. Automotor, low built, long handle-bars, Clincher tyres, good order; £8 10s.

ACTON.—2 h.p. Peugeot, lightweight, vertical engine, 19in. frame, 26in. tyres; £7.

ACTON.—Any of the above can be had on approval, "Motor Cycle" deposit system.

ACTON.—West London district agency for the famous N.S.U., latest pattern models in stock, spare parts, two-speed gears; liberal allowance for your old machine in part exchange; deferred payments.—Eagles and Co., High Street, Acton. Telephone, 556, Chiswick.

3½ h.p. Minerva and 3½ h.p. N.S.U., fast, reliable machines, in good condition; £12 each; viewed any evening.—E. Firm, Station Road, Egham, Surrey.

£15.—3½ h.p. Bat, spring frame and forks, adjustable pulley, Watawata, lamp, stand, carrier; a bargain, giving up.—Gresford, Sumner Road, Harrow.

£24.—Minerva engine, Chater-Lea fittings, motor bike and sidecar, complete, perfect running order; sacrifice; trial any time.—36, Stroud Green Road, N.

3½ h.p. Brown, new, handle-bar control, very little used; no time to ride reason for selling; seen any time; offer.—35, Bramber Road, W. Kensington.

TRIUMPH, 3½ h.p., 1907, perfect condition, tyres unscratched, practically new, spares; price £33.—Collings, 5, New Burlington Place, Regent Street, London, W.

4 h.p. Roc, Stevens engine, 1907 model, free engine clutch and starting handle, condition of this machine absolutely as new; price £25.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

WERNER Two-cylinder Motor Cycle, £11 11s.; Ascot, single-cylinder, 3 h.p., £10; both perfect condition.—Apply, 4, Yeoman's Row, Brompton Road, London.

LIGHTWEIGHT, 2 h.p., low frame, footboards, Clinchers, good running order; £8 8s., or exchange gent's push cycle and cash.—Rawlings, Contractor, Southfields.

2 h.p. Peugeot, vertical engine, in very good condition for a second-hand machine, would make a light runabout; price, lowest, £10 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

5 h.p. Motor Cycle, twin-cylinder, free engine, Chater-Lea throughout, Palmer tyres in good condition, footboards; £22.—12, Seymour Street, St. John's, Deptford, S.E.

2½ h.p. Matchless, Minerva engine, spring forks, and saddle, just overhauled, replated, and enamelled; first sensible offer accepted.—Motor, 21, Highbury Quadrant, N.

1½ h.p. Motosacoche, purchased three months ago, and only ridden 500 miles; owner leaving England; must sell; £21.—Seen at Wauchope's, 9, Shoe Lane, Fleet Street, London.

3 h.p. White and Poppe, Chater-Lea, very low frame, splendid condition, excellent hill-climber, very reliable; £12; cash needed.—Maurice, Langridge, jun., 7, Bodney Road, Hackney.

7 h.p. Buchet, very low and fast, handle-bar control, perfect; £25, or offer.—Write, H. Kennedy, H.M.S. Commonwealth, Channel Fleet, Garaged Wauchope's, 9, Shoe Lane, Fleet Street, London.

REX Tourist, 3½ h.p., ball bearing engine, cost 38 guineas, new 12 days ago, run about 100 miles, condition as new; sacrifice £30 first cheque; Rex featherweight, nearly new, £19.—Pepper, Market Hill, Royston, Herts.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD for Bargains this week.—3½ h.p. 1908 handle-bar control Triumph; £39; almost new Excelsior non-skid tyre, Premier lamp, horn, etc.; bargain.

HAMPSTEAD.—3½ h.p. Minerva, almost new, late 1907, complete with spares; £21; guaranteed.

HAMPSTEAD.—3 h.p. Rover, vertical, spray, M.O.V., Brooks 105 saddle, all spares; great bargain, £10 15s.

HAMPSTEAD.—1½ h.p. 1908 F.N. lightweight, magneto, and spring forks, good condition; £18, bargain.

HAMPSTEAD.—4½ h.p. four-cylinder F.N., magneto, and spring forks, grand condition, with spares; £25.

HAMPSTEAD.—4½ h.p. twin Minerva, with spring forks, new condition; bargain, £20; guaranteed.

HAMPSTEAD.—1908 1½ h.p. brand new F.N., lightweight; £30, bargain, with spares.

HAMPSTEAD.—1908 3½ h.p. Triumph, handle-bar control, almost new; £44; guaranteed in perfect condition.

HAMPSTEAD.—All machines guaranteed perfect, and sent on approval deposit, if necessary.

HAMPSTEAD.—3½ h.p. M.M.C., Chater-Lea frame, splendid condition and going order; £10, bargain.

HAMPSTEAD.—3½ h.p. Minerva, late model, new condition, complete with spares; only £16; guaranteed perfect.

HAMPSTEAD for Triumphs, 1908; can deliver from stock; your old machines taken in part payment.

HAMPSTEAD.—3½ h.p. N.S.U., magneto, late model, good condition; bargain at £18.

HAMPSTEAD.—Triumphs, 1908, on easy payment system; other makes on application.

HAMPSTEAD Agent for all makes; sole agent for Griffons, Minervas, F.N.'s, Triumphs, Vindecs, etc., Rey, 5, Heath Street, Hampstead, close to Tube Station. Tel. 2678, P.O.

6 h.p. Twin Snaim, French engine, large comfortable saddle, footboards, spring forks, good condition; 30 guineas, or near offer.—Walker, 44, London Road, Redhill, Surrey.

31 h.p. Aster, low built, Chater-Lea frame, Continental tyres, long bars, in good condition; only wants seeing; £12 12s., or near offer.—A. Pocock, 158, Canterbury Road, W. Croydon.

EASY Payments taken for Minervas, Motosacoche, Rexes, Triumphs, Laurin and Klements, Nortons, or any other make; liberal allowance for second-hand machines.—Next.

EASY Payments taken for second-hand motor cycles and tricars; sound bargains in stock; write for list.—Stanton, 86, Colvestone Crescent, Dalston, London.

21 h.p. Rex, long bars, low saddle, very powerful (suit passenger work), very reliable, splendid condition, tyres good as new; going cheap, £11.—Motorist, 86, Colvestone Crescent, Dalston, London.

3 h.p. Triumph; £21 10s.; 1906, late, absolutely perfect throughout, equal to new, climbs mountains, crawls behind donkey barrow, absolutely reliable.—Motor, 86, Colvestone Crescent, Dalston, London.

3 h.p. Humber, Ohater-Lea low frame, long handle-bars, Longuemare carburettor, perfect running order, bargain, £12; sidecar for same, splendid condition, £4; together, £15.—Moggeridge, High Road, Potter's Bar.

11 h.p. F.N. Lightweight, without side fly-wheel, one of the best, little lightweights going, vertical engine, machine and tyres in good condition and running order; price £6 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

4 h.p. M.M.C., A.I.V., Chater-Lea, motor cycle fitted with Riley tandem attachment, extra strong back wheel, P.U. non-skid back, Continental front, 26 by 24, Longuemare, P. and R., new Dermatine, Sharp silencer, foot brake, reliable touring machine; £16 10s.—46, Vardens Road, Clapham Junction.

NOTES OR GOLD

Cash, exchange, or extended payments

TWINS—OFFERS WANTED.

6 h.p. Twin Rex, £17 17s. or £4 and '07 Single Rex, or £8 and '05 Single Rex, or level exchange with Single Magneto Rex. **SPECIFICATION.**—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

5 h.p. REX Tourist (new) .. 1908 £42 0

5 h.p. REX DE LUXE (new) 1908 52 10

5½ h.p. N.S.U., magneto (new) 1908 52 0

5 h.p. Twin VINDEC, magneto .. 35 0

5½ h.p. REX DE LUXE (soiled) .. 35 0

6 h.p. Twin REX, blue lines .. 17 17

5½ h.p. Twin REX, spring forks .. 17 17

5½ h.p. REX DE LUXE, magneto 27 10

Twin REX, blue lines, new tyres 18 18

6 h.p. Twin REX, non-skids 18 18

5½ h.p. Twin REX, magneto, 1907 23 10

4-5 h.p. Twin ALCYON, two speeds 20 0

4 h.p. Twin WERNER, fine machine 19 19

5 h.p. Twin SAROLEA, long frame 18 18

6 h.p. Twin ANTOINE, R.O.M. ... 22 0

Twin CLEMENT, spring forks 14 0

5 h.p. Twin ONAWAY, very low 19 0

6 h.p. Twin ANTOINE, spg. fks. 22 0

SINGLES—OFFERS WANTED.

2½ h.p. REX (new) 1908 £26 5

3½ h.p. REX Tourist (new) .. 1908 36 15

3½ h.p. REX DE LUXE (new) 1908 47 5

N.S.U. Lightweight (new) .. 1908 34 10

3½ h.p. N.S.U., magneto (new) 1908 42 0

3½ h.p. TRIUMPH, 1907 32 10

3 h.p. TRIUMPH, magneto 24 10

3½ h.p. REX, 1907, 2½ tyres 17 17

4 h.p. ROC, 2-speed, like new .. 35 0

3½ h.p. 1906 REX, spring forks 15 0

3½ h.p. Magneto REX RACER .. 25 0

3½ h.p. REX, spray, 21½ frame 11 10

3½ h.p. 1906 REX, spring forks 15 0

3½ h.p. REX, spray, fine climber 11 10

2½ h.p. Magneto REX, 1908 22 0

3½ h.p. MINERVA, M.O.V. 16 10

3 h.p. GIVAUDAN, nearly new 16 0

3 h.p. ROVER, 26 × 2½ Palmers 13 10

3 h.p. LLOYD'S, 26 × 2½ Palmers 13 10

4 h.p. ANTOINE, spring forks .. 16 0

2½ h.p. MINERVA, fine condition 14 10

2½ h.p. CLYDE, magneto 15 0

4 h.p. ANTOINE, 26 × 2½ tyres .. 16 10

3½ h.p. SIMMS, mag., 2½ Palmers 17 10

3½ h.p. QUADRANT, 1906 18 10

3½ h.p. CENTAUR, free engine .. 16 0

3 h.p. HUMBER, spray 10 10

3 h.p. FAFNIR, very low, spray 13 10

2½ h.p. CORONET, free engine .. 10 10

3½ h.p. REX, 22 frame 11 10

2½ h.p. MINERVA, 26 × 2, spray 11 10

3 h.p. BROWN 12 10

3 h.p. SINGER, magneto 14 0

3½ h.p. EXCELSIOR 12 10

2½ h.p. COVENTRY EAGLE 10 0

3½ h.p. Two-speed REX 13 10

2½ h.p. CLEMENT, very low 11 0

2½ h.p. KERRY, spray, low 10 10

2 h.p. RALEIGH, spray 8 0

2½ h.p. ROYAL, vertical, spray .. 8 0

2½ h.p. SINGER, magneto 8 10

TRICARS.

4½ h.p. W.C. BRADBURY £37 10

5½ h.p. QUADRANT Carette 35 0

REX-Mills-Fulford 13 0

4½ h.p. STEVENS 17 10

Twin REXETTE, W.C. 47 10

"PERFECTION" Leather V Belting—

1 in. 9d., 1 in. 10½d., 1 in. 1/-, 1 in. 1/1.

"SERRATRIX" Rubber Canvas Belting,

Best on test—1 in. 9d., 1 in. 1/-, 1 in. 1/4,

1 in. 1/8 per foot.

THE HALIFAX MOTOR EXCHANGE,
16, WESTGATE, HALIFAX.

Telephone 766

Telegrams, "Perfection."

MOTOR BICYCLES FOR SALE

3 h.p. Quadrant, spring forks, re-enamelled and plated, equal to new throughout thoroughly good hill-climber, and most reliable machine; £12 10s., lowest.—"Quadrant," 86, Colvestone Crescent, Dalston, London.

21 h.p. J.A.P. Motor Cycle, vertical engine torpedo tank, Chater-Lea fittings spray carburettor, low frame, handy, light runabout; splendid bargain, £12 10s., or near offer.—On sale at Wauchope's, 9, Shoe Lane Fleet Street, London.

MOTOR Cycles, with Chater-Lea frames, torpedo tanks, 3½ h.p. Fafnir engines from £25; sidecars built to order, from £18s. 6d.; write us for Chater-Lea frames.—The Ravensbourne Motor Co., Southend, near Catford, S.E.

24 h.p. F.N., flies up hills, engine guaranteed absolutely perfect, low saddle tyres as new, perfectly reliable, no better machine; cash needed; £12, quick sale.—Motorist, 3, New Norfolk Street, Curtain Road, London.

F.N., 2½ h.p., good condition, long and short bars, two accumulators, two belts Dunlops (back unpunctured); £15, or will exchange and pay cash £2 per month for good higher power.—472, The Motor Cycle Offices, Coventry.

1906 Vindec Special, 3½ h.p., magneto and accumulator ignitions, Truffaut spring forks, practically new throughout guaranteed perfect, romps up terrific gradients, absolutely reliable; £25, lowest.—Motor, 9, French Place, Shoreditch, London.

51 h.p. Rex de Luxe, 1907 model, fitted with twin back tyres and free engine clutch, magneto, sprung back and from very low reach, starts like a car with hand condition throughout is excellent; this machine is for sale at the low price of £22 10s. Wauchope's, 9, Shoe Lane, Fleet Street, London.

BARGAIN.—3½ h.p. Minerva, Chater-Lea frame and fittings, Advance adjustable pulley, new Palmer cord back, extra Stark Continental front, just been thoroughly overhauled and new piston and ring fitted, a splendid hill-climber, in first-class running order; sacrifice, as money wanted £16 10s.—C. Altman, The Lodge, Watford.

1908 3½ h.p. Phoenix Cob, open frame, two speed gear, magneto ignition, starts like a car, gears, chain, and back wheel all covered in, condition of the machine new, it would be suitable for lady or gentleman complete with lamp, horn, and spares; price £32 10s., exchange arranged.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

5 h.p. M.M.C., 92 mm. bore, Chater-Lea throughout, spring handle-bars and seat-pillar, Fit-all two-speed, handle starting, B26 Longuemare, fitted Gillett-Lehman control, Lloyd's type fan (cost £6), two Lit anode accumulators, Basse-Michel trembler coil, large quantity tools and spares, together with lamp, stand, carrier, etc., perfect order, and finish aluminium, with black lines; price £40—seen by appointment.—Warwick, Willpha, Longlands Park Road Sidcup.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall
FOR Sale, 3½ h.p. Triumph, accumulator ignition; £11 10s.—Matthews, Hammersmith, Merton.

SECTION X.

Scotland.
ANTOINE, 5 h.p., twin, very powerful

REX, 5 h.p., twin, 1907, used for trials; £19 10s.

QUADRANT, 3½ h.p., magneto, spring forks in splendid order; £25.

GRIFFON, 3½ h.p., 1907, spring forks, almost new; £28.

TRICAR, Rex Triette, 5½ h.p., Osborn three-speed gear, in splendid order £30.—At Alexander's Motor Exchange, 1, Lothian Road, Edinburgh.

EDINBURGH Exhibition, Industrial Hall, Stands 126 and 127; finest exhibition motor cycles ever shown on any one stand from May till October.—Alexander's Motor Exchange, Lothian Road.

COUPLINGS.

UNITO Cycle Couplings, for connecting any ordinary pedal cycle to motor cycle.

THE Unito connects the steering and ensures faultless alignment.

THE Unito is so constructed that side strain and lean of machines is entirely avoided.

THE Unito is adjustable to accommodate differences in wheelbase and wheel and frame dimensions.

DON'T Buy a Sidecar before you know the advantage of having a

UNITO Coupling. It only costs one guinea.—Write, Dept. B., Unito Coupling Co., Ystrad, Glam.

ENGINES.

1 h.p. Werner Engine, with carburetter, etc.; £2 18s.—D. Sullivan, 40, Hubert Ave, Clapham.

ENGINES.—Zedel and Griffon, 2½ h.p., £7 13s.; 3½ h.p., £9; 3½ h.p. twin, £10 10s.; 5½ h.p., £13 12s.; all models in stock, and spares.—Rey, 5, Heath Street, Hampstead.

h.p. w.c. engine, £6; 6½ h.p. Aster engine, £8 10s.; 8-10 h.p. two-cylinder Brown, £10; 2½ h.p. Clement, 42s.; all in running order and fitted with carburetters.—Motor Exchange, Westgate, Halifax.

1 h.p. Minerva, inclined, £3; 3½ h.p. Standard, vertical, £3 10s.; 3 h.p. Quadrant, 10s.; 1½ h.p. Minerva, 25s.; 3 h.p. Minerva pattern, M.O.V., £3 10s.; 2 h.p. Quadrant, 35s.; h.p. De Dion pattern, 45s.—Farrar, Square Road, Halifax.

TYRES.

BOOTH.—New rubber studded cover, 26 by 2, 25s.; ditto, 26 by 2½, 27s. 6d.

BOOTH.—Peter-Unions, 24 by 2½, 28 by 2½, 15s. 6d.; Royalty covers, 26 by 2, 12s. 6d.; 13s. 6d.

BOOTH.—Ten shillings allowed for old cover in exchange for Shamrocks, Palmers, Goodrich's.

BOOTH.—Tyres, best make, 26 by 2, 16s.; 2½, 17s. 6d.; 2½, 21s.; 28 by 2, 16s. 6d.

BOOTH.—Best tubes, 26 by 2, 7s.; 2½, 7s. 6d.; 2½in., 8s. 6d.; 28 by 2, 7s. 6d.

BOOTH.—All tyres sent on approval.—Booth's Motor Exchange, Wade Street, Halifax.

6 by 3 Dunlop Inner Tube, for car, new; 12s.—Oliver, 154, Fleet Street, London.

MAUDE'S.—Fully guaranteed tubes, 26 by 2in., 6s.; 2½in., 7s.; 2½in., 8s.; 28 by 2, 7s. 6d.; 2½in., 8s.; approval willingly.

MAUDE'S.—Covers, 26 by 2in., 16s.; 2½, 17s. 6d.; 28 by 2in., 17s.; 2½in., 18s.—Maude's, Powell Street, Halifax.

MAUDE'S Butt-ended Tubes.—Why not try one on approval? Note especially the low prices: 26in. and 28in. by 2in., 7s. 6d.; 2in. and 28in. by 2½in., 7s. 9d.; 26in. and 28in. by 2½in., 8s. 3d.—Maude's, Powell Street, Halifax.

SPECIAL 2½ Calmon tyres, fit 26 by 2 rims, 17s. 9d. each; other sizes, 15s. each.—Motor Exchange, Westgate, Halifax.

CLINCHERS.—Special 2½in. covers, to fit 2in. or 2½in. rims, 23s. each; don't be under-tyred. It's false economy.—Farrar.

SPECIAL Line.—Clincher tubes, 26 by 2, and 28 by 2, complete with valves; 5s. each, post free.—Farrar.

0 Per Cent. off usual prices.—Clincher A. Won brand new covers, 26 by 2, 18s.; 26 by 2½, £1; 28 by 2½, heavy tricar, £1; 26 by 2, extra heavy, 21s.; 26 by 2½, extra heavy, 22s.; all ribbed non-skid treads.—Farrar.

0 S. Allowed for old covers in exchange for Goodrich, Palmers, Shamrocks.—Farrar, Square Road, Halifax.

REPAIRERS.

5 any motor cycle we cannot repair.—Whites, 22, Brook's Alley, Church Street, Liverpool. Agents for Lubrio.

CRACKED Water Jackets of motors successfully repaired by Lea's metallurgical process.—Lea and Son, engineers, Run-

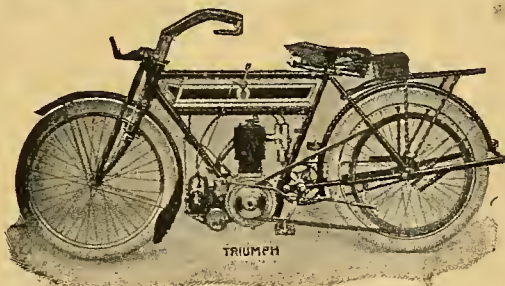
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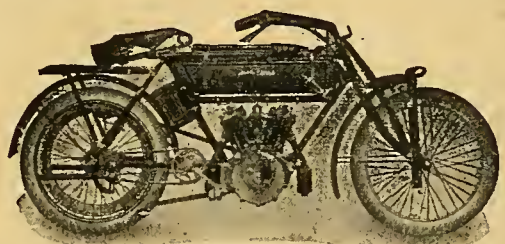
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TELEGRAMS: OPIFICER, LONDON. TELEPHONE NO. 5777, HOLBORN.

You will be interested if only to view our varied stock of Small Motor Vehicles.



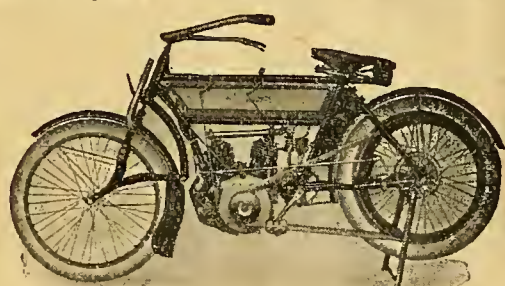
1908 STANDARD TRIUMPH now fitted with non-skid tyre to back wheel, £48. Second-hand motor cycles, light cars, or tricar taken in part payment, good market value allowed by WAUCHOPE'S. Address as above.



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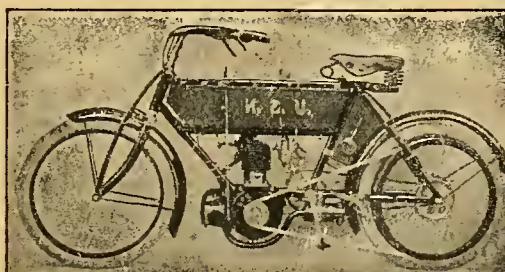
2½ h.p., £29. 3½ h.p., £32. 4½ h.p., £39. 7-8 h.p., £45.

You can get them at WAUCHOPE'S. Send particulars of your second-hand machine and we will submit price of allowance unseen, subject to machine tallying at sight. Carriage will be paid in one direction by us should we fail to come to terms.



1908 VINDEC SPECIAL.

You can get them at WAUCHOPE'S. Exchanges arranged.



1908 N.S.U'S.

You can get them at WAUCHOPE'S. Exchanges arranged. Liberal allowance.

1908 F.N., 4-cylinder, 5-6 h.p., £52 10s.
Lightweight F.N., latest model, £35.

You can get them at WAUCHOPE'S, 9, SHOE LANE, FLEET STREET, LONDON.

Second-hand machines will be allowed for in part payment.

1908 Lightweight Ariels, magneto and spring forks, 37 Guineas.

You can get them at WAUCHOPE'S.

WAUCHOPE'S
9, Shoe Lane, Fleet Street, London.

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CAR and Motor Cycle Repairs.—Cylinders re-bored, new pistons fitted, gears, bearings, valves, etc.; prompt delivery.—Mastin and Smart, Bedford. Est. 1889.

IGNITION Coils and Magnetos Repaired, any make; accumulators repaired and charged; best work; moderate charges; quotations. — Glover Bros., Electricians, Coventry.

BIRMINGHAM. — Repairs, overhauling, cylinders re-bored, re-bushing, valves, pulleys, any make; ideas carried out; tuning up a speciality; estimates free.—Priest and Williams, 66, Bishop Street.

TO West of England Motorists.—Car and motor cycle repairs, prompt and reliable; cylinders re-bored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Works, Bridgwater.

REPAIRS and Overhauling. — We have the finest repair works in London for motor cycles, with up-to-date machinery; estimates free; new cylinders for any make of engine, pulleys, valves, gears, and all replacements; send for our new booklets, with prices. — Laystall Motor Engineering Works, 27 and 29, Laystall Street, Rosebery Avenue, E.C.

EXCHANGE.

WANTED, good Motor Cycle Lamp, good condition.—Butler, 26, Guppy Street, Swindon.

TWIN Rex and cash for modern magneto single.—Box 425, The Motor Cycle Offices, Coventry.

WANTED, Good Lightweight, in exchange for new furniture.—Replies, Tibbott, "Manfield," Wrexham.

EXCHANGE lady-back tandem, splendid condition, for motor cycle or piano.—Sturgess, Kintbury, Berks.

WANTED, new 2½ h.p. inclined Jap engine; cheap; approval; deposit.—No. 471, The Motor Cycle Offices, Coventry.

18 CT. Gold Watch, value £15, for 1½, 2, or 3 h.p. motor cycle.—Particulars, Maillard, Gaveston Road, Leamington.

VELOX, 5 h.p., Aster engine, two-seater, cheap, or exchange for motor cycle and cash.—Manning, Burley, Ringwood.

EXCHANGE, 3 h.p. Triumph, in perfect order, for 3½ h.p. 1908 Minerva, with small cash adjustment.—Palmer, 53, Highgate Hill.

5 h.p. Vindec Special (magneto), good condition, for good 3½ h.p. single-cylinder (magneto), Triumph preferred.—Brand, 14, Steyne Street, Bognor, Sussex.

EXCHANGE 3½ h.p. Ariel and 1½ h.p. Crossley gas engine, for up-to-date powerful single or twin motor bike.—Baldwin, 151, High Street, Sutton, Surrey.

8 h.p. Le Dion Engined Car, two seats, detachable third seat; exchange Phelon-Moore or Triumph, cash adjustment.—Wright, 26, Regent Road, Morecambe.

21 h.p. Humber, low, vertical, perfect order (£8 10s.) and phonograph, Edison Gem, and 40 records (£2), for higher power, or sell.—15, Montrose Street, Dartington.

EXCHANGE, for good motor cycle or tricar, new furniture, any description, valued wholesale, direct from the works.—Furniture manufacturer, 9, French Place, Shore-ditch, London.

TWO-SEATED Pelham Car, 6 h.p. De Dion engine, three speeds and reverse, new condition; cost £160, for Riley, Singer, or first-class tricar and cash adjustment.—A.B., 196, Aldersgate Street, London.

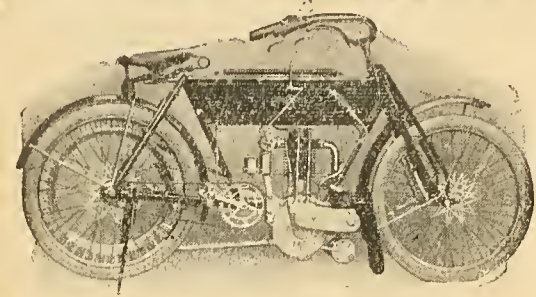
EXCHANGE for cycle and cash, or lower power and cash, 3½ h.p. Humber, perfect engine and tyres like new, magnificent hill-climber, thoroughly reliable.—Stanton, 86, Colvestone Crescent, Dalston, London.

WANTED.

GOOD Sound 28 by 2 beaded cover wanted on approval.—Blanchard, Dorchester.

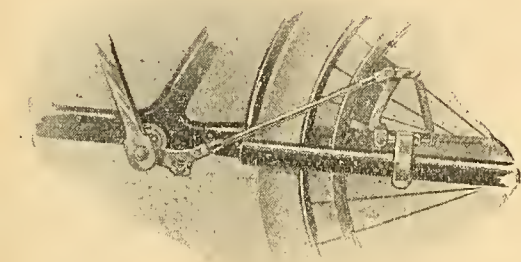
MONTGOMERY Flexible Sidecar, for left side of 1907 Rex de Luxe, 26in. wheel; will exchange Rudge-Whitworth 12-guinea lady's bike, nearly new.—S. Fraser, 13, Eglington Street, Glasgow.

MATCHLESS MOTORS!!

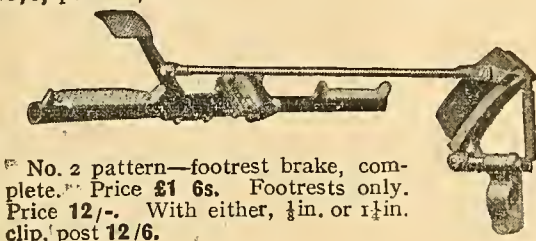


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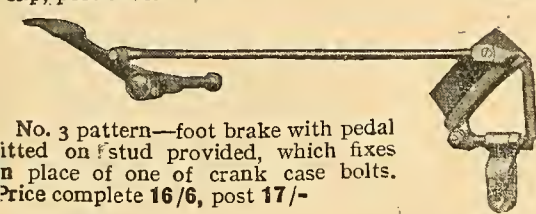
No Trade riders—ridden by private owners only.
"CHASE" DRIVING RIM BRAKE.



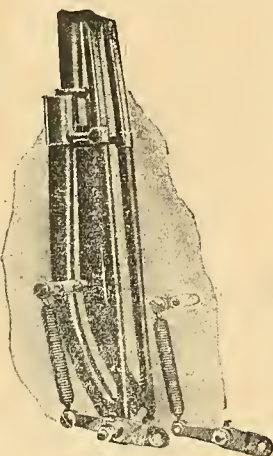
No. 1 pattern—back pedalling brake. Machine can be wheeled backwards. Extremely powerful. Price, 16/6, post 17/-.



No. 2 pattern—footrest brake, complete. Price £1 6s. Footrests only. Price 12/-. With either, 1/2 in. or 1 1/2 in. clip, post 12/6.



No. 3 pattern—foot brake with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete 16/6, post 17/-.



MATCHLESS PETROL FILTER.

No choked carburettors.
 4/6, post 4/8.



MATCHLESS SPRING FORK ATTACHMENTS.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction!!

15/6, post 16/-



THE MATCHLESS SILENCER.

Up to 3 h.p., 10/-; from 3 1/2 to 5 h.p., 12/-. Cut out 5/- extra. Two connections for twins with separate exhaust pipes, 4/- extra.

Catalogues of "Matchless" Motor Cycles and Accessories on application to

H. COLLIER & SONS, Ltd.,

Motor Experts and General Engineers.
 Offices and Showrooms,
 18, HERBERT ROAD, PLUMSTEAD
 (Nearest Station: Woolwich Arsenal.
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WANTED.

WANTED, Old Accumulators; best price given.—Motorics, 3, Arley Grove, Armley, Leeds.

MAGNETO Rex, single-cylinder, for twin Rex and cash.—Box 424, The Motor Cycle Offices, Coventry.

WANTED, 3 1/2 h.p. Motor Cycle for ladyback tandem (£) and £1 monthly.—83, Dennis Road, Eastbourne.

WANTED, Montgomery sidecar, 26in. wheel; state lowest cash.—1, Palmerston Street, Bedford.

WANTED, good late make air-cooled engine, M.O.I.V., not less 3 1/2 h.p.—35, Petre Street, Sheffield.

WANTED, good sidecar, will give gent's 10-guinea pedal cycle, new.—Farrar, Square Road, Halifax.

TRIUMPH wanted, 1906 or 1907, or any other good make; cheap for cash.—Rey, 5, Heath Street, Hampstead.

RICH Tube, 26 by 2 1/2, spring seat-pillar, inch stem, 13-16in. saddle; approval.—Blick, Harbury, Leamington.

£30 Offered for 1908 Magneto 3 1/2 h.p. Phelon-Moore, in new condition; approval. essential.—70, Prince Street, Bristol.

WANTED, new pulley, 3in., 28°, for 2 1/2 h.p. Buchet engine, outside flywheel type.—Write, F.B., 81, Spout End, Coventry.

WANTED, Clincher A Won motor cycle tyre, 28 by 2, extra stout, condition as new.—Cox, Stanford-in-the-Vale, Berks.

CRANKS, chain wheel, for 2 h.p. F.N., 26in. by 2in. wired cover, flat belt rim.—69, Palmerston Street, Moss Side, Manchester.

STOCKPORT.—A quantity of second-hand motor cycles to sell on commission; sold ten in last ten days.—Lund and Davies, Heaton Lane, Stockport.

WANTED to purchase for cash, Triumphs, Quadrants, Minervas, Bats, Japs, Riley and Lagonda tricars, or exchanges arranged for new models.—Wauchope's, 9, Shoe Lane, London, E.C.

WANTED, motor cycle, about 3 1/2 h.p., spring forks, good make, and perfect order, in exchange for £10 cash, oak bureau, and other furnishings.—Harry Dougall, 16, Broughton Place, Edinburgh.

THE Proprietors of the patent rights of R.O.M. synchronised contact breakers are prepared to accept offers for the rights to manufacture in France; write for particulars.—Continental Motor Co., 32, Rosebery Avenue, E.C.

MISCELLANEOUS.

ENGINES Re-bushed throughout from £1.

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DERMATINE BELTS

HOLD ALL RECORDS.

End-to-End Record, June 9th and 10th :
 Mr. A. W. Bentley, using Dermatine belt.
 M.C.C. 24 Hours' Ride to Edinburgh,
 June 5th and 6th :

35 were successful, using Dermatine belts.
 Stadium Race Meeting, June 8th :
 Harry Martin, First in Ten Miles Race.

Stadium Race Meeting, June 24th :

Again the First, Second, and Third winners were fitted with Dermatine belts.
 No other belt holds such records. The Original Rubber and Canvas Belt. **BEWARE OF IMITATIONS.** The standard belt that is adopted by all leading manufacturers.

End-to-End Record.

Read the testimonial from the Triumph Co.
 Coventry, June 22nd, 1908.
 Mr. Stanley Webb, 32, London Road,
 Bromley, Kent.

Dear Sir,—I do not know whether we have written to you about the Bentley End-to-End record. Mr. Bentley had a Stanley Dermatine Belt fitted to his motor cycle. It gave him entire satisfaction, and had not to be touched once during the whole ride of 886 miles.

Yours faithfully, M. J. SCHULTE,
 Manager Director, Triumph Motor Co., Ltd.

Second season in use, and still going strong.
 125, Bunhill Row, E.C., 12/6/08.

Dear Sir,—You will be pleased to hear that the "Dermatine" Belt I used in this year's London-Edinburgh run gave me no trouble whatever, and that, moreover, it was the identical belt I used in last year's L.-E. run. It is still going strong, though having run nearly 3,000 miles. Yours faithfully, J. P. LE GRAND.

800 miles, and no trouble nor once shortened.

Southernhay, Loughton, June 12th, 1908.
 Dear Sir,—I must again congratulate you upon your excellent belts, as the one I used on my 3 1/2 Vindec in the Schulte Cup Competition to Edinboro' and back gave me no trouble whatever, and was not even shortened once in 800 miles. I consider this a severe test, and a splendid proof of efficiency.

Yours faithfully, OWEN L. SUMMERS.
 Hundreds of Testimonials. British Made.



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1/2	1/4	1/8	1/11 per ft.

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The STANLEY DERMATINE MOTOR BELT CO.,

32, London Road, BROMLEY, KENT.
 STANLEY WEBB, Manager.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

THE MOTOR CYCLE

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Some Points of Interest.

By "IXION."

HAVE had such a plethora of correspondence lately that I am asking the editor to allow me space to work off a few of the replies of some public interest in a batch. One letter is from the owner of a well-known 1908 machine, which has a gudgeon pin of unusual design. It is a good deal shorter than the diameter of the piston, is a loose fit, and is devoid of any fastenings, except that the lowest of the three piston rings crosses the outer ends of the holes in which the gudgeon pin is bedded. Consequently, the gudgeon, even when new, has a certain amount of end-play, and is constantly hitting the lowest piston ring, and snapping it. There are no two opinions about the design—it is as bad in theory as it actually proves in practice. Not only is the ring breakage certain to be, but as the ring wears, it is apt to spring farther out of its groove, and a compression leakage presently pours through the two holes in which the gudgeon pin is so slack a fit. I have advised my correspondent to fit a new and tight gudgeon pin, locked by set screws, which are further to be secured by split pins, and to slot the ends of the pin so that the ring may pass it, and withal have a tight-fitting groove. If there is not sufficient metal in the piston's interior for set screws to be fitted, it will be safest to use an entirely new piston specially made. A really tight-fitting gudgeon pin, without other fastenings than the ends for an encircling piston ring to bed in, has been made to give satisfactory results; but the ring is bound to snap if the gudgeon pin turns ever so little, and consequently it is safer to use an additional locking device.

Another reader is grumbling exceedingly because the oil pumps of the machine he fancies are all fitted on the right-hand side, and he thinks this will be awkward, as he can only steer one-handed with the right hand. Without doubt oil pumps ought to be fitted on the top of the tank, and not screwed low down on to either side of it, as is the case with some machines; for if the plunger handle be on the tank top, it is accessible for either hand at will. However, my correspondent will find a very moderate amount of practice will put him quite at his ease with any placing of the oil pump whatsoever.

A third reader cannot fit a cyclometer, owing to the motion of his spring forks. It is scarcely credible that he cannot find room for it on either side of his back wheel. It is not advisable to use a small push bicycle cyclometer on a motor, but the patterns sold for this special purpose are entirely satisfactory.

A novice writes to know the reason of his engine suddenly "pulling up," as he calls it, while riding, but he gives so few details of its behaviour (it is a 1 1/4 h.p. lightweight) that it is difficult to be sure what is troubling him. The lightweight I ride myself will "pull" up if either the machine be slowed down too much, or if the extra air be left open when the machine is slowed down to ten miles an hour, and in neither case is there any misfiring. His trouble may therefore be that after lifting the valve he drops it again when the machine is going dead slow, and needs a stroke or two of the pedals; or that he has his ignition over advanced for the road speed; or that he is giving too much extra air for the engine speed (in this last case one would

Some Points of Interest.

expect misfiring). If his "pulling up" occurs at fair speeds, in excess of twelve miles an hour, it is due to overheating or temporary stoppage of sparking, or of the petrol supply.

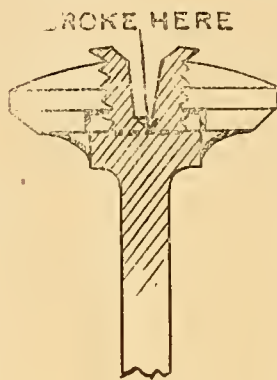
An engineer sends me a particularly useful wrinkle about fitting new rings in lieu of new cylinders when the bore of the cylinders has enlarged. He points out the obvious fact that if a cylinder has worn 2 mm. and new rings are fitted, these rings must be of the original bore, or they will not enter the cylinder at its lowest point where it is probably entirely unworn. Consequently, as the rings are passed up towards the top of the cylinder, where the diameter of the cylinder is enlarged by 2 mm., there will be an oblique gap of no less than 6 mm. if rings with the ordinary sloped cut ends are employed. He has therefore fitted a new set of rings with long step-cut ends, and he finds his compression as good as when the cylinders were new. This is very sound advice, and should be followed by all who endeavour to cheaply atone for worn cylinders by fitting a new set of rings.

Are Big Float Chambers Desirable?

A medical rider sends a plea for big float chambers to the carburetter. He does not say what machine he is riding, but says he has suffered unspeakable things from leaky floats, because his float chamber was excessively small, hence the float was very lightly constructed. As he says, a leaky float is practically unknown on cars, because the chamber is big enough to admit plenty of petrol, and consequently a float with heavily made joints can be fitted. It may interest him to know that in more than ten years of motor cycling I have never once owned nor seen a leaky float, and I think he must have been exceptionally unlucky. I have two very small floats under my notice now, both of which have been running almost daily for four or five years without trouble. He has further been suffering from a very unusual trouble. The symptoms were prolonged incurable irregularity of running of a kind that pointed to petrol starvation. At last he remembered that his petrol tap, being made of very soft stuff, had often been ground in to cure leakage, and on examining it found that the holes in the tap and in the pipes had been put quite out of mutual register by the grindings, so

that he was scarcely getting any spirit through to the carburetter. A new tap barrel, with spring washer, soon remedied the nuisance. I wonder what sort of a shoddy machine this correspondent has got hold of, and am quite certain it is not a standard modern mount.

A well-known Midlands rider sends quite a little batch of interesting experiences. He enclosed a cast-iron headed valve which broke and caused some damage, and from a sketch of the fracture readers will see that the expenditure of a little more time and money in the manufacture of these valves would probably save such fractures in future. The thick part of the stem ought certainly to be bedded in the cast-iron head. I myself have broken several of these valves, and my experience is that the fracture always occurs, as with his, at the point where the screw threading leaves the thick part of the stem. If this thickening of stem were countersunk only $\frac{1}{8}$ in. into the mushroom head, it



would relieve the threaded portion of much of the cross strain from which it suffers at present. His gudgeon pin was worn in a very abnormal fashion. The oil-ways in the gudgeon pin-brass on this engine are spiral, and they had acted as matrices and produced an elevation of similar shape upon the pin. I never heard of a similar experience before. His engine is one of the few rejoicing in pinned piston rings, and these were in beautiful order, tight, and bright over the whole of their circumference. One reason for a slight loss of power was a thick deposit of dirt on the gauze interposed between jet and valve box; this is a very common experience, and personally I knock out any such gauzes in my machines. He concludes by saying that, though his machine is a standard single cylinder of the best make, he has enjoyed far better running, since he increased his air supply by drilling six $\frac{1}{16}$ in. holes in the carburetter adapter. I do not know a single standard twin-cylinder which, as turned out by its makers, can supply the engine with all the air it needs when fully accelerated, and I have often found my single cylinders were equally starved of air when running fast.



Start of the Three Miles Race of the Essex Beagles A. and C.C. meeting on the Canning Town Track last week. This was the only event for motor cyclists on the programme, which accounts for the small field of three.

London = Land's End = London.

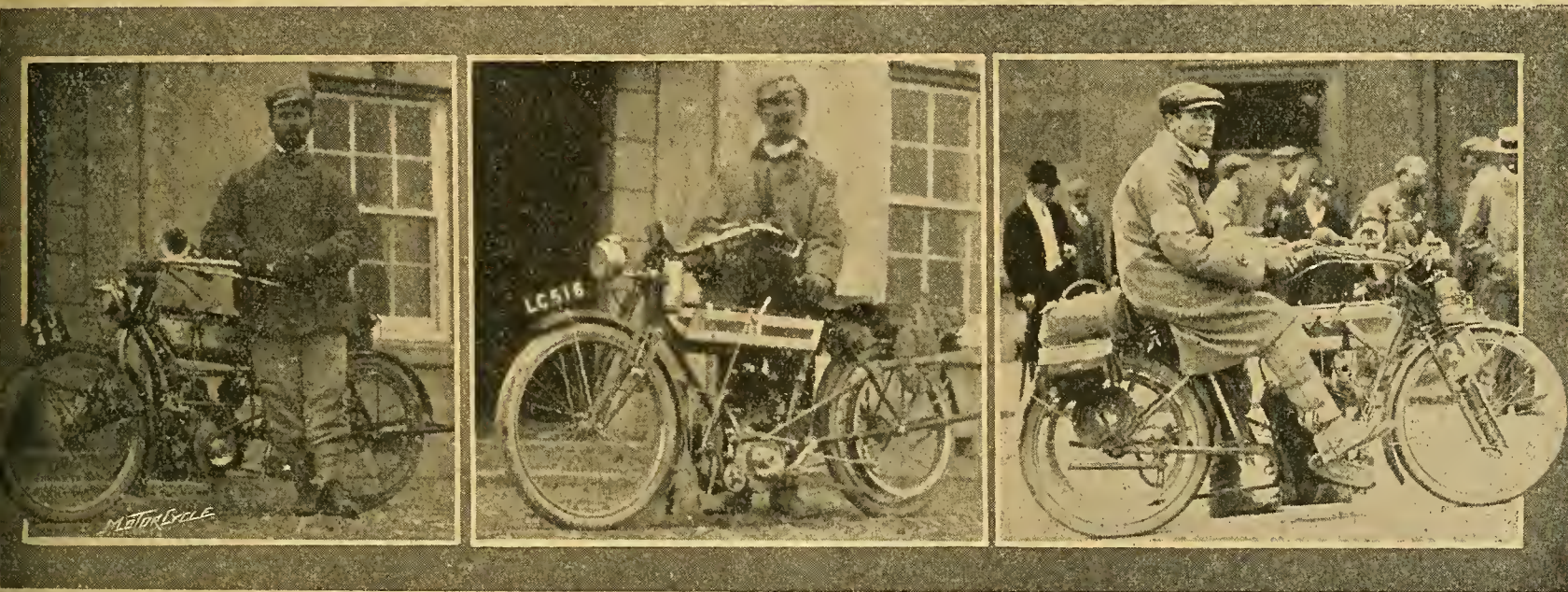
By A COMPETITOR.

AS I have never ridden in an End-to-end competition or the *double* journey from London to Edinburgh, perhaps I am hardly qualified to draw comparisons with the Motor Cycling Club's London to Land's End and back competition; but on the face of the rules and conditions governing the three long runs it seems quite obvious that the run to Land's End and back is by far the most strenuous. I have ridden from London to Edinburgh twice, and this 400 miles run is quite a picnic compared with the single journey to Land's End. Before returning from Edinburgh a competitor for the special cup and Schulte had a full night's rest and a full day afterwards to recuperate, but at Penzance (ten miles back from Land's End) only seven hours are allowed for feeding, sleep, and attention to one's machine before starting on the return journey. A competitor arriving at

Most of the competitors turned up at Cranford Bridge on Sunday some time, and it was generally thought that the Jarrott Cup would be won by either Summers or Frost. I left only two minutes later than Summers, and we saw a great deal of each other, riding miles together (except in the secret controls), and I know that he must have made a splendid performance. Frost being behind me, I saw little of him, but when I did he was jogging along in his own particularly happy and regular style. Both he and Summers must have found previous experience in running to schedule time very useful.

Riding to a Schedule.

As far as I can judge, I was not more than five minutes, in the aggregate, out in the six secret controls, but I fully anticipate that others will have beaten me hollow. Unfortunately, I suffered with a watch that



Three successful competitors in the M.C.C. London-Land's End-London run on the 3rd and 4th instants.

H. R. Dougal (5 h.p. Vindec).

C. C. Cooke (3 1/2 h.p. Triumph).

A. J. Sproston (5 h.p. Rex).

Penzance dead on schedule time had 8h. 23m. before starting again; but even this is not much after a ride of 279 miles.

Other Competitors' Views.

It was generally conceded by End-to-end and Schulte Cup riders taking part in this run that it was the most severe they have ever ridden in, and after going through it I can well believe them. Had the weather been bad—well, this had better be left to the imagination; but I could not help worrying about it before starting, because I had such a gruelling when I went over the course *en route* for the start of the recent End-to-end run. I had pouring rain all the way from Staines to Chard the first day, and the same thing from Okehampton to Redruth the second day, and again after leaving the riders at Taunton on the Tuesday morning had rain from Salisbury all the way home to London. Had the weather conditions been the same on this run only twin-cylinder machines from 4 h.p. upwards could have kept to schedule, for the headwind accompanying the rain whilst crossing the moors from Launceston to Bodmin made it absolutely impossible for me to average more than about seventeen miles per hour over this section.

lost time, which was very annoying, and a combined speed indicator and mileage recorder I was to have used did not turn up. The most difficult matter was on sections of the route where the milestones were hidden or missing, and in other places where a signpost gave one mileage to or from a certain place and a milestone close by a different mileage, and again in places the mileage according to the milestones did not tally with the distances on the route card. However, I made a practice of jogging along at twenty miles an hour as near as I could judge, directly I entered a thirty miles stretch of road where the secret check was situated.

As I was number seven on the list of starters there were only six riders in front of me, whom I could pass if they had to stop for any reason. The first man I saw in trouble was Cooke, who had a puncture, unfortunately in the first thirty miles stretch of road where the secret check was. Soon after leaving Andover I caught up with Summers, and we rode into Salisbury together, where we filled up with petrol. We found the official Crossley car there, the passengers, including F. T. Bidlake (timekeeper) and W. H. Wells, partaking of a second breakfast. Several riders came in while we were there, and we left them busy obtaining petrol.

London—Land's End—London.—

We had now about sixty miles to cover before reaching Chard, the starting point of the second thirty miles stretch, with a secret check in it. Gwynne, Summers, and myself split up soon after leaving Salisbury, and the next time I saw Summers was just as I was picking myself up from a heap of stones on the grass at the side of the road. How I got there I hardly know, but anticipate that I caught a large stone with my front wheel as I was looking back, or I may have fallen asleep. Continuing about two miles, we found official Dickson with his Rover car taking times for the purpose of discovering whether any riders were more than fifteen minutes ahead of their schedule time. I believe one was caught. Arriving at Yeovil, I pulled up at the Mermaid Hotel. Another 17¼ miles and I was on top of the secret check section, and incidentally getting near lunch, for which I was quite ready. The road from Chard to Exeter abounds in severe hills, and one had to open the throttle well to keep up the requisite average of twenty miles per hour. As I knew the road, I was prepared, and got along very nicely; but I saw a man stick on a ticklish hill a few miles out. The checking spot this time was a few miles from Exeter, and I believe I was very close on time—possibly closer than at any other. Exeter was reached in due course, and one of the Baddeleys signed in just after me.

The Lunch Interval at Exeter.

While having lunch the different riders kept coming in, and an animated conversation was soon in full swing. So far my machine had run perfectly, and I only had to fill up with petrol, so that I had practically an hour and ten minutes in which to feed and ride to the other end of the city to be checked out. Sproston had had several punctures—in fact, the puncture fiend must have paid him special attention, for I saw him at least half a dozen times during the run repairing tyres, but he was always quite merry. Summers once found him asleep on the roadside outside a control, and had to shout to wake him up.

When I arrived at the out check at Exeter a few minutes before I was due to start, Gwynne was just leaving, and Summers ready to leave in six minutes. Cooke turned up in time to start on schedule, two minutes ahead of Summers. Twenty odd miles now lay between us and Indian Queens, where the next thirty miles with secret check started, and I have to thank providence that so great a distance intervened; otherwise I should never have arrived at the actual checking point anywhere near schedule time. Four miles from Okehampton I had tyre troubles, the inner tube splitting about five inches. I have an idea that the nature of the road had something to do with it. As I had no butted tube, I had to take out the back wheel to fit another endless tube.

Making Up Lost Time.

I was some eight minutes ahead of my time when the trouble came, and this eight minutes proved a boon, because when I reached the check near Zelah, about sixty-four miles from where I had my tyre troubles, I had only just caught up to schedule time, and that eight minutes "saved my bacon," as the saying goes. About a mile from Redruth a competitor passed me behind time, and as I had not passed him on the road I guessed he had lost his way somewhere. I heard at Penzance that only seven riders passed the check at

Zelah, all the others taking the wrong road through Truro. I almost went wrong myself, but stopped and consulted my map. I ran across Summers again at Hayle, 7¼ miles from Penzance, having refreshments, so I joined him. We then rode into Penzance together, he going on ahead soon after. Land's End was reached in due time, and the shocking surface of the road was very unpleasant after such a long journey. A thick sea fog prevailed at the End, and when I reached the fork road about one hundred yards from the Land's End Hotel I could not see the building. Adam was there, with Summers and *The Motor Cycle* photographer. I was glad to leave again for Penzance. The timekeeper had arrived to time us at the Union Hotel. A good dinner was provided, for which everybody was ready. No stop was allowed for tea as on the London-Edinburgh run.

The Homeward Run.

The bed pulled very much when I was called at 2.30 on Tuesday morning, but I struggled up and went round to Taylor's garage, where the machines were stored. It was quite dark at that time (three o'clock), and we were wondering if it would be necessary for the earlier starters to light up. The difference in the light at 4 a.m. at Penzance and Cranford Bridge was particularly noticeable, but it was just light by the time Bidlake gave the word "go" to Gwynne. My engine started away immediately, and I soon picked up with Summers and Cooke. After a few miles we ran into what I suppose was a thick land fog, which was very unpleasant, as it settled on our clothes. The worst part of it was that though we were wet the dust was thick and dry on the roads, and as it rose from our wheels it settled all over us. I could feel it settle on my eyebrows and eyelashes, and one could not wear goggles, as they became covered in moisture in a few minutes. This lasted nearly all the way to Launceston, when the sun began to break through it, and by the time we reached Okehampton the weather was glorious. The sun dried our clothes, and the wet and dust which had clung to our clothes dried up, and we looked as if we had been having a dust bath. The first secret check on the return journey started at Redruth, and extended over the section of the route that so many had missed. It was a ticklish road to find, and not one of us was any too sure of finding it, and between five and six o'clock in the morning, and an unfrequented road at that, there was little chance of asking anybody the way. As it happened, the check was at the turning, about a mile and a half outside Redruth, which was fortunate for those who went the wrong way on the outward journey, and consequently did not know it. At the same time, being so close to Redruth, it nearly caught more than one napping.

A Difficult Road to follow.

About a third of the way through the section Summers and I found Sproston enjoying a cigarette by the roadside just by some cross roads, and he said the others (meaning, I presume, Gwynne, Cooke, and Adams) had gone straight on, but we were not satisfied. So out came a map, and after consulting it we decided the others were wrong. Gwynne passed me later just outside Bodmin (the end of the thirty miles section), so evidently he had been roundabout. When he passed me I was in doubt as to whether I was on the right road, and I decided to stop and run back into Bodmin to make sure. On the way back I found Sproston and

London—Land's End—London.—

Cooke discussing the way, and just after Gwynne came back in doubt. After settling the point satisfactorily we retraced our steps, and Cooke and I were in sight of each other practically all the way to Launceston, and when we arrived there Gwynne and Summers were making in petrol, so Cooke and I followed suit. I next saw Summers just outside Okehampton, and, being a little ahead of time, I cleaned the sliding pistons in my Triumph carburetter, as the throttle piston had not been responding to the thumb lever.

I pulled up in Okehampton, and I found my back tyre very soft, but, finding no nail or anything in the cover, I pumped it up. Just as I was leaving, the official car turned up. As Exeter is only $22\frac{1}{4}$ miles away, and since the second secret check started immediately on leaving, after an hour and a quarter top, it was essential that I should not be late. To make up the time spent in repairing a puncture in a run of $22\frac{1}{2}$ miles would not have been an easy matter on such a road abounding in hills and very rough into the bargain. As luck would have it, the tyre lasted into Exeter, but it was almost flat when I got there. About four miles from Exeter my engine lost its regular pulling powers, and I found that, no matter where I placed the throttle lever, the engine would not run if the air lever was opened more than about a quarter of its travel. Being so near Exeter and with a few minutes in hand, I kept going, but stuck on the long, steep hill just before reaching the city. The Mabon clutch proved its utility here, for by starting up the engine by running down the hill a few yards and then bringing the free engine into use I could turn the machine round, and by engaging the clutch a little the machine pulled itself up the hill with me walking alongside. I signed in at Exeter about one minute early.

Carburetter Gauze Choked.

The next thing to do was to attend to my tyre and engine. The leak in the inner tube I found to be caused through a defective patch, and I soon had this right. I could find nothing wrong with the engine, so I had the carburetter to pieces, and apparently everything was all right.

When I started from the check at the end of the city I found no improvement in the running of the machine, and was bemoaning my fate when I thought of the gauze over the jet being probably choked with dust. Having four minutes to spare before leaving, I took out the piston, and immediately I saw the gauze I knew had located the trouble. I left Exeter rejoicing and the engine pulling better than ever.

The Fifth Secret Check.

All through the fifth thirty miles section from Exeter I only saw one rider. The secret check was towards the end of the section, which called for over twenty miles of strictly legal limit pace, which is quite a tax on one's nerves. This over, I made my next stop at Yeovil, pulling up at the Mermaid Hotel again for a long drink. I ran across Summers again leaving Yeovil, and we kept together until we reached Lovelace's garage between Sherbourne and Shaftesbury, where we found some of the competitors filling up with petrol, so we did the same. J. O. Dixon came along before I left and also pulled up. The brothers Bentley passed by. At the right angle bend near Shaftesbury I saw Cooke in trouble, and it appears that, owing to a machine being

in the way, he ran into the bank when turning the awkward corner and damaged his front wheel. About a mile from Salisbury, Dickson with his car was taking times, and I was pleased to see Chas. Jarrott there also, he having driven down on a Sizaire-Naudin car. After a stop for petrol in Salisbury, we continued our journey, but roamed round some back alleys before getting out of the city. Another $17\frac{3}{4}$ miles and Andover was reached, the starting point of the final secret check section. Here again the check was near the end, F. J. Jenkins, with his Rover car, taking the times. Near Staines I found Summers and Gwynne together,



Two Triumph riders in the End-to-end Run. J. Marshall (on the left) tied with W. H. Wells and R. Moore for best performance by a trade rider. The other rider in the photograph, C. E. Murphy, was one of the twenty private owners to lose no marks.


the latter doing something to his belt. I jogged along, and when I saw Dr. Gibbons at the turning leading from the Staines Road, I was not sorry that I was only a few miles from the finish. When I arrived at the Berkeley Arms—kept, by the way, by E. Parlby, the ex-champion professional cyclist—I found a goodly crowd assembled to welcome us in, including the donor of the chief award—the Jarrott Cup. I anticipate that in spite of the severity of the run a larger entry list will be forthcoming if the event is continued annually. I think that the start back might be at six o'clock instead of four or even five o'clock, giving time for sleep at Penzance and yet finishing in daylight. I used $4\frac{1}{2}$ to 1 gear on my Triumph right through, and a new Shamrock belt, which did not need shortening once.

HARRY G. BELL.

W. and R. Jacobs, 39c, King William Street, E.C., have just issued a new illustrated leaflet of motor cycle accessories, most of which particularly appeal to motor cyclists. These accessories are sold under the name of "Electary" requisites, and comprise lamps (both gas and electric), accumulators, belting, mirrors, and many other useful articles. Needless to say, the leaflet can be obtained immediately on application to the firm at the above address.

OCCASIONAL COMMENTS

By "IXION"



Tacky Solution.

A friend writes that he concurs in my remarks about "tacky" solution. He agrees with me that "tackiness" means a far drier condition of the solution than the word can in theory convey. He derides the instructions given with repair outfits. He has two outfits, in which the printed slip of instructions says, "Coat patch and inner tube with solution, and apply patch to tube *immediately*" (the italics are mine). Yet as every practised rider knows, if these directions were followed the patch would not adhere for more than a few moments. I have been similarly deceived. I read the directions, imagined I had struck a new sort of solution, applied the patch immediately, and then had to clean the tube and patch with petrol and begin all over again.

An Interesting Panne.

The other week a friend and myself were in a difficulty with a big tricar. It had been running in form good enough to win an open hill-climb, when within half a dozen miles it became very uncertain in starting and dropped a large percentage of its power. All the ordinary details were in magnificent order, and at last it was remembered that a new ten gallon drum of oil had been opened to fill the tank the very morning the trouble manifested itself. The drum had been procured direct from the oil company, and was properly sealed and labelled, but its contents were very far from being water-cooled engine oil. Consequently the tank was drained, the engine cleaned, fresh oil procured, and a resolution made never again to patronise an oil company who did not know what was in sealed and labelled drums leaving their factory. But the sad upshot of the matter was that the good oil failed to entirely obviate the trouble. Our suspicions next turned to a faulty bearing, and we took the engine down.

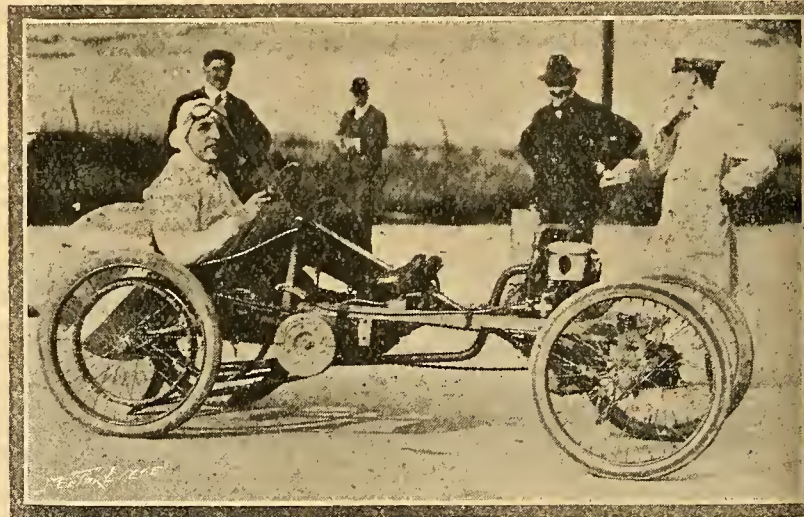
Our Discoveries.

I suppose the veriest novice is aware that the crankshaft of a motor cycle engine revolves within two hollow cylinders, usually made of phosphor bronze, and vulgarly known as "brasses." They are fixed in the aluminium of the crankcase, and are oiled by splash from the flywheels. A tiny V groove runs across the inner face of each brass, from end to end, and a certain amount of oil gains admittance on some engines at each end of the V groove. But the main portion of the oil reaches the "brass" at a hole drilled into the V groove from the outside of the brass, which hole is in register with one or more oil channels drilled through to it from the interior of the crank case. It will thus be obvious that if one of these brasses turns round in its aluminium bed by so little as one-eighth part of an inch, the oilhole in the brass will be out of register with the oil channels in the aluminium, and that bearing will run dry, fire, and seize up. It is to prevent these tiny oilways from getting choked that motor cyclists

are advised to rinse out their crank cases with paraffin every 1,000 miles, and this precaution had been regularly observed with the engine under notice, and so all the oilways were clear. Yet at one end of the crankshaft the steel of the shaft was "fired," showing blue, red, and green—all manner of iridescent colourings—while the brass itself was scraped, lined, and burnt. The reason was that by incredible slovenliness of manufacture these brasses were merely tapped a close driving fit into their aluminium beds, with no peg or other precaution to prevent their turning round. Consequently one brass had slipped round $\frac{1}{8}$ in., cut off its supplies of oil, and run dry, so that if the engine had been allowed to run for another ten minutes, a bill of several pounds for repairs would inevitably have occurred. All bearings ought to be securely pegged, or otherwise fastened down.

Another Discovery.

Incidentally, we found cause to abuse the maker's workmanship in another respect. With this and the other exception already named, the engine was in such splendid order that any mechanic who dismantled it would say, "Here is an owner who understands the petrol engine, and is an adept in maintaining it."



Demarcation. On which side of the dividing line between the motor cycle and the car is the little O.T.A.V., which competed at Brooklands on the 1st Inst. ? It has motor cycle wheels, V belt transmission, and air-cooled engine.

Well, we found the crankshaft pinion of the distribution gear had $\frac{1}{8}$ in. play on its key—a defect of accuracy which, of course, was greatly magnified in passage through other moving parts. This vital cog wheel was only secured by two miserably inadequate steel pins, bedding into its periphery, where leverage is greatest, instead of by a sturdy key passing through its centre. That engine is now reassembled with some stringent modifications of workmanship, and I can only add that when makers continually receive back engines to find the same defects for ever present, and do no trouble to remedy them, such foolish policy eventually costs them dear.

Thirteen Stone versus Two Horse-power.

By B. H. DAVIES.

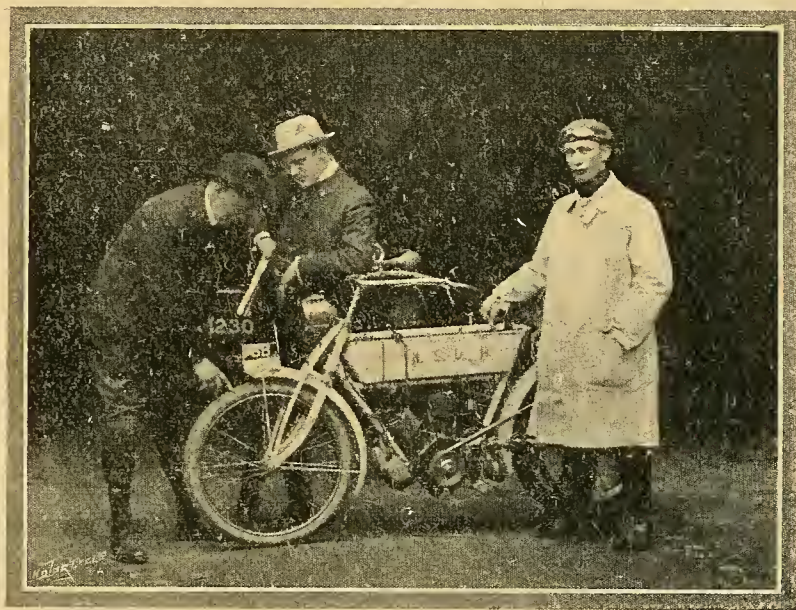
WHEN Mr. Feeny, of the Moto-Rêve Co., suggested that I should test one of his little 2 h.p. motor bicycles ("toys" I used to call them), I admired his sanguine trust in his machine, but felt extremely doubtful whether I should be able to do anything about it that would be fit for print. However, last month I found myself temporarily machineless on an extraordinarily hilly part of County Durham, and that two or three local enthusiasts were casting envious eyes on lightweights in general and the Moto-Rêve in particular, and had been further fortified by witnessing some game hill-climbing by G. L. Fletcher on a similar machine in the End-to-end. Consequently I wrote Mr. Feeny that if he was game to risk the reputation of his machine in so stiff a county as Durham, I was game to try and break its poor little back. He responded by sending a machine; and what a joy the condition of the machine was to a poor tester of motor makes, usually dispatched to him devoid of all necessary equipment. The little Moto-Rêve was fitted complete with lamp, stand, plates, toolbag, and spares; and its appearance so captivated a friend of mine when he saw it at the railway station that he immediately stole it from the parcels office and pedalled it two miles, including a most wicked hill half a mile long, so that he might lose no time in seeing it perform on it.

The Machine's Hill-climbing Capabilities.

I had not gone a mile on it before I realised the great comfort on a level road. It was a little noisy on rough surfaces and potholy byways, as I would expect from the mere fact of its lightness, but a very pearl of comfort on anything approaching a decent highway. The irony of fate compelled me to ascend one of five awful hills before I could give it a climbing test at all. In justice to Mr. Feeny I use the worst of the five, a hill locally known as Langley Bank. It is seven-eighths of a mile in length, and is reputed to average 1 in 10. It starts straight out of a colliery village, so that you cannot get a push at it, and halfway up, just when the engine is feeling the strain, there comes a very bad corner on a gradient which is certainly no better than 1 in 6, and may be a good deal worse. It is difficult to estimate gradients accurately when the countryside rises with the road; but judging from the performance of other machines—and I have ridden this bank a hundred times more—it is, at any rate, 1 in 6. The machine came along excellently as far as the bend, where there was a great need of pedal assistance. A 36in. leg and a 21in. frame comprise what might be called an ill-assorted couple, but I gave it what assistance I could, and it proved sufficient. We went up, and I was by no means puffed over it either. I made five or six ascents of the hill, and, except for one attempt in very greasy weather, I was always successful, provided the belt was tight. The belt as sent out to me was much too loose, and until I got a piece of leather to insert it had a habit of pulling through on hills. Being a Stanley machine it gripped admirably when quite slack, and on slackening it I managed the hills nicely. After I tried it up some hills of more ordinary calibre, I found it would ascend the average 1 in 15 sort of

slope in flying fashion and well up to legal limit, even with a load of thirteen stone. There were worse hills around—regular terrors, which I knew from the "feel" of it on Langley Bank it would not climb, and so did not trouble to go and try. I believe, however, that with what I know of it now, I could have got it up decidedly tougher ascents, as the sequel will show. Testing it on the flat the highest speed worked out at a shade under thirty-five miles an hour.

All this time I was not satisfied that I was getting the best out of it. The little engine gummed up very badly when standing, and ran very hot after a few miles; but none the less it ran nicely enough to make me risk the long run from Durham to Northampton at the termination of my holidays—a distance of 213 miles. I started from a point six miles out of



The above illustration depicts Mr. G. W. Raper, of Newcastle-on-Tyne, with his 6 h.p. twin-cylinder N.S.U., which is fitted with Continental non-skid motor cycle tyres. We are informed by the Continental Tyre Co. that the tyres in question have run 1,200 miles without showing any signs of wear. Mr. Raper has won gold medals with this machine in the Sutton Bank Hill-climb and the London to Edinburgh Run. Mr. Smith, of the Percy Cycle Co., is leaning against the handle-bar, and Mr. Bing, the northern representative of the Continental Tyre Co., is examining the cover.

Durham at 8.30 a.m., and the machine ran very badly indeed. The engine overheated so grossly that the mildest rise called for pedal assistance, and sometimes it petered out on the level, and I had to wait and let it cool a bit. I could find nothing whatever the matter anywhere, and I never suspected the oil, as it had been in the tank when the machine came from the makers, and I naturally supposed they would fill it up with the most suitable lubricant they knew. I gave it "lashings" of oil after the first mile or two, but was disappointed that it would not run ten miles on a pumpful, as I rashly supposed such a tiny engine should do, forgetful of its high speed. However, in spite of these failings, the twenty-five miles into Darlington occupied no more than two hours. I climbed the little steep pitch at Croxdale nicely, but failed near the top of Ferry Hill. I was disappointed that I could not find out what was wrong, but as I had no prospect of testing it further after reaching Northampton, I resolved to push on somehow as far as Doncaster, and thence train home. I also registered a mental vow that I would make it press twenty miles into an hour somehow somewhere. Things

Thirteen Stone versus Two Horse-power.—

went from bad to worse as the nine miles from Darlington to Scotch Corner took up a whole hour, owing to rests while the engine cooled, and I was now a good deal west of the railway, and far from any station at which a fast train could be caught. So I pushed on miserably enough as far as Boroughbridge, and here comes a lesson on the blessings of perseverance, which the dejected owner of each or any make may well take to heart. At Boroughbridge my oil supply was exhausted; and if I had done badly on the oil put in by the makers, I expected to do worse on any chance purchase in a small Yorkshire town. Vacuum A pleased me most of the two or three brands on offer—*en passant*, I visited four shops before I met a salesman who would break into a gallon can for me, and my little tank only held a pint all told. There is, I say, a special blessing on perseverance, even when it is of the dogged, unthinking, bullocky order, and, behold! no sooner had the first charge of Vacuum A drifted into that little engine than it began to leap away like a fiend possessed, and thence to Northampton, 153 miles away, my running time was only six hours, and every hill was taken on the fly.

An Immense Improvement in the Running.

I had no single involuntary stop the whole of the distance, and the pleasant experience of speed, power, comfort, and reliability has left me with a most delightful impression of the high qualities of the Moto-Rêve. When I say "no involuntary stop," I ought to say no stops caused by the machine, for I had several very protracted stops indeed, due to the discourteous and unbusinesslike habits of garage people. Neither oil nor petrol tanks hold a can apiece, and some garage people were unwilling to break cans; while at Stamford one of them refused to supply me at all, though the place was open, and it was only 7.30 p.m. At a far less pretentious place at the top of the town I was quickly and politely served by a housemaid in cap and apron, who knew all about funnels and prices and the difference between air and water-cooled engine oil. She was quite distressed because I insisted on having Vacuum A instead of air-cooled oil. I shall avoid these pretentious gentry in future; their discourtesy cost me forty-five minutes. Again at Wetherby I went to four "hotels"—heaven pardon the false description—before I could get any lunch. I was twenty minutes behind the regular hour, and the hungry Yorkshiremen had apparently gnawed the last succulent morsel off their knucklebone of ham. So altogether I was very late in getting South; and, not fancying night riding with the oil Holophote supplied by the Moto-Rêve Co., I called at Whipple's in Grantham to look for an acetylene lamp. He is a veritable prince of accessory dealers, even as Corcutt, of Doncaster, is the prince of repairers. When you go to Whipple's, you may rely on finding no mouldy assortment of out-of-date accessories, but a complete range of all the newest and cutest little fakements; and I generally leave his shop about a sovereign the poorer, but with my kit correspondingly enriched. This time I got out for 17s. 6d., including a very serviceable little gas lamp, which lit me safely through two or three tiny but excessively dangerous little Northamptonshire villages, with their narrow, tortuous streets.

So the duel between my 13 stones and the 2 h.p. of the little Moto-Rêve ended in my weight being

summarily vanquished. The machine proved it could take me up any main road hill, with some pedestrian assistance on stiff single figure gradients, and that could, if need be, average in excess of legal limit; in fact, the twenty-one miles from Grantham to Stamford in the twilight occupied forty minutes dead.

As regards economy, I do not know what instructions of the makers may be about their own, but I used a charge of Vacuum whenever the engine seemed to call for it, which was on an average about once in five miles. I used a pint and a half in all. petrol, I used two gallons and a half, which works out at about eighty-five miles to the gallon.

The Specification.

Coming to a detailed description of the machine which is as yet unknown by sight to many of us, the engine is a V twin with automatic inlet valves. The whole of it is fairly accessible. The ignition is by a very neat little Gianoli magneto, which worked admirably at all engine speeds. The ignition advance is automatic, the synchronisation of the firing being perfect. The carburetter has two microscopic jets which is clearly efficient, and gave no trouble. Control is simply by throttle, a Bowden wire and handle-bar lever being employed. The extra air is worked by a piston slide on the float chamber. I think a more convenient means ought to be devised for operating this, as I was always altering it to suit varying speeds, and it is too small to work with a gloved hand. Incidentally, I got a few healthy shocks from the magneto in altering the air. The carburetter is devised to filter cold air to the cylinders if the throttle be shut, and the compression used as a brake downhill. I often used this, as neither of the brakes sufficed to stop the machine, in the adjustment with which they were sent out. I adjusted them once or twice, but without effect; they seemed to have small stopping power even when pressing hard on the rim.

The weak point of the machine—I say "the" advisedly, for I found no other—lies in the wheels and tyres. These are far too light for a machine that is intended to be used on average English roads. I found that riding over quite a small piece of road metal at a strictly moderate speed was enough to indent the tyre with the $1\frac{3}{4}$ in. tyre inflated board hard, and any man who uses the modern lightweight on general roads will have to choose between riding on slack tyres or specifying heavier rims and tyres, which latter is of course I personally shall adopt. I had to knock several kinks in the rim before leaving Durham. Given a heavier pair of wheels and tyres, I think that the Moto-Rêve may claim to rank as the best lightweight machine for hard service that has been brought out, while it will beat many more powerful machines for comfort—this must be experienced to be realised, and, naturally, is far more handy when one is out of the saddle, and lugging it about. As the result of tests of it, I do not hesitate to say the efficient lightweight has indeed arrived at last, and in future I shall not shrink from any journey on such a fascinating little tabloid essence of reliability.

[Notes: Distance, 213 miles; cost, petrol 2s. 11d. oil 10d.; stoppages, two to shorten belt, several due to bad oil in early stages; total nett running time, 16 hours. My wife made the same journey by train; cost her a guinea, and the time occupied was ten hours from house to house.]

Questions & Replies.

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, must be accompanied with a stamped addressed envelope for reply.

A Clutch for a Light Tricar.

Please advise me which of the two following clutches I have are suitable for a light tricar, weight about $2\frac{1}{2}$ cwts., fitted with a 5-6 h.p. Peugeot twin engine? (1.) Light steel cone clutch, 5in. bore smallest diameter taper to 5in., inch wide on face, male part copper-faced. (2.) Heavy cast-iron cone clutch, 7 $\frac{1}{2}$ in. smallest diameter, 1in. wide on face, leather to iron? I should prefer the smallest, but am afraid it is not large enough and would slip a lot.—A.C., Sydenham.

Of the two clutches mentioned in your letter we should recommend No. 2. A leather to metal clutch is quite satisfactory if properly designed.

Regarding Tyres.

(1.) Would Palmer tyres, if fitted with Elastex, be absolutely puncture-proof? (2.) Would Palmers if fitted with Bates's non-skid bands be free from side-slip? (3.) Can you tell me of any maker of a roll-up tool kit for spares and tools required for a motor cycle?—GROSVENOR, Cheshire.

(1.) You will not be troubled by punctures if you use Elastex. (2.) Unoubtedly the risk of sideslip would be reduced, but it would only be advisable to fit the non-skid treads referred to after the corrugations of the Palmer tyre were entirely worn down, as the latter act splendidly in preventing side-slip. (3.) Such a tool kit may be obtained from practically any first-class dealer in accessories.

Machine does not Answer to Throttle.

I am riding a 1906 twin Rex with automatic inlet valves. This will not answer to the throttle. It is fitted with Longuemare carburetter inlet valves about 3-16in. lift. Heads and stems of same seem quite true and clean. Could you tell me how to remedy same? I may say all the extra air and four holes of the fixed air have to be closed for running. Machine runs about fifty miles to the gallon whether a No. 5 or 7 nipple is used, and yet it takes no air.—A.S., Hull.

Take down the carburetter and clean carefully every passage in it. If there is no improvement you will require a larger jet, and you will find that the machine will take all the extra air, and

answer to the throttle properly if the level of the petrol is correct, viz., $\frac{1}{8}$ in. below the top of the jet orifice. You should be able to run seventy-five miles to the gallon easily.

Petrol dripping from Carburetter.

(1.) Please give me instructions re grinding needle valve, as petrol drips from carburetter when tap is left on? (2.) Is red lead or similar substance used when refitting unions to petrol pipes? I had mine off, and now there is a continual leak of petrol, with the result that the carburetter does not get its proper supply. Is this the cause of erratic running and starting? Also was this the cause of the petrol catching fire recently?—S.F.

(1.) See notes on valve grinding in "Motor Cycles and How to Manage Them." A fine grinding material is



John Haslam, of Sheffield, who rode a $3\frac{1}{2}$ h.p. Rex in the End-to-end Trial, and gained full marks.

necessary, such as crocus powder, and the needle can be held in a small drill chuck. (2.) If the petrol leaks through the union it probably means that the latter is not sufficiently tight, or else a piece of grit or something is preventing a good joint being made. Often a refractory union can be cured by wrapping the joint with thread, and also by smearing a little soap round the edges. This is quite likely to have caused the erratic running, and to have caused the machine to catch fire, especially if the petrol drips on the exhaust pipe or silencer.

Accumulators Running Down Quickly.

Please advise me as to the cause of my accumulators running down quickly. I use a well-known plain coil, and have accumulators slowly and thoroughly charged, yet cannot travel on an average more than eighty or ninety miles before the accumulator is down below three volts and without any warning. Am careful to take out connecting plug when dismantling and never leave it on contact. My large accumulator should run me at least 300 miles.—W.F.W., Stafford.

We should, first of all, recommend you to try another coil, and then if the accumulator behaves in the same manner send it away to the makers and have it repaired. It seems very much as if it were suffering from an internal short circuit. The consumption of the coil should also be tested.

Various Queries from a Novice.

My engine gets very hot after a short run and stops. It is a $3\frac{1}{2}$ h.p. with B. and B. carburetter and accumulator ignition. It will not answer to spark advance lever. The spark occurs when piston is at top of compression stroke. Is this right? What is the cause of the exhaust valve stem being sooty? Has that anything to do with getting too hot? Exhaust valve spring just springs back when lever is released. Do you think that a stronger spring would act better? The inlet valve will just open when given a sharp shake with hand. Is this spring strong enough? The jet is about the size of a hairpin. Is this too big? What is the best material to use to act as washers to make petrol-tight joints?—J.A.W.

The trouble seems to be due to the carburetter, the jet being too large. This causes too strong a mixture to be drawn in, which causes the sooting of the exhaust valve and overheating. The fact that advance of the spark will not make any difference is owing to the engine not getting sufficient air at high speeds. The ignition seems to be right. The exhaust valve spring appears to be rather weak, and a stronger spring would be advisable. The inlet valve spring would be about right. A properly ground joint should be all that is necessary, but a leather or fibre washer would do quite well, and last a long time if properly fitted.

The Personal Factor in Driving.

NO doubt when "Ixion" wrote the article "Can Motor Bicycles Climb Hills?" in the issue of July 22nd he had in mind the murmurs of the many amateur riders who are dissatisfied with the performance of their machines as compared with ostensibly similar machines in the hands of paid riders.

Putting aside the question of whether or not the trade man's machine is in all cases a duplicate of the standard sold to the public, there is no doubt about "Ixion's" correctness when he attributes the failure of the amateur to lack of pluck and skill. Pluck is in this case simply the familiarity born of custom, because the regular competitor in trials of all sorts becomes better acquainted with the extreme limit of safety under various conditions than the ordinary pleasure rider can hope to be. The matter of skill raises a more serious issue. Writing with his usual evident knowledge of his subject "Ixion" declares, in effect, that the motor cycle is a machine from which it is so extremely difficult to obtain the best results that only a small number of men out of the large body who spend most of their time in the saddle are able to master it. The statement is as regrettable as it is certainly correct, for, however much one may admire the dare devil and the mechanical genius, the average rider of a motor cycle is neither the one nor the other, and after all it is for the average rider that the maker has to cater. A maker is not justified in selling to the public a machine requiring nerve or skill for its safe and efficient handling; he must combine his own scientific knowledge with the mechanical insight of his paid rider, and evolve a mount controllable without any special qualifications whatever.

Skill in Tuning-up and Driving.

Skill as at present required for the handling of the ordinary motor cycle may be divided under two heads: Skill in the preliminary tuning up and skill in driving. The aim of the first will, as "Ixion" says, be different according to the trial to be gone through; whether climb, race or economy test, but generally it may be taken that tight valves and fine clearances, close contacts and piston rings making something like a fit in the cylinder constitute the minimum requirements for good work. Carburation will require different treatment according as low petrol consumption or speed is the more valuable, and this about covers the ground as far as engine tuning goes. Then comes driving skill, a deficiency of which may hopelessly mar the pains taken in tuning up. Once in motion, whatever the form of contest in view, the very best results can only be obtained by ceaseless vigilance and unflinching

cleverness in manipulation. The reacting and to some extent interchangeable conditions of throttle opening, ignition timing, and carburation must receive attention with every alteration of engine speed, which means that with an engine making perhaps a couple of thousand revolutions a minute there is not a wide margin for miscalculations; a rider must have an almost supernatural hand and eye to make the necessary delicate movements of his levers to suit conditions as they vary. It is not to be wondered at that a few only ever reach a high standard of perfection.

It is impossible to over-rate the value of exactness in the adjustment of the various elements of control, and this is especially the case with ignition timing. The effect of spark advance is, of course, virtually to increase compression by using the combustion of a portion of the charge to further compress the remainder before the piston commences its power stroke. Clearly, then, high engine speed demands high compression, and consequently an early spark, but there is another deciding factor to be taken into account. An engine running at high speed with partly closed throttle and light charges entering the cylinder will demand an earlier point of ignition than if it were taking full charges, because in the former case what may be called "natural compression," due to piston displacement, will be less than in the latter.

The One Lever Controlled Machine.

The production of a motor cycle with its engine controlled by a single lever of the "the-further-you-push-it-the-faster-it-goes" order seems to be a very long way off at present. Yet there can be no doubt of its ultimate arrival. The incessant tiny variations of mixture, spark, and throttle would be much better in the care of some unerring mechanical device, for, whatever may be said of the pleasures of "tap twiddling," the general run of rider buys his machine to ride, and not to experiment with, besides which the provision of automatic means of control would lead to better results and kinder treatment generally than can be expected from the discretion of Tom, Dick, and Harry.

It is a truism that an article for use by average people should not require more than average ability to use it; therefore the sooner makers produce machines whose handling can be properly managed without special skill or knowledge, and mount their own men on them, the sooner will the charge of "special machine" cease to be hurled at the paid rider.

J. B.



We recently had a few miles run on a $3\frac{1}{2}$ h.p. Brown motor bicycle fitted with a Cowey speedometer. (It is the speedometer to which we refer in this paragraph; the running of the Brown machine will be recorded in due course, as we are giving one of these machines a good testing.) It was most interesting to note how the indicator needle crept up one-eighth of an inch at a time as the throttle was opened. Every motor cyclist knows how difficult it is to estimate speed in towns after a fast run on an open country road, and this is one great boon in a speedometer; but perhaps its greatest advantage is in being able to note the speed a machine will climb a steep hill just after cleaning the piston head and cylinder and grinding in the valves.

and again after running for 1,000 miles without making any adjustments to the machine. Similarly, different brands of oil and petrol can be tested, and the ratio of gear which gives the best results more easily found.



Users of Longuemare carburettors will be interested to hear that the models E. and H. are now provided with a lever for actuating the air mixing collar, which has a vertical motion instead of a sideways motion with which these models were previously fitted. A vertical motion means much greater simplicity in the operating rods. Mr. E. J. Hardy, Bishop Street, Coventry, is the wholesale agent for Longuemare carburettors on this side of the Channel.



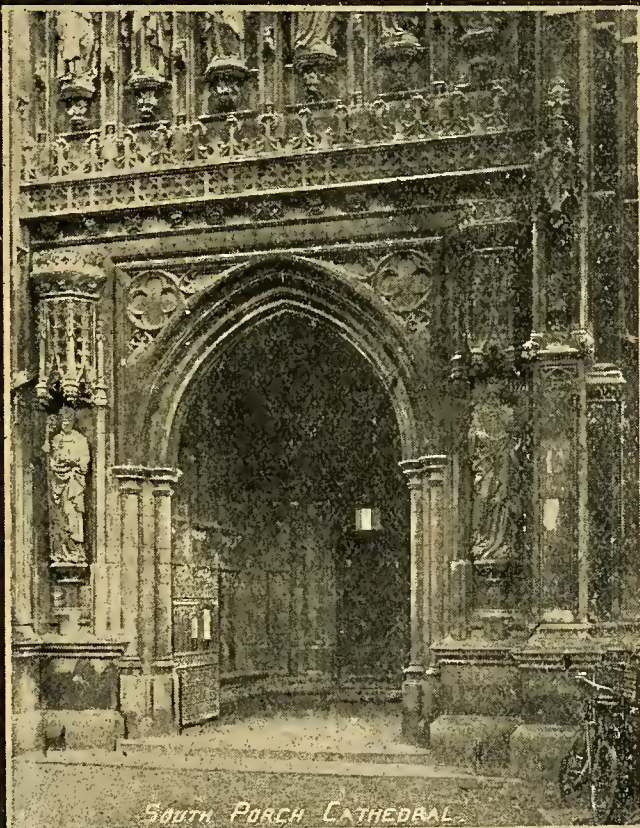
OLD HOUSES, ST MARY'S ST.



CATHEDRAL CLOISTERS



PASSAGE NEAR CATHEDRAL



SOUTH PORCH CATHEDRAL

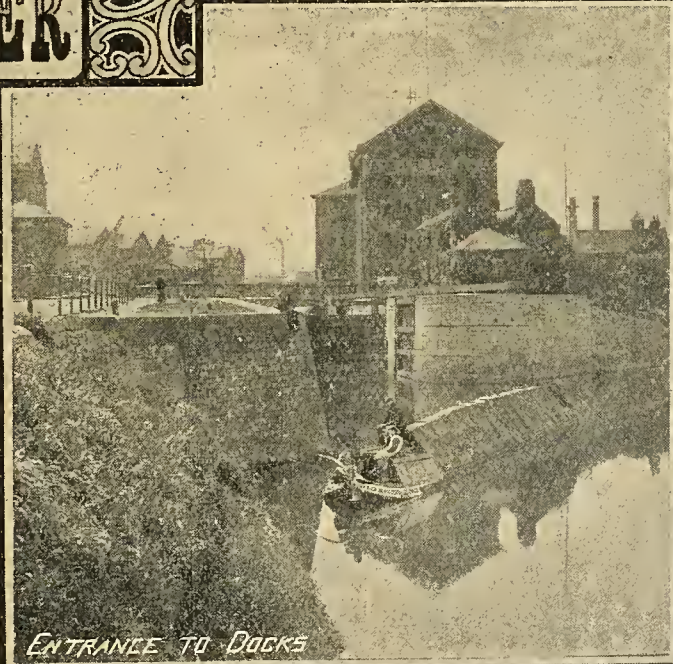


PASSAGE NEAR CATHEDRAL

PICTURESQUE
GLOUCESTER

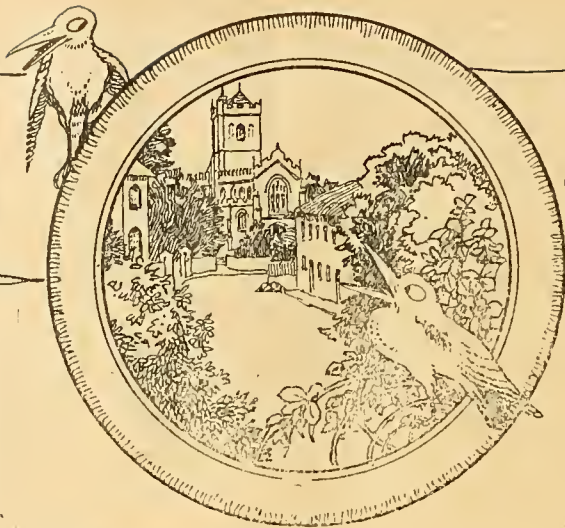


THE NEW INN



ENTRANCE TO DOCKS

CURRENT CHAT



Special Features

A Record Ride.

An American motor cyclist last month rode from New York to Chicago (1,112 miles) in 49h. 40m., creating a new record. His speed is equal to an average of 22½ miles per hour throughout.

A Heavy Fine.

For exceeding the limit on the Bromley Road, an unfortunate motorist—Colin Defries—was fined £50 and costs, and had his license suspended for twelve months. Several other previous convictions were brought up.

Police Traps.

At Adhurst Hill, about one mile on the London side of Petersfield. On the down grade, worked by signal from the police station, a red cottage-like building.

Another near Trenham Bar Station, between Yarm-on-Tees and Thirsk.

On Great Watling Street, at Manfield Lane End, near Darlington.

Trials on Sutton Bank.

On Bank Holiday Monday, we hear, there were quite a number of motor vehicles of all descriptions at Sutton Bank. Godfrey Bosville, an owner of a 3½ h.p. Triumph, writes that although several cars were unable to climb the hill without the water boiling and most of them stopping, he made a clean ascent of the Bank on his motor bicycle with a gear of 5½ to 1, and without retarding the ignition or pedalling. His weight is 12½ stones.

A.C.U. Annual Race Meeting.

At the annual race meeting of the A.C.U. at the Stadium, Shepherd's Bush, on Saturday, August 22nd, the following events will be included:

Mile time trials for the *Automotor Journal* Challenge Cup. Holder, C. R. Collier. Time, 1m. 2s.

One hour scratch race for *The Motor Cycle* Challenge Cup. Holder, H. V. Colver. 51 miles 146 yards.

Five miles handicap for the *Motor Car Journal* Challenge Cup. Holder, C. E. Bennett.

The above events are for machines fitted with engines not exceeding 76 by 76 mm. or the equivalent volume swept out. Cash prizes to the value of £5, £2, and £1, will be awarded in each event.

A five miles handicap for standard touring machines, fitted with motor cycle tyres (not less than 2in.), steel mudguards, toolbag with contents weighing not less than 5lbs., stand, and touring saddle. Cut-outs not allowed. Engines must not exceed 85 by 85 mm., or the equivalent volume swept out, and the gear not higher than 4 to 1, with 26in. wheels. For this event gold, silver, and bronze medals will be awarded.

A Successful Motor Cyclist.

Capt. Sir R. K. Arbuthnot, Bart., R.N., who won gold medals in the M.C.C. London to Edinburgh twenty-four hours' run and the A.C.U. End-to-end Six Days' Trials, has been an ardent motor cyclist for several years. He is at present in command of the Lord Nelson battleship, which is fitting out at Jarrow-on-Tyne.

Petrol Fumes as a Caterpillar Destroyer.

Herr Ludwig Heissmann, up to the end of 1907 landlord of the Dusseldorf restaurant Zur Mausefalle, but now residing in Cologne, writes to a German paper to say that caterpillars were cleared out of his garden by petrol engine exhaust. In 1905, he writes, a vine, two pear trees, and several dwarf shrubs fell victims to caterpillars; and at the beginning of the following spring the insects again made their appearance, notwithstanding all precautions against them. In June, however, he laid out part of his garden as a cycle track for his two boys, who played at pace-following, each taking his turn at driving or following a 2 h.p. Fafnir motor bicycle belonging to Herr Heissmann. The boys "trained" twice a day, and through over-oiling the engine the exhaust lay tolerably thick at times over the garden. Later in the summer his eldest boy came to him with the news that the caterpillars were gone, adding

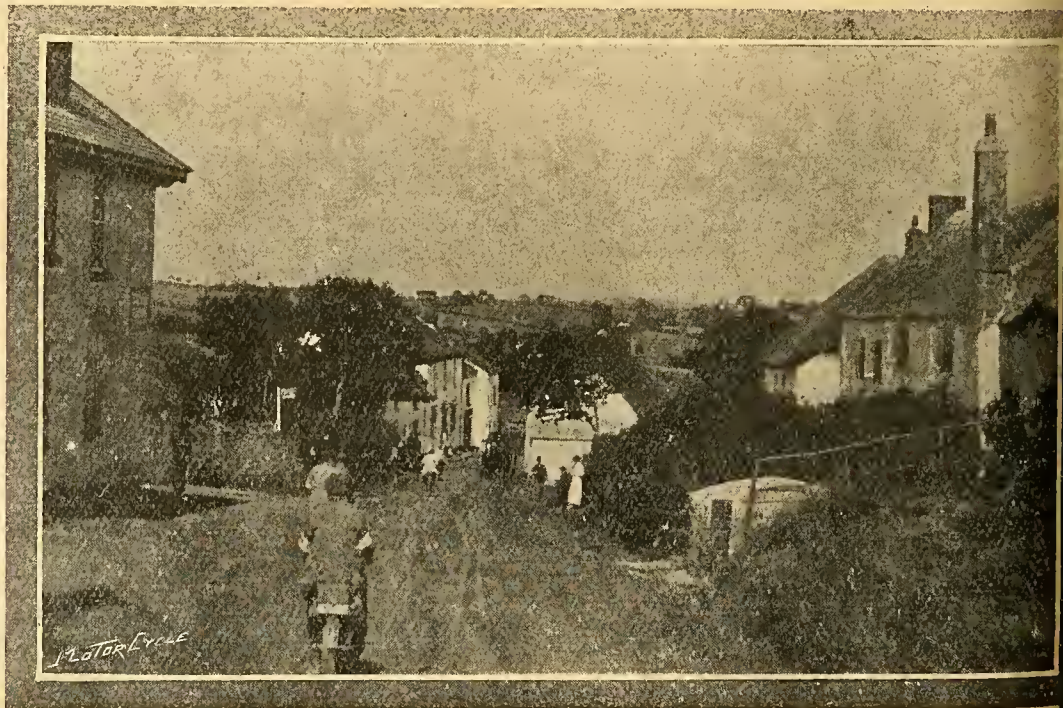
ESSEX M.C. RACE MEETING AT THE STADIUM.

A.C.U. LONDON TO PLYMOUTH AND BACK RIDE.

that in his opinion they could not stand the fumes of the petrol. Herr Heissmann and the gardener verified the boy's statement about the absence of the caterpillars, and he remarks that he had never seen his garden with such a show of fruit and flowers as in 1907. We may say that the editor of the paper in question having received a letter respecting petrol exhaust as caterpillar-destroyer had asked for corroborative evidence on this point, request which drew forth Herr Heissmann's communication. We wonder whether any English readers are in a position to produce similar evidence.

Motor Union Defence Fund.

The expenditure this year in connection with the Motor Union legal and legislative defence fund exceeds the income. In consequence an appeal has been circulated among motorists throughout the kingdom for contributions towards the fund. The present excess of expenditure amounts to £48. Among the good work done by the Motor Union which should particularly appeal to motor cyclists were the work of examining Private Bills in order to prevent legislation contrary to the interests of motorists, successful opposition to two Light Railway Bills which contained provision for the construction of level-crossings on main roads, and other items.



Passing through a picturesque village on the edge of Dartmoor on the return from Land's End.

A.C.U. Defends a Motor Cyclist.
Through a printer's error the paragraph published last week under the above heading stated that the solicitor was instructed by the Motor Union to defend the motor cyclist, Mr. W. G. McMinnies, at Southam (Warwickshire). This should, of course, have read the Auto Cycle Union, as stated in the heading.

Series of Motor Car Lectures.
Motor cyclists are usually interested in anything appertaining to a motor vehicle, and an opportunity for readers to hear simple lectures on the complete mechanism of the modern motor car during the autumn is to be provided by *The Autocar*. This journal has arranged for Dr. Ormandy and Mr. J. H. Lester to give a series of eight weekly lectures illustrated by lantern slides and specimens of the actual working parts of cars, and to carry out simple, easily followed experiments where such experiments will aid the understanding of the problem under discussion. Five large centres have been selected, viz., London, Liverpool, Manchester, Birmingham, and Bristol, but the final selection of the centre at which the series of lectures shall be given rests mainly with readers of *The Autocar*, who are invited to write and say whether they could attend the lectures if they were held in their district. Readers in the large centres of population other than those named are asked to say if they could attend the lectures, and if sufficient local support is forthcoming *The Autocar* will endeavour to arrange for the lectures in their district. The fee for the course will be one guinea.

U. Badges.
The demand for the motor cycle badge of the Motor Union is increasing since the issue of the new motor cycle prospectus. During the week ended Saturday, August 1st, fifteen badges were despatched to new members, bringing the total of the present issue of cycle badges up to 150.

Police Trap.
Three miles on the Coventry side of Dunchurch.
Record Breaking at Glasgow.
It is now several years since Harry Martin, riding a 2½ h.p. Excelsior, visited Celtic Park, Glasgow, and did some magnificent performances, establishing Scotch records which have remained unbeaten until now. On Saturday last, in connection with the sports of the Celtic F.C., Martin again visited Celtic Park and made successful attacks on his own records for one,

Results of the London-Land's End and Back Run.
At a committee meeting of the Motor Cycling Club, held on Friday evening last, the following awards were made in connection with the London-Land's End-London motor bicycle competition for the Jarrott Cup, presented by the president, Mr. Charles Jarrott: (1.) Cup, S. G. Frost (4½ h.p. twin Minerva), total variations from strict schedule, 3m. 36s. (2.) Gold medal, O. L. Summers (5 h.p. twin Vindec), 4m. 3s. (3.) Gold medal, H. G. Bell (3½ h.p. Triumph), 5m. 53s. The following who finished were awarded silver medals: E. Gwynne (5 h.p. Vindec), C. C. Cooke (3½ h.p. Triumph), V. Olsson (5 h.p. Vindec), H. R. Dougal (5 h.p. Vindec), F. G. Smith (3½ h.p. Triumph), W. Smith (2 h.p. Moto Réve), D. S. Baddeley (5 h.p. Baddeley), and W. W. Adam (3½ h.p. Triumph).

Tyneside Motor Cyclists in End-to-end Run.
In the *Newcastle Chronicle* last Wednesday reference was made at length to the splendid performances of the four Newcastle riders in the Land's End to John-o'-Groat's Trials. All are private owners and members of the Newcastle and District Motor Cycle Club, of which Mr. S. W. Carty is the hon. sec. He, with Mr. E. L. Bates, hon. solicitor of the club, was one of the two founders of the organisation, which now boasts over 100 active members. Mr. Carty has competed in the last three six days' trials on his N.S.U. with every success.

FUTURE EVENTS.

Aug. 15—Coventry M.C. Open Hill Climb for Motor Bicycles and Passenger Motor Cycles at Newnham Hill, Daventry.

" 15—Essex M.C. 24 Hours' Ride from Woodford to York and back.

" 21-22—Motor Cycle Union of Ireland Open 400 Miles Reliability Trials for the Muratti Trophy.

" 22—A.C.U. Annual Race Meeting at the new Stadium, Shepherd's Bush.

" 22—General Inter-club Meet of Motor Cyclists at Stratford-on-Avon, organised by the Birmingham M.C.C.

" 29—Essex M.C. Open 200 Miles Non-stop Run for Motor Cycles.

Sep. 1—Entries close for the Motor Cycle Tourist Trophy Race.

" 12—Motor Cycling Club Petrol Consumption Tests.

" 23—The International Auto Cycle Tourist Trophy Race in the Isle of Man.

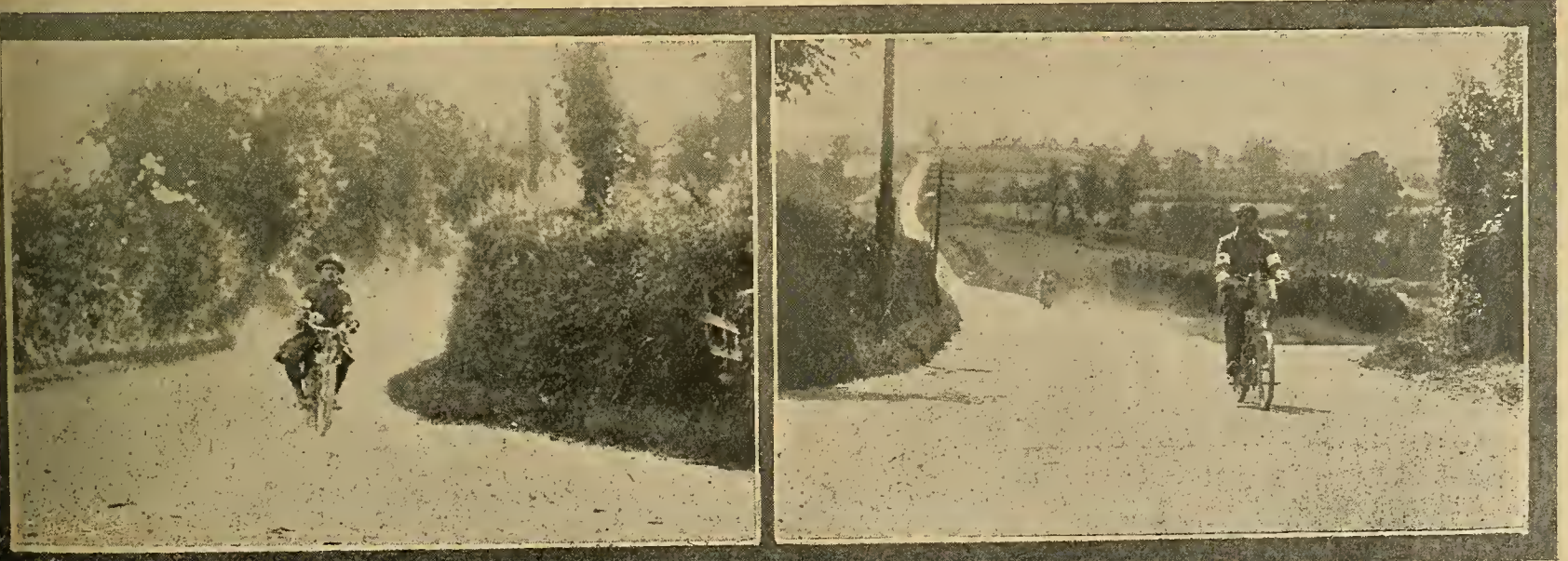
" —Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.

Oct. 3—A.C.U. Council Meeting at Warwick.

Nov. 20-28—Thirty-second Annual Stanley Show.

three, and five miles. Riding a 6 h.p. Matchless racer Martin easily beat his former records, and put up new times which will take some difficulty to match. As on the previous occasions, Martin rode magnificently and aroused the enthusiasm of the crowd. Details of the old and new times are as follows: Mile flying start.—Time, 1m. 6½s. Previous best 1m. 7¼s. Three miles flying start.—Time, 3m. 24¾s. Previous best, 3m. 41¾s. Five miles flying start.—Time, 5m. 42¾s. Previous best, 5m. 53½s.

The Tourist Trophy Race.
The T.T. Race for Motor Cycles is down for decision at the end of next month in the Isle of Man. Entries close on the 1st prox., the fee being £5 5s. per machine for both trade and amateur riders. In connection with this event a special fund will be opened to provide cash prizes for the winners in the two classes (single-cylinder and twin-cylinder machines), and thus induce, if possible, some of the Continental motor cyclists to compete.



W. Smith (2 h.p. Moto Reve) at Fenny Bridges. [A.C.U. 24 Hours' Ride]. Ell Clark (2½ h.p. Douglas) near Chimnock.

A.C.U. Twenty-four Hours' Ride.

FROM an entry of thirty-five, there were twenty-nine starters in the Auto Cycle Union's annual ride from London to Plymouth and back, which started from Thames Ditton at 9 p.m. on Friday. The first check was at Guildford (15¼ miles), the second at Winchester (53 miles), the third at Salisbury (79½ miles), and the fourth at Yeovil (120¾ miles). Here also breakfast was taken, and no one was allowed to leave until 4 a.m., plus the difference between competitors' starting times and the time the first rider was despatched. Yeovil was a notable landmark for another reason, inasmuch as between there and Honiton (a distance of thirty and a quarter miles) the competitors were required to ride to a schedule of 1h. 32m. on both the outward and homeward journeys. This stretch of road abounds in steep hills in both directions.

respect, being delayed no fewer than six times. Geiger ran into a bridge and broke a wheel near Yeovil on the outward journey, and Newman going into that town had gear trouble, but effected a very smart repair. An examination showed three teeth chipped off a cog wheel. He rang up a garage and got into the workshop, and managed to set the cog up with three new teeth, and caught up with some of the other riders at Exeter. Possibly the teeth did not hold, however, as he had not arrived back at Thames Ditton late on Saturday night.

At the Turning Point.

Twenty-one riders reached Plymouth, the journey thus far amounting to 211½ miles. No one was allowed to leave again before 9 a.m. plus the difference in the starting time. Crole Rees had some



The A.C.U. Twenty-four Hours' Ride. The start at 9 p.m. (Friday) from Thames Ditton.

Three minutes grace either over or under was allowed, but beyond that riders could not qualify for bronze medals for accomplishing the double journey in twenty-four hours. There were, however, certificates for those finishing within twenty-six hours.

The starters were: H. G. Cove (4 h.p. Jap), H. M. Bentley (3½ h.p. Triumph), W. O. Bentley (5 h.p. Rex), H. V. Davidson (3½ h.p. Zenette), F. C. Wood (6 h.p. N.S.U., with sidecar), C. H. Barfield (3½ h.p. Triumph), W. H. Bashall (3½ h.p. Triumph), W. Pratt (3½ h.p. L.M.C.), E. W. Ashworth (7 h.p. Minerva), E. Nelson (5 h.p. Rex), M. Geiger (6 h.p. N.S.U., with sidecar), Eli Clark (2¾ h.p. Douglas), W. W. Douglas (2¾ h.p. Douglas), W. Smith (2 h.p. Moto-Rêve), G. L. Fletcher (2 h.p. Moto-Rêve), F. Toman (5 h.p. Laurin and Klement), W. E. Burkin (2¾ h.p. Laurin and Klement), H. A. Cooper (3 h.p. Triumph), R. H. Ratcliffe (3½ h.p. Triumph), F. Hansford (5 h.p. Peugeot), F. Cozens (10 h.p. Lagonda tricar), O. Van Saal (5½ h.p. Phänomen, with sidecar), F. W. Barnes (3½ h.p. Zenette), W. J. Newman (4 h.p. Roc), W. A. Jacobs (3½ h.p. Rex), J. P. le Grand (2½ h.p. Matchless), C. H. Crole Rees (6 h.p. Advance), G. Rowden (4 h.p. Bat), and H. O'Hagan (5 h.p. Vindec Special).

The roads were very dusty and punctures were plentiful. Barfield was particularly unfortunate in this

trouble with his valve stem at Yeovil, and later was put out of the contest through the head of his cycle breaking, and Ratcliffe was delayed with a choked petrol pipe. Barnes and O'Hagan were misdirected when near home, and went about ten miles out of their way. Only seven arrived within the twenty-four



Competitors at the Honiton control, 5 a.m., on Saturday last

A.C.U. Twenty-four Hours' Ride.—

hours, these, with their finishing times, being:

	H. M. S.
H. G. Cove (4 h.p. Jap)	8 15 18 ¹ / ₂
W. O. Bentley (5 h.p. Rex)	8 17 17 ¹ / ₂
W. H. Bashall (3 ¹ / ₂ h.p. Triumph)	8 17 17 ¹ / ₂
W. E. Burkin (2 ³ / ₄ h.p. Laurin-Klement)	8 19 6
G. L. Fletcher (2 h.p. Moto-Rêve)	8 19 25
Eli Clark (2 ³ / ₄ h.p. Douglas)	8 19 30
C. H. Barfield (3 ¹ / ₂ h.p. Triumph)	8 47 3 ¹ / ₂

Davidson arrived at 9.29, Ratcliffe at 9.48, Barnes at 9.48, and O'Hagan at 9.51. All agreed that the

course was a very sporting one, some of the hills being very severe.

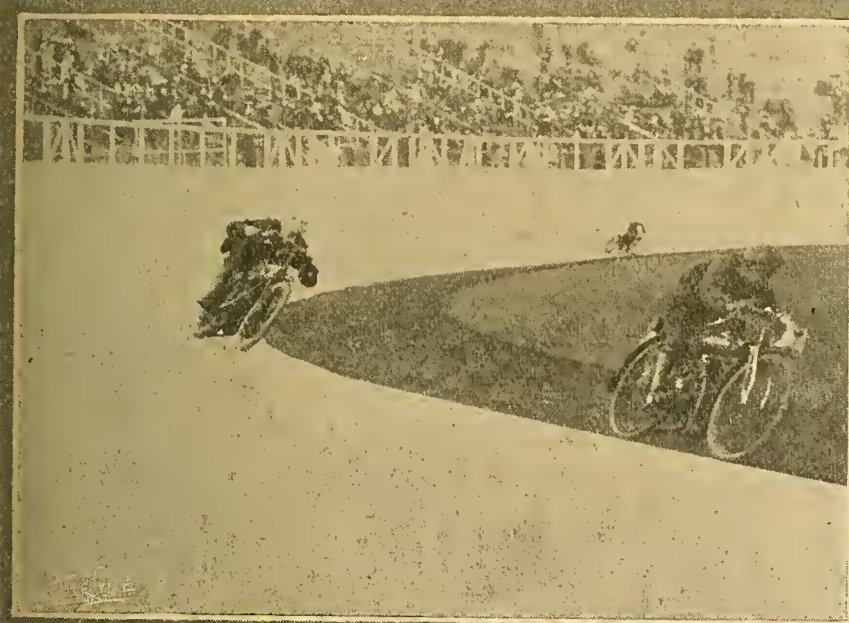
There were no traps, and the police lent every assistance, keeping the streets clear in the large towns through which the competitors passed, and in which many hundreds of people gathered. The competitors spoke highly of the A.C.U. arrangements for marking the route, which consisted of Chinese lanterns by night and arrows—red to the left, green to the right—by day. The winners of the three silver cups will be announced in a future issue.

Essex M.C. Race Meeting at the Stadium.

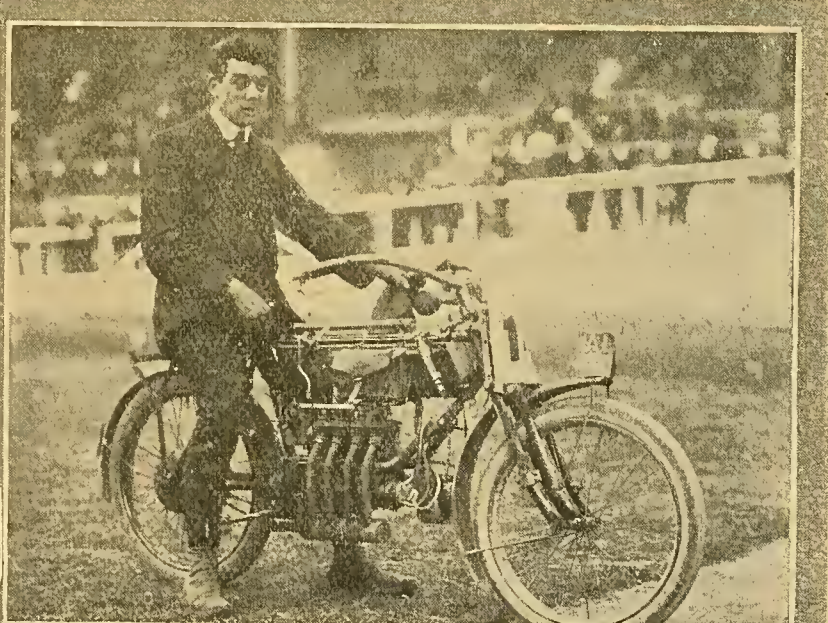
THE annual race meeting of the above club was held on Saturday last, under delightful weather conditions, at the Shepherd's Bush track. The attendance was good, and the interest in the events was extremely keen.

Proceedings started with the heats of the five miles handicap for racing machines with engines not exceeding 76 by 76, or the equivalent thereof. Eight entries were divided into two heats. In the first, C. E. Bennett (2³/₄ h.p. Mansfield), scratch, and H. V. Colver (2³/₄ h.p. Matchless), 7s. start, and in the second W. W. Genn (2³/₄ h.p. Eland), 10s., and D. R. Clarke (2³/₄ h.p.

final. The first heat fell to W. W. Genn (2³/₄ h.p. Eland), 10s. start, in 7m. 4³/₅s., after a good tussle with F. Applebee (3¹/₂ h.p. Rex), 15s. The third heat was next run, R. O. Clark (5 h.p. four-cylinder F.N.), 10s., winning easily from A. E. Dendy (3 h.p. Centaur), 45s.; time, 7m. 2¹/₅s. In the second heat, Gordon Gibson (3¹/₂ h.p. Triumph) enjoyed 20s. start. He had no difficulty in increasing his 5s. start from S. A. Denman (4¹/₂ h.p. Brooklands), and won eventually by close on half a mile in 7m. 25s. The final of this event over the full ten miles furnished a better race even than the first. Gibson was soon away, and neither



Coming round the banking in the event for machines with 76×76 mm. engines.



R. O. Clark (4¹/₂ h.p. four-cylinder F.N.) winner of the Ten Miles Race for Tourist Machines.

New Century), 5s., qualified for the final. The heat times were 6m. 6²/₅s. and 6m. 44¹/₅s. respectively. The final produced a good contest. Colver was the first to get into his stride, and, riding in fine style, quickly gained a lap on Genn. Bennett, too, lapped the last-named, who did not appear at all happy, and was then in turn lapped by Colver. Clarke's machine developed the sulks halfway through, letting in Genn to third place. Colver finally won by one and a quarter laps from Bennett, who was one and a third laps in front of Genn. Time, 5m. 44³/₅s.

The ten miles handicap for touring machines fitted with engines not exceeding 90 by 90 or the equivalent, and with a gear not higher than four to one, with 26in. wheels, had sixteen entries, six of whom failed to come to the post. Three heats of five miles were run, the first in each and fastest loser qualifying for the

Applebee (fastest loser) nor Genn could hold him. Clark's F.N., however, behaved beautifully, and a stern chase occurred for about five miles, when he drew level. For over a mile the two leaders ran neck and neck, and amidst great excitement Clark eventually drew away, and won by nearly two laps. Genn and Applebee fought together for third place, the first-named proving successful. Time, 13m. 5s.

The one mile flying start trials for racing machines proved somewhat slow, and Collier's 1m. 2s. was never seriously endangered. H. V. Colver gained first place in 1m. 3⁴/₅s., Bennett did 1m. 7²/₅s., D. R. Clarke 1m. 14²/₅s., G. H. Gerhard 1m. 15¹/₅s., and T. A. Carter 1m. 15⁴/₅s.

The fourth event was a one hour race for 76 × 76 racing machines for the Du Cros challenge trophy. Out of eight entries the following came to the start: C. E.

Essex M.C. Race Meeting at the Stadium.—

Bennett, $2\frac{3}{4}$ h.p. (76 × 73) Mansfield; H. V. Colver, $2\frac{3}{4}$ h.p. (76 × 76) Matchless; G. H. Gerhard, $2\frac{3}{4}$ h.p. (76 × 73) Brooklands; and T. Carter, $2\frac{3}{4}$ h.p. (76 × 76) Matchless. Colver got away badly, but quickly recovered, and started off to catch Bennett, who was early leading by 200 yards. In five minutes he had lapped Gerhard and Carter, and soon after overhauled and passed Bennett, who soon found trouble with his belt. In another four minutes Colver had again lapped the two back men. A new belt was quickly fixed for Bennett, but he was again delayed by his carburetter catching fire. A Diamond fire extinguisher on the spot, however, soon overcame the flames.

Twenty-two minutes from the start Colver gained another lap from Bennett in addition to those lost by the last named when temporarily *en panne*. At twenty-

two minutes Colver slowed, his machine developing misfiring troubles; this enabled Bennett to draw away, and in a very short time he had recovered half a lap of his lost ground. Carter and Gerhard toured steadily round with an eye to third place or the possible breakdown of the leaders. Colver's misfiring having now ceased, he was able to hold his own for awhile, and at the half-hour he led with 24 miles 1 lap to his credit, ten laps ahead of the next man.

The final placings were: 1, Colver, 49 miles 22c yards; 2, Bennett, 44 miles 1,150 yards; and 3, Gerhard, 42 miles 1,030 yards.

The meeting lasted until seven o'clock, and the ten miles record attempts by Bennett and Colver were abandoned.

Mr. Charles Jarrott acted as one of the judges, and a large staff of officials also rendered assistance.

CLUB NEWS.

Pocklington and District M.C.C.

At a meeting recently held at Pocklington it was unanimously decided to form a motor cycle club to be known as above. Members number nineteen up to time of writing. A good programme of runs, climbs, etc., has been arranged, which it is hoped will be well supported. Walter Barlow, Pocklington is the hon. sec.

Lincolnshire M.C.C. (Grimsby Centre).

On Saturday next a hill-climbing competition will be held at Lambcroft Hill, near Ludborough, at 3.30 p.m. Three classes will be included, as under: Class 1, for machines up to $2\frac{1}{2}$ h.p. (pedalling allowed). Class 2, for single-cylinder machines of over $2\frac{1}{2}$ h.p. Class 3, for multi-cylinder machines. Entry fee 1s. 6d., to be sent to the hon. sec., E. Strutt, 78, Oxford Street, Grimsby.

Southern M.C.

The first mixed club hill-climb took place at the week-end on a threequarter mile hill, which was kept secret. Results worked out as follows: 1, E. K. Davies (5 h.p. Peugeot motor cycle); 2, T. Jones (5 h.p. Antoine motor cycle); 3, J. W. Cuffley (4 h.p. Werner motor cycle). Prizes were given after the event. It was also made the occasion on which to present a silver cigar case to Mr. A. Vicars in recognition of his services as chairman.

Newcastle M.C.

The above club held a speed-judging trial on Wednesday last over a ten-mile course on the Ponteland Road. The times varied from 15 to 19 m.p.h., and out of a total of fifteen starters the first five competitors were within 42s. of schedule time. That motor cyclists can so closely judge the moderate speeds at which they are set to travel over a tar macadam road should be an object lesson for the police. The winners were: 1st, J. Daglish ($4\frac{1}{2}$ h.p. Antoine); 2nd, J. H. Douglas ($3\frac{1}{2}$ h.p. Fafnir); 3rd, Jos. P. Robson ($3\frac{1}{2}$ h.p. Fafnir).

Liverpool M.C.

The 200 miles reliability run to Holyhead and back proved to be one of the most interesting that the club has undertaken. The route chosen was through Queen's Ferry, St. Asaph, Conway, Menia Bridge, returning through Bettws-y-coed, Llangollen, Wrexham, and Queen's Ferry. The run, which was very enjoyable throughout, has helped in the neighbourhood to prove the reliability of the motor cycle. Seventeen faced the starter, and seventeen finished, and had it not been for the eighteen miles per hour limit between controls all would have been winners. The competitors' names are as follows: T. A. Clarke ($3\frac{1}{2}$ h.p. Addison-Fafnir), E. M. Brimmell ($3\frac{1}{2}$ h.p. Triumph) F. C. Jones ($3\frac{1}{2}$ h.p. Rex), Mr. and Mrs. F. Lee (7-9 h.p. Jap-Waverley), Cranston (7-9 h.p. Jap-Waverley), S. Allen (5 h.p. Waverley-Sarolea), G. Read and Pass ($5\frac{1}{2}$ h.p. N.S.U.), C. Garner ($3\frac{1}{2}$ h.p. Triumph), A. Booth ($3\frac{1}{2}$ h.p. Bat), R. Rutherford (5 h.p. Vindec), H. Brooks ($3\frac{1}{2}$ h.p. Brown), J. Bennet (5 h.p. Waverley-Peugeot), J. Bethel ($3\frac{1}{2}$ h.p. Triumph), L. Fehr, hon. sec. (7-9 h.p. Star), G. Owens (5 h.p. Peugeot), M. Lake (10-12 h.p. Humber), W. Johnston (12 h.p. Sizaire-Naudin), and C. Murdock (official car).

Five riders finished without losing a single mark, and had to run over a circular course for another 100 miles. The winners were T. A. Clark (capt.), F. Lee, E. M. Brimell, F. C. Jones, and Cranston. First prize, Cranston; second, F. Lee; third, F. C. Jones. The committee would like to thank the willing helpers.

Worcestershire M.C.C.

On Saturday last a speed-judging competition was held over an eleven mile course. Each competitor was given a different time to compete the course, and the result was as follows: T. Smith (5 h.p. Rex), winner, exact; E. Burgess (5 h.p. Rex), 15s. fast; W. Brightwell (6 h.p. N.S.U. tricar), 30s. fast; H. J. Heaven ($3\frac{1}{2}$ h.p. Quadrant), 1m. 45s. fast; G. Sanders ($3\frac{1}{2}$ h.p. Minerva), 1m. 45s. fast; H. C. Pickering ($2\frac{1}{2}$ h.p. Rex), 2m. fast; J. L. Partington ($3\frac{1}{2}$ h.p. Minerva), 2m. 30s. fast; C. A. Williams ($3\frac{1}{2}$ h.p. T.T. Triumph), 3m. 45s. fast; A. Jennings ($3\frac{1}{2}$ h.p. T.T. Triumph), 3m. 45s. fast; L. Pickering (5 h.p. Rex), 4m. 45s. fast; S. Rodway ($2\frac{1}{2}$ h.p. Kerry), $11\frac{1}{2}$ m. slow.

Newcastle and District M.C.C.

The annual reliability trial of the above club was held on August 2nd and 3rd to Stranraer, *via* Kelso, Moffat, and New Galloway, and home *via* Castle Douglas, Langholm, and Hawick, being a total mileage of 420 miles.

Fifteen competitors duly arrived at Stranraer, and started back next morning at eight o'clock. The first control was at Castle Douglas. The competitors then proceeded through Dumfries, Annan, and Canobie to Langholm for dinner.

Tea was partaken of at Otterburn, and all faces were anxiously turned towards Newcastle, where the trial finished at the Barras Bridge Hotel at 8 p.m.

All who had left Stranraer that morning with one exception timed in at the finish, and so concluded the largest and severest trial conducted by the Newcastle Club. The following awards were made:

First prize, N.S.U. silver cup, S. W. Carty ($3\frac{3}{4}$ h.p. N.S.U.), lost 3 marks; second prize, R. B. Smith (6 h.p. N.S.U. tricar), lost $4\frac{1}{2}$ marks; third prize (presented by Mr. E. Hawkins), Capt. Sir R. K. Arbuthnot, Bart., R.N. ($3\frac{1}{2}$ h.p. Triumph), lost 5 marks.

The club standard gold medal has been awarded to: L. Rosenvinge ($3\frac{3}{4}$ h.p. N.S.U.), J. F. Mallet (6 h.p. N.S.U.), D. M. Mallet (4 h.p. N.S.U.), A. Fenwick (5 h.p. Vindec Special), R. Embleton ($3\frac{3}{4}$ h.p. N.S.U.), S. Hudson ($3\frac{1}{2}$ h.p. Hobart), L. Austin ($3\frac{3}{4}$ h.p. N.S.U.), R. Ellis ($3\frac{1}{2}$ h.p. Rex), W. H. Outwin ($3\frac{1}{2}$ h.p. Triumph), and G. Dyson ($3\frac{1}{2}$ h.p. Triumph).

Special awards: Gold medal presented by Mr. Robson Crosier—S. W. Carty; R.A.C. silver medal, for first in passenger class—R. B. Smith; gold medal presented by Mr. S. Hudson—Capt. Sir R. K. Arbuthnot, Bart., R.N.

Coventry M.C.

Over sixty entries have been received for the open hill-climb at Newnham, near Daventry, next Saturday, including all the well-known hill-climbing experts. An interesting competition is sure to be witnessed, as the competitors will converge on Daventry from all parts of England.

Club News.—

A gold medal will be awarded for the best placing on A.C.U. formula in each class and a prize for the fastest time in each class. In addition, two prizes will be presented for the best performance by a private owner on formula and on time. *The Motor Cycle* will present a silver rose bowl for the best combined performance on formula and on time by a private owner.

All machines must be fitted with efficient silencers, two brakes, metal motor cycle mudguards, touring saddle, roadster motor cycle tyres, lamp, toolbag with tools weighing not less than 5 lbs., stand, and horn. Cut-outs will not be allowed.

The weighing will take place at Messrs. Reynolds' Garage, Daventry, between eleven a.m. and one p.m. All machines must be presented exactly as they will be ridden. No practising on the hill will be allowed.

Birmingham M.C.C.

On Saturday next the run is to Ashby; meet at the top of Gravelly Hill at 2.30 p.m. A committee meeting will be held at headquarters on Wednesday, 19th inst., at 7.0 p.m., and on the 22nd inst. this club will join in the inter-club meet of motor cyclists at Stratford-on-Avon. Mrs. F. G. Sandison has offered a prize for a hill-climb to be held on the 23rd inst. Meet Victoria Square, 10.30 a.m.

Blackpool and District M.C.C.

The results on formula of the hill-climb, held last month, are as follows:

	Figure of merit.
1. J. G. Warburton (4 h.p. Roe)	82.9
2. J. Stanworth (3½ h.p. N.S.U.)	84.8
D. Baker (3½ h.p. N.S.U.)	93.9
Dr. Reid (3½ h.p. Triumph)	96.4
W. Taylor (3½ h.p. Triumph)	102.7

Wakefield M.C.

The winner of the Triumph gold medal in the one hundred miles reliability trial to one mile beyond Leeming Bar and back to Wakefield is E. Slater. There were twelve competitors, Dr. S. Reader being second (silver medal), and T. Smith third (bronze medal).

It has been arranged to hold a hill-climbing competition on Saturday, September 5th. Particulars of the hon. secretary, W. H. Pillmore, 42, Pinderfields Road, Wakefield.

The Motor Cycling Club.

Will members kindly make a note that the hon. secretary, Mr. A. Candler, will be away for his holidays from Friday next, August 14th, until September 7th? During that period all communications to the club should be sent to Mr. R. C. Davis, Standish Gate, Southwood Road, New Eltham, S.E., who will act as hon. secretary in Mr. Candler's absence. The winner of the Jarrott Cup in the Land's End and back run will be announced shortly.



E. Slater, the winner of the Wakefield M.C. 100 Miles Reliability Trial.

A RUN ROUND THE NORTH OF CAITHNESS.

MANY of the competitors in the End-to-end competition, not content with motor cycling eight hundred and ninety odd miles in six days, spent the Sunday following the conclusion of the run in exploring the northern corner of Caithness on their ever vigorous steeds. Thanks to the kindness of Mr. R. Moore, who has won the A.C.U. "six days'" gold medal four years in succession, we were enabled to follow the example of the others, and lunch first at John-o'-Groat's and then drive the trusty Phelon and Moore on to Thurso, that quaint little town which is the chief port for the Orkneys. All along the coast the islands afford a splendid view, and serve to break the monotony of the seascape. As we leave the coast the country becomes barren and desolate, and not a tree is to be seen till Castleton is reached—a tiny village nestling in a hollow by the sea, a veritable oasis in what is almost a desert. Leaving Thurso by the inland route, the scenery is equally uninteresting until a short glimpse is obtained of the grand sharp pointed peaks of the North-western Highlands, which contrast so strongly with the tamer outlines of the Grampians as seen from the Drummochter Pass. The

road is mostly straight and fast, but is by no means flat, and the surface varies from smooth to rough.

Our mount was the identical Phelon and Moore which its designer had successfully piloted through another long distance trial, and splendidly it ran in our unaccustomed hands. First and foremost, its ease of starting and the simplicity and efficiency of its gear appealed to us. Pushing off on the low gear, freeing the engine, lazily bestriding the saddle, accelerating the engine, pulling over the gear lever to first speed, and starting away from standstill were experiences so delightful that stopping and getting under way were quite the most pleasant part of the afternoon's experiences. Up the few hills in the neighbourhood the low gear was never needed. The drive, contrary to the general ideas of chain transmission, which most people think must be harsh, was delightfully smooth, and the machine proved to be speedy as well as comfortable. The control of both the gear and engine is decidedly well thought out, especially the Bowden hand throttle, which we found to be a great comfort. Our short run left us with a still better opinion of the Phelon and Moore motor bicycle.

Numerous letters have appeared in our correspondence columns calling attention to the methods of some firms, and in a few cases invidious comparisons have been drawn between British and foreign firms, particularly with regard to prompt attention to orders. A letter which we have had an opportunity of perusing addressed to A. W. Gamage, Ltd., Holborn, E.C., is sufficient proof that this firm gives prompt attention to all business matters relating to its motor cycle department.

On a very silent car it is comparatively easy to hear when a faster and somewhat noisier vehicle is coming up from behind. On a motor cycle it is more difficult, as the noise of an unenclosed engine beneath the driver, and the rush of wind, render inaudible most outside sounds. In the recent End-to-end run the official cars, which often of necessity had to forge ahead, had difficulty in making the motor cyclists hear the note of the horn. The few men who had mirrors on the handlebar found them of great service.



LETTERS TO THE EDITOR



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Tyre Inflators.

[3469.]-If "Ixion" will drill a small hole through the barrel half an inch from the cap of his tyre pump, he can then drop some oil into same and lubricate the washer, and the pump will also be found to inflate the tyre more rapidly, as the small hole, if anything, improves the compressing power of the pump.

Holders for Starting Handle.

[3470.]-I should like to know if any of your readers who ride Rex de Luxe machines have any arrangements for carrying the starting handle, and, if so, if they would be good enough to explain through your columns, as I am sure it would be very useful information?

At present I carry my handle in my coat pocket, but find that it quickly wears a hole in the pocket and is also very heavy.

Perhaps the Rex Co. may have some provision on their later models, and, if so, I should be pleased to hear from them.

FREE ENGINE.

A holster made of leather or two pump clips make a very good holder for starting handle. The latter should be of the type provided with thumbscrews for fastening clip to frame.—Ed.]

The Lightweight Question.

[3471.]-As I read in your valuable paper *The Motor Cycle* the interesting information about lightweights, I thought a description of my machine might be of interest. The machine weighs 68 lbs. without petrol and oil. The engine is a Clément-Gerrard $1\frac{1}{2}$ h.p., fitted with a spray carburetter, which is very similar to the latest B. and B., but made of aluminium. A plain coil is fitted. The machine has a Clément two-speed gear fitted with gear ratios of 7 to 1 and 9 to 1. Chain drive. By changing on to bottom gear the bicycle can be pedalled without running the engine. It is a wonderfully powerful little engine, and will pull a cyclist and myself (weight combined with the two machines 29 stones) at 15 miles per hour, or take me singly (weight $11\frac{1}{2}$ stones) at twenty-three miles per hour. The two-speed gear is a very neat contrivance, and I think if it were fitted to the existing lightweight machines that a 2 h.p. lightweight would equal the work of one of the heavy 3-4 h.p. machines in anything but speed.

E. WYATT.

Bore v. Cubical Capacity.

[3472.]-For some time past a little matter has been rankling in my mind, and I should like to hear someone else's opinion about it. I suggest that the bore of an engine decides the power, irrespective of the stroke, because the piston speed remains nearly the same, whatever the stroke may be.

For instance, in an engine having a stroke of 3in., the piston travels 6in. each revolution, and taking 1,000 feet per minute piston speed gives 2,000 revolutions per minute. Again, an engine having 2in. stroke will have about the same piston speed, and therefore about 3,000 revolutions per minute. Of course, in the latter case, the gear must be slower than in the case of a 3in. stroke, to obtain the best all-round results.

Thus, in my opinion, the stroke makes very little difference to the power, provided the engine is geared in proportion to the stroke.

Again, merely fitting an engine of longer stroke does not increase the power, if the same gear is retained; the machine will be slower on the level, but stronger on hills.

Perhaps someone will explain why engines 70 by 70 are rated at 2 h.p., and 70 by 76 at $2\frac{1}{2}$ h.p.

I have not missed a number of *The Motor Cycle* since it was first published.

A. W. SMITH.

Vexatious Delays.

[3473.]-In answer to an advert. in *The Motor Cycle*, I sent to England on March 25th, 1908, 17s. 6d. for a variable pulley. On May 25th, not having received a reply, I again wrote asking why; sufficient time having elapsed for a reply to my second letter (I have received replies to other letters I sent to various people in England on the same date). I venture to bring the matter under your notice, as it is not conducive to the business of an advertiser if one is treated in this way. True the item is a small one, but the same principle is involved as though it was a larger amount, and the same amount of worry and annoyance is caused. I have noticed that you had occasion to publish similar complaints from people at home—i.e., inattention and delay in attending to postal orders—during the past year; but to one abroad it is more serious and vexing, as if prompt attention is given it takes six or seven weeks to receive any article from England. You might give advertisers a hint to give prompt and careful attention to enquiries or orders from abroad, and thus encourage people to send what trade they can to England, instead of letting the money drift into the hands of German and American firms, who are pushing hard here.

Capetown, S.A.

THOS. R. BUTLER.

Motor Cycle Finish.

[3474.]-I was indeed interested in your leaderette on "Motor Cycle Finish" which appeared a short time ago, in which you advocated that the modern motor cycle should have fewer plated parts, and that it should be painted, or enamelled, with a more sensible colour than the present "funeral" black, which to me seems an absurd colour to use, as it shows up every speck of dirt or dust, and a machine thus enamelled quickly resembles a dust-bin after a short run on wet or dusty roads. Light French grey, to my mind, is the best colour, as a machine of this colour never looks really dirty, and it may interest some of your readers to learn that there is at present a "paint" on the market which can be applied to any part of a machine without necessarily dismantling same, and if carefully done it is difficult for anyone to tell that it had not been stove enamelled. If any of your readers care to write me I shall be happy to furnish them with the makers' name and address, which I enclose, unless the Editor will not consider it a veiled advertisement and publish same. I may say I "painted" a machine of mine with same over a year ago, and it still looks as good as when first applied, and I have specified that my new machine (6 h.p. Advance) shall be "painted" this colour.

Of course I have no interest in the firm mentioned.

CECIL H. CROLE-REES.

[We publish the name as a matter of general interest. It is "Velure," and is sold by Chancellor and Co., Ltd., Clerkenwell Road, E.C. At the same time, we do not recommend readers generally to attempt to paint machines all over without dismantling.—Ed.]

Dissatisfied Owners.

[3475.]-I have read with interest the complaints from dissatisfied owners which you occasionally very justly publish, and I believe that they represent an unpleasantly large proportion of motor cyclists. I, for instance, having used a single-cylinder machine with satisfaction, ventured on the most reputable and expensive English-made twin for 1908. The assembler with whom I placed my order sent a cheque off for the engine at once. There then ensued a delay of two months, during which our agitated enquiries were met by a threat of returning the cheque, which, unfortunately, was not carried out. The engine arrived just in time for Easter, and we noticed that the external finish of the magneto gear case was very rough. The most noticeable feature of

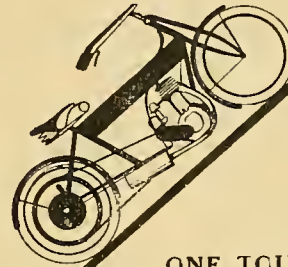
CAN MOTOR BICYCLES CLIMB HILLS?

"You must fit one of the excellent two-speed
"gears now marketed, by the aid of which
"you can climb Sutton, and, what is more,

- "(a) climb it at a slow and comfortable pace,
- "(b) climb it every time,
- "(c) climb it twenty times running,
- "(d) climb it without any special preparation,
- "(e) climb it when your engine is below par,
- "(f) climb it when your engine is heated by a
previous 100 miles non-stop,
- "(g) climb it when it is blocked by traffic,
- "(h) climb it when it is liberally smeared with
grease,
- "(i) climb it when you are an absolute novice."

(Extract from article by "Ixion," in "The Motor Cycle,"
July 22nd, 1908.)

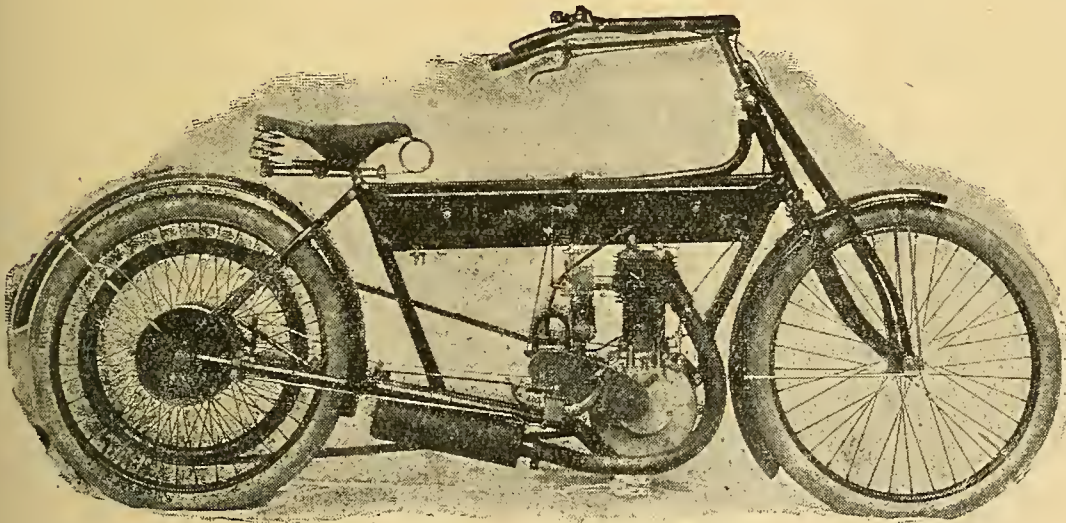
THE ROC WAY.



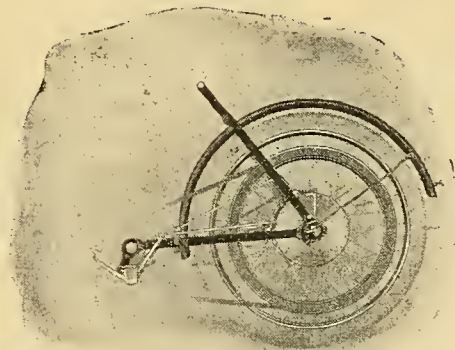
ONE TOUCH OF PEDAL
MAKES THE WHOLE WORLD FLAT.

The ROC way is the **ONLY WAY** to achieve the above results.

If you cannot afford a genuine RCC machine, you can convert your otherwise excellent machine into the ROC system with hand starting through LIVE AXLE—CLUTCH AND TWO SPEED GEAR, at an inclusive cost of 10 gns. Send for particulars.



Roc 4 h.p. Royal Military Model, clutch, gear, hand starting, etc.
48 gns.



Showing conversion completed.
Note all in back wheel—pedal levers, car control.

NOTE.—Machines sent for conversions should be consigned to our works as below, either direct, or through an authorised agent, with a label clearly indicating sender's name. Machines sent for this purpose will be generally returned within three days from receipt, tested and completed. The efficiency of each conversion is guaranteed. ANY make of belt driven machine is convertible.

Send for booklet and users' opinions to

A. W. WALL, LTD., ROC MOTOR CYCLE WORKS,
BIRMINGHAM.

ASTON RD. & DARTMOUTH ST.

Telegrams—"Roc, Birmingham."

Telephone—5712, Central.

In answering this advertisement it is desirable that you mention "The Motor Cycle."

End to End

Without the loss
of a single mark

ON

DUNLOPS.

Mr. C. A. Palmer, who rode a twin-cylinder Roc, fitted with Dunlop tyres, in the End to End run, writes :

"The tyres have not been pumped up since I left Penzance, and I have had no trouble whatever."

Mr. Palmer went through the trials without losing a mark.

Wired-on,
or beaded
edge (as
illustrated).



Booklet
gratis and
post free
on request.

DUNLOP TYRE COMPANY, LTD.,
Aston, BIRMINGHAM;
Alma Street, COVENTRY.

Branches—London, Nottingham, Manchester, Newcastle,
Norwich, Bristol, Leeds, Glasgow, Dublin, Belfast.

LEWISHAM C.C. HILL CLIMB.Mr. H. J. Bell's Report in *The Motor Cycle*.

"Adverting to F. W. Barnes's performance on the spring frame 'Zenette,' I wish it to be distinctly understood that I leave speed out of the question in referring to his performance. This machine was fitted with the firm's 'Gradua' variable gear, and it was this gear that enabled the rider to climb the hill and negotiate the tricky S bend in a

Comfortable

way, comfortable because the speed was reasonable. It was the first time this variable gear had appeared in competition,

and it behaved admirably."

THE LUXURIOUS 'ZENETTE' AT SUTTON BANK (Yorks)

A.C.C. HILL CLIMB,

MAY 30th, 1908.

Average gradient 1 in 8, steepest 1 in 3'96.

3½ h.p. "ZENETTE"
with "GRADUA" GEAR,

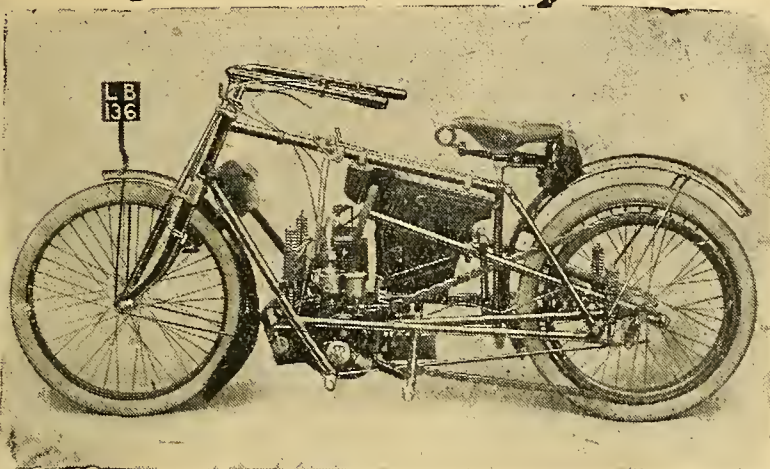
accomplished another fine climb, clearly demonstrating its excellent capabilities, which was from a standing start on a gradient of 1 in 18.

One Zenette Entered, One Zenette Successful!

The only previous hill climbs the "ZENETTE" (and "GRADUA" GEAR) appeared in are

LEWISHAM C.C. (GUDHAM HILL),
ONE ENTERED, ONE SUCCESSFUL.

ESSEX C.C. (LIPPITT'S HILL),
TWO ENTERED, TWO SUCCESSFUL.



"ZENETTE" SPRING FRAME. 3½ h.p. and "GRADUA" GEAR.
Price 50 guineas nett cash. A few exchanges entertained.

"The Motor Cycle" says:

"ZENETTE" WITH "GRADUA" GEAR.

"During the time the machine was in our hands the gear did everything which is claimed for it. To start from a standstill the engine had only to be accelerated very slightly, and when the operating wheel was revolved clockwise the drive was taken up both smoothly and effectively. In negotiating Muswell Hill by no means the lowest gear was used, and yet the machine gathered speed as it went up."

ZENITH MOTORS LTD.

Works: 101a, Stroud Green Road, Finsbury Park, London, N.
Showrooms: 119, Stroud Green Road, Finsbury Park, London, N.

The "WOLF" is not a play-thing — it's rightly and soundly constructed with a view to high speed and hard work.

THE
"WOLF"
Featherweight Motor Cycle.

The "WOLF" has a specially built frame, has an astonishing hill-climbing capacity, and is British made throughout.

The Lightest, Cheapest, and most soundly constructed motor cycle at a bicycle price.

SPECIFICATION.—Engine—A. J. Steven's 2½ h.p.; bore 2½ in., stroke 2½ in.

Coil—Fuller. Accumulator—Premier. Carburetter—A. J. Steven's automatic air inlet and throttle combined. Belt—Best Chrome. Jockey Pulley—Ball Bearing. Frame—22 in. and 24 in.

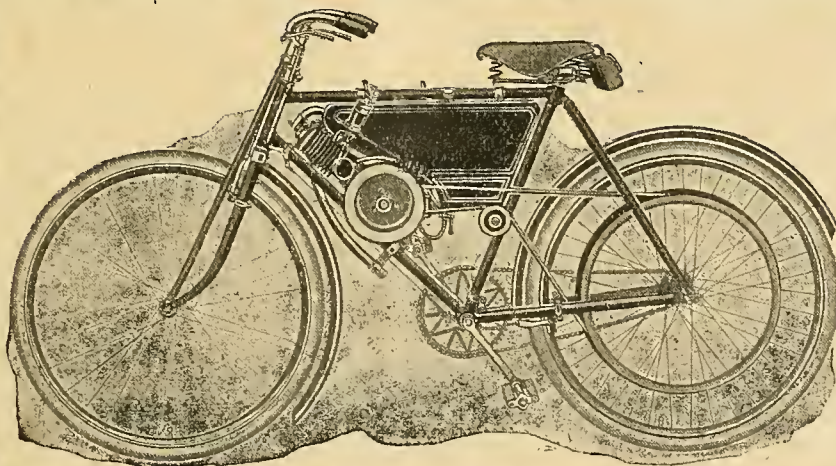
Tank—To which combined petrol, lubricating oil, and coil compartments are fitted. Wheels—26 in. or 28 in.

Tyres—Wasp No. 1, 1½ in. diameter. Made specially by the Dunlop Rubber Co., Ltd. Controls—Valve lifter and ignition are controlled by one lever; when magneto, extra lever for ignition. Handlebar—Wide raised, to which a switch of neat design is fitted. Brakes—Wasp front and back roller or inverted levers. Finish—Best black enamel, lined two colours. Olive green, silver lines, 10s. extra.

"Wolf" Tyres made by the Dunlop Rubber Co., Ltd., 2 in. to fit any standard 1½ in. rim, 20s. extra. Write for lists.

WEARWELL MOTOR CARRIAGE CO., Ltd., WOLVERHAMPTON.

AN
EFFICIENT
MOTOR CYCLE
WEIGHING
ONLY
60 lbs.



A WELL-CON-
STRUCTED
BRITISH-BUILT
MACHINE
FOR ONLY
£19 19 0.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London, by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

The PREMIER—

BEST HOUSE FOR
CASH, EXCHANGE,
EXTENDED PAYMENTS.
NEW MODELS.

TRIUMPH 3½ h.p., 1908, magneto	£48 0
WARWICK, shop-soiled only	46 0
TRIUMPH 3½ h.p., 1907, magneto	39 0
N.S.U. 3½ h.p., 1908, magneto, new, 26" wheels	40 0
N.S.U. 3½ h.p., magneto, new, 1908, 24" wheels	40 0
N.S.U. 3½ h.p., 1908, twin, magneto, 24" wheels	45 0
N.S.U. 6 h.p., 1908, twin, magneto	54 0
N.S.U. 1½ h.p., 1908 lightweight, magneto	34 0
REX DE LUXE 3½ h.p., 1908, magneto, two-speed gear	50 0

Also various other new models, Motosacoche, F.N., Roc, Vindec, Warwick, etc., all in stock.

SOILED AND SECOND-HAND.

TWIN N.S.U., 1908, 6 h.p., Roc clutch, and improved two-speed gear, Montgomery sidecar	£58 0
N.S.U. TWIN, 6 h.p., magneto, 1907, two-speed gear, coach-built sidecar	38 0
N.S.U. 3½ h.p., 1908, accumulator, shop-soiled, cost £36	28 0
G.B. ZEDEL 5-6 h.p., 1908, engine magneto, two-speed, spring forks, fan, footrests, perfect, cost over £70, will accept	35 0
MINERVA TWIN 1908, Palmer cord tyres, rin. belt, perfect condition	30 0
TWIN ROC 5 h.p., Peugeot engine, magneto, free-engine	30 0
VINDEC SPECIAL, 3½ h.p., two-speed	30 0
ROC 4 h.p., 1907, magneto, free-engine, Druid spring forks	25 0
ROC 3½ h.p., magneto, clutch, good running order	12 0
N.S.U. 3½ h.p., 1907, magneto, new Roc two-speed gear, spring forks	30 0
REX TWIN TOURIST, magneto, '08, as new	27 0
JAP, 6 h.p., magneto, '08, Chater Lea frame, not run	27 0
VINDEC SPECIAL 3½ h.p., magneto, Truffault spring forks	26 0
F.N. Lightweight, magneto, spring fork, perfect	21 0
NOBLE, 3 h.p., long wheelbase, good order	10 0
WHITLEY 3½ h.p., spray carburetter	8 10
JAP, 6 h.p., Twin, Chater Lea frame, grand condition	20 0
KERRY 5 h.p., twin, two-speed, hand-starting	20 0
ANTOINE 4 h.p., low frame, free-engine	15 0
ZENITH bicar, free engine, good condition	17 0
WERNER, twin, 4 h.p., recently overhauled and refinished	16 0
N.S.U. 5½ h.p., magneto, overhauled, two-speed gear	25 0
N.S.U. TWIN, 5½ h.p., good condition	20 0
REX 3½ h.p., John-o'-Groat's model	10 0

Others constantly arriving.

Let us give you details of the

WARWICK CAR-STYLE MOTOR CYCLE.

Hand-starting, ball bearing 4 h.p. engine, Bosch magneto, spring forks, Roc (licensed) clutch, epicyclic two-speed gear, started and driven like a car; several seasons in advance of ordinary motor cycle design.

Price 45 guineas.

TYRE BARGAINS.

Get your machine WELL SHOD.

Sent on approval from our **BRAND NEW 1908 STOCK.**

PETER UNION COVERS.		ORDINARY PRICE.	
PREMIER PRICE.			
24 x 2½	£0 18 0	£1 2 0	
26 x 2½	1 1 6	1 8 0	
26 x 2½	1 5 0	1 13 0	

SHAMROCK COVERS, 26 x 2½, 12/6 each.

NEW TUBES—PETER UNION.		ORDINARY PRICE.	
PREMIER PRICE.			
24 x 2½	£0 8 0	£0 11 0	
26 x 2½	0 8 6	0 12 0	
26 x 2½	0 10 6	0 13 0	

CLINCHER TUBES, New, Best Grey Quality.

PREMIER PRICE.		ORDINARY PRICE.	
24 x 2½	£0 7 6	£0 11 6	
26 x 2½	0 7 6	0 12 0	

Delivery per return. Sent on APPROVAL for three days.

PREMIER ACCUMULATORS.

BRITISH-MADE. Sent on four days' actual TRIAL

Specially heavy plates—do not disintegrate.

10 amp.	9/6	List on
20 amp.	12/6	application.

PREMIER MOTOR AGENCY,

Aston Road, BIRMINGHAM,

Telephone: 4310. Telegrams: "Primus," B'ham.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

FOUR-CYLINDER F.N., perfect condition new tyres; £20.—Stallybrass, 20, North Parade, Whitley Bay.

TRIUMPH, 1907, magneto, perfect condition, spares and accessories; £32.—Mace, 23, Murray Street, West Hartlepool.

31 h.p. Excelsior, M.M.C., good Continental, very powerful, grand running order; £10 10s.—Musgrave, Norwood Villa, Windermere.

7-9 h.p. Motor, Phelon and Moore two-speed, heavy Dunlops, Whittle belt, Druid forks, splendid condition; £33.—Brook, Staham, Wallsend.

TRIUMPH, 3½ h.p., Palmer tyres, magneto, spring forks, handle-bar control, stand and accessories, all in perfect condition, has not been ridden 200 miles; owner having bought car; price £31.—S. Allen and Co., 8, Elswick Court, Northumberland Street, Newcastle-on-Tyne.

SECTION II.

York and Lancashire.

31 h.p. Rex, good condition; £18.—W. T. Awmack, 8, New Briggate, Leeds

N.S.U. 5½ h.p. Twin, magneto; bought at Easter; price £30.—Naylor, Lee Mount, Halifax.

GENUINE Minerva, 3½ h.p., spring forks, good order; £16 16s.—Cross, Jeweller, Rotherham.

31 h.p. N.S.U., two speeds, horn, tools, stand, etc., perfect, nearly new; 25 guineas.—Below.

31 h.p. Brown, new; £37 model; cheap.—Bousfield, Micklegate, York.

N.S.U., 3 h.p., 1907 machine, low, splendid condition; sacrifice £16 10s.—Schofield, Ainsdale, Southport.

1907 Twin Rex, perfect running order; £20; exchange entertained.—45, Infirmary Road, Sheffield.

PHELON and Moore, 3½ h.p., two-speed, magneto; £30, with sidecar, £34.—Briggs, Ironmonger, Brighouse.

2 h.p. Singer, chain drive, condition as new, magneto, or exchange; £9 18s., no offers.—57, Parrin Lane, Morton, Manchester.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

h.p. Standard Pattern N.S.U. Lightweight, magneto, new last August, in excellent running order, tyres good, and ready for the road, with horn, stand, and lights; £20.—No. 484, *The Motor Cycle Offices*, Coventry.

1908 Triumph, 84 by 86, magneto, perfect condition, hardly scratched, new rear wheel, electric horn, spare valve, platinum front and tools, spring saddle, given no trouble; £40 cash.—Box No. 504, *The Motor Cycle Offices*, Coventry.

h.p. 1908 Twin Vindec, Truffault forks, Peter-Union, Roc clutch, handle start, magneto, perfect order, and used very little, climb anything, splendid bargain; going up; lowest £45; cost £65.—J. W. Williams, Hogsthorpe, Alford, Lincs.

ARIEL! Ariel!! Ariel!!!—For immediate delivery, the 2½ h.p. lightweight; write catalogue and full particulars; also 3 h.p. and 5 h.p. twin-cylinder models; a few h.p. and 5 h.p. twins at clearance prices, *Ariel Works*, Bournbrook, Birmingham.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

WIN Minerva, spring forks, magneto, like new, numerous spares.—Lambert, Thetford, Norfolk.

1 h.p. 1907 Rex, not ridden 300 miles, splendid condition; cost 32 guineas, accept easy payments arranged. — Parker, Edge Street, St. Ives, Hunts.

BARGAIN.—3½ h.p. Brown, splendid condition, engine just rebushed, new cylinder, Collier's foot brake, tyres perfect; £14.—Sturton, Gonville House, Cambridge.

1 h.p. N.S.U. Twin, 1908, magneto, Shamrock tyre back, Peter-Union front, fitted tubes, footboards, grand condition, justable pulley; £30. — 14, Humberstone Road, Cambridge.

GENUINE BARGAIN.—4½ h.p. twin Minerva, new Bosch magneto, spring forks, £30 skid just put on back wheel, had little use, like new; for quick sale, £24.—Wallis, Deer, Hills Road, Cambridge.

MOTOSACOCHE. Rex, Minerva, Laurin-Klemens, 1908, brand new machines; special terms; money saved; two latest models of 1908 Motosacoches, unsoiled; £26 15s. — One, Ashburton, Wells, Norfolk.

SECTION VI.

Gloucestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

OUR-CYLINDER F.N., magneto, spring forks, Brooks, splendid condition; £25 cash; buying lightweight.—Motorist, 23, Park Street, Merthyr.

1 h.p. Rex, magneto, Tourist model, ball bearing engine, new last week; any offer; what offers? reason for selling, bought by Phipps, Llanfyllin.

3 h.p. F.N. throughout, perfect, little used, two accumulators, Brooks saddle, N.A.B. seat-pillar, spring forks, foot-boards, stand, lamp, horn, spares; bargain, £49, Church Street, Ebbw Vale.

1 h.p. Genuine Birmingham Quadrant, 2½ h.p. splendid condition, spring forks, Palmer cord and Brooks's non-skid, 3in. Wata-ta, two accumulators, Brooks B100, accessories and spares; what offers?—Davis, The Leary, Leominster.

BARGAIN.—1908 3½ h.p. Rex, guaranteed in perfect condition, not ridden 500 miles, new Bosch magneto, brand new belt, tyres as new, horn, stand, carrier, trial, cost £40; also Acetyphote lamp, 10s.; Whittle, 3in., 18s. 6d.—Horton, Leominster.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

ERRY, 2½ h.p., new tyres and accumulator, first-class order; £10.—Hooper, 3, College Terrace, Southampton.

FAIRY Motor Cycle, nearly new, not been ridden 150 miles; price £20.—Apply Douglas Bros., Engineers, Kingswood, Bristol.

PRICES DOWN.

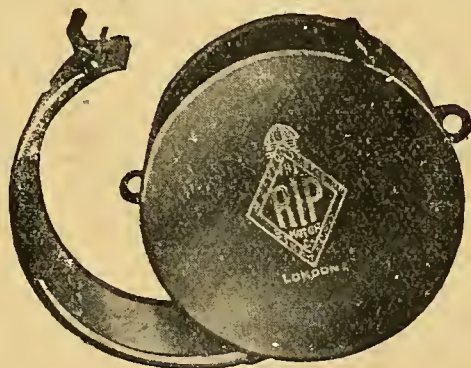
ARIEL , 3 h.p., brand new, perfect	£29
N.S.U. , 5½ h.p., twin, two speeds, mag.	£31
REX , 5 h.p., 1907 model, blue finish	£18
REX , 3½ h.p., 26" wheels, very low	£12
MINERVA , 4½ h.p., 2½" tyres	£23
SAROLEA , 5 h.p., very low, new tyres	£23
WERNER , 3½ h.p., twin, good condition	£17
ARIEL , 3 h.p., B. & B.	£13
MINERVA , 3½ h.p., M.O.V., splendid puller	£16
CLARENDON , 3 h.p., vertical, Peter Unions	£11
REX , 3 h.p., 50-guinea model	£10
BAT , 3½ h.p., spring frame	£19
REX , 3½ h.p., two speeds	£14
QUADRANT , 3 h.p., spring forks	£12
BAYLISS , 3 h.p., special price	£8
N.N. , 2½ h.p., splendid puller	£12
HUMBER , 2½ h.p., very fine mount	£10
CLYDE , 2½ h.p., magneto	£15
GIVAUDAN , 2½ h.p., perfect, non-skid rear	£15

LIGHTWEIGHTS.

£11 ZEDEL , 2 h.p.	£11
£11 LLOYDS , 2 h.p.	£11
£8 QUADRANT , 2 h.p.	£3
£8 MINERVA , 2 h.p.	£8
£3 JAP , 2½ h.p.	£8
£7 HUMBER , 2 h.p.	£7
£9 MINERVA , 2½ h.p.	£9
£10 ARIEL , 2½ h.p.	£10

50/- down and 5/- per week secures:

3 h.p. EXCELSIOR	£11
2 h.p. SINGER	£9
2½ h.p. JAP	£11
3 h.p. REX	£10
2 h.p. ORMONDE	£9
2 h.p. WERNER	£10
2½ h.p. MINERVA	£10
2½ h.p. CUNARD	£12
2½ h.p. LLOYDS	£11
2½ h.p. HUMBER	£8

ACCESSORIES.**RIP BOXES.**

The finest extant for carrying tubes or belts. Try one on approval. A quality, 7/6; B quality, 4/6.

BELT BOXES.

Hold nine feet. Any size easily fitted. A quality, 8/6; B quality, 5/6. Trade terms on request.

PALMER TYRES (Cord).

Cover.	Tube.	Cover.	Tube.
26 x 2, 43/6	10/-	28 x 2, 50/3	10/-
26 x 2½, 58/9	11/-	28 x 2½, 63/6	11/-
26 x 2½, 59/3	16/3	28 x 2½, 64/3	17/3

11/- allowed on old covers and 2/6 on tubes

TUBES.—Fully guaranteed.

26 x 2in.	6/-	28 x 2in.	7/-
26 x 2½in.	7/-	28 x 2½in.	7/6
26 x 2½in.	8/-	28 x 2½in.	8/-

Immediate Delivery. Approval.

COVERS.

26 x 2in.	16/-	28 x 2in.	17/-
26 x 2½in.	17/6	28 x 2½in.	18/-
26 x 2½in.	21/6	28 x 2½in.	22/-

MAUDE'S MOTOR MART,

Powell Street, HALIFAX.

National Telephone 433.

MOTOR BICYCLES FOR SALE.

2½ h.p. Minerva, 1908, as new, not ridden 50 miles; £27 10s.

3½ h.p. Quadrant, magneto ignition, 1907, hardly used, perfect condition, headlight, separate generator, bell, horn, Brooks spring seat, cut-out; a bargain, £32 10s.

2½ h.p. Excelsior, surface carburetter, Palmer back tyre, Clincher front, in good order; £8.

4½ h.p. De Dion car, seat four, in good running order, lamps, tyres in good condition, genuine bargain; sale or exchange, £30.

5-6 h.p. Stirling Panhard, horizontal engine, dogcart body, three speeds and reverse, brand new gears, lately painted, tyres as new, wheel steering; sale or exchange, £25.

8 h.p. Rover, 1907 type, seats four, splendid order, hood, screen, lamps; £170.

1½ h.p. Werner; £5.

THE Above Cycles are to be seen at W. J. Randall's Garage, 3, High Street, Andover.

7-8 h.p. Peugeot, Chater No. 6 frame, not ridden 60 miles, too fast for owner; £35.—Travers, Bridge Street, Southampton.

3½ h.p. Triumph, 1907, new April this year, 3½ variable pulley, in good condition; £27 for quick sale.—Hughes, Oak Hill, Bursledon, Hants.

2½ h.p. Fairy Lightweight Motor Cycle, 2½ twin-cylinder engine, first-class order; £12 10s.—Willway and Sons, Ltd., St. Augustine's, Bristol.

4½ h.p. Bat, with sidecar, in splendid running order, complete with spares; bargain, £23.—Hinder, 1, Dublin Crescent, Henleaze, Bristol.

3½ h.p. Cycle, Excelsior, in good condition, too powerful for owner, or exchange for smaller power.—M. Cave, Chilton Foliat, Hungerford, Berks.

4 h.p. Single-cylinder Ormonde, with Liberty sidecar, good order; sold separately or together; cheap.—Phillips, Langham, Alton, Hants.

5 h.p. Peugeot Twin-cylinder Motor Bicycle, with sidecar, Chater-Lea frame, first-class order; £30.—Willway and Sons, Ltd., St. Augustine's, Bristol.

2½ h.p. F.N., low, fast, Palmers, all in excellent condition, new accumulators; £14 10s., or nearest offer.—Hunt, 106, St. Leonard's Road, Windsor.

3½ h.p. Rex, Longuemare, stand, horn, 34 three cell Fuller charging battery, voltmeter, and goggles; £14 10s.—Hughes, 8, Farringdon Street, Swindon.

2½ h.p. Triumph, in splendid condition and perfect order, light, climbs Dashwood, Rich tube back, new rubber belt; £12 10s.—Burnitt, Benjamin Road, Wycombe.

3½ h.p. Rex, perfect order, just overhauled, 34 rebushed, and new Pullman back; cost £14, ride to purchaser, £11 cash; buying twin.—Samuel, Wilts Bank, Trowbridge.

5 h.p. Rex de Luxe, free engine, twin tyres, splendid running order and condition, magneto; reason selling, bought car.—Seen at Heath and Wiltshire's Garage, Aldershot.

NEW 3½ h.p. 1908 Brown, magneto, low frame, footrest, not a month, not scratched; owner buying car; £33 10s., cost £42.—King, Lynchford Road, Farnborough, Hants.

QUADRANT, 3 h.p., spring forks and seat-pillar, Brown and Barlow, handle-bar control, Roberts non-skid on back; £15 cash, or near offers considered.—Baldwin, Fritwell, Banbury.

TRIUMPH, 3½ h.p., 1907, condition perfect, as good as when bought, ridden about 200 miles, free transfer, number plates, horn, and accessories, Goodrich non-skid on back; great bargain at £32, or nearest offer.—Ellwood, Holmleigh, Highcliffe, Christchurch, Hants.

2½ h.p. Coventry Eagle, Chater-Lea frame, 24 De Dion Bouton engine (inclined), Longuemare, wipe contact, trembler coil, adjustable pulley, long handles, footboards, foot brake, tyres nearly new; any trial; guaranteed; £12 10s.—Carpenter, Murrin Road, Maidenhead, Berks.

MOTOR BICYCLES FOR SALE.

£45.—5-6 h.p. Twin-cylinder Brown, magneto and sidecar, three very good Palmer cord tyres, back wheel, leather non-skid cover, handle-bar control, four-guinea head lamp, extra strong Watawata belt, free engine friction clutch; trial invited, and expert examination; climb almost anything with sidecar.—K. Lambert, Mandora Barracks, Aldershot.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

REX, 3½ h.p.; £12, or good push bike and cash.—Willard, Tangmere, Chichester.

3 h.p. Motor Cycle, in good running order; £10.—67, Wellington Street, Woolwich.

GODFREY and Applebee.—4 h.p. twin Werner, good condition throughout; £16.

GODFREY and Applebee.—5 h.p. Rex, two speeds, as ridden by Miss Hind, magneto, suitable for either lady or gent, very low, perfect; £33 10s.

GODFREY and Applebee.—4 h.p. Jap, latest pattern, Longuemare, new belt; £17 5s.

GODFREY and Applebee.—3½ h.p. Rex, spray, 26in. wheels, Dunlop tyres; what offers?

GODFREY and Applebee.—1908 Rex models, on cash, gradual, or exchange terms. All machines thoroughly tested before delivery.

GODFREY and Applebee.—Any machine overhauled and tuned up; satisfaction guaranteed; charges moderate.—9, Church Hill, Walthamstow.

2 h.p. Werner, good order, wants new tyre; £5.—W. G. Miller, 70, Cornhill, London, E.C.

1908 2½ h.p. Rex Lightweight; £22 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

3 h.p. Werner, perfect running order; £6 15s.—A. Soper, 313, Coldharbour Lane, S.W.

2½ h.p. Minerva, Chater-Lea frame; £11; after 7.30.—227, Underhill Road, E. Dulwich.

3½ h.p. Antoine, spray, excellent condition; £11, or offers.—1, Bower Mount Road, Maidstone.

2 h.p. Werner, in good running order; £6 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, E.C.

KERRY, 3½ h.p., splendid condition; £14, lowest.—Hill, Princess Road, Buckhurst Hill, Essex.

2½ h.p. Brown, Longuemare, new tyres, in splendid running order; £8 10s., or nearest offer.

ALSO a 2½ h.p. Jap, Chater-Lea fittings, Palmer tyres, very low, in good order; £10 10s., or best offer.—James Haynes, grocer, Enfield Highway, Middlesex.

ROVER, 3½ h.p., a grand hill-climber; £16 16s.; exchange entertained.—Bunting, Wealdstone.

3½ h.p. Minerva, not ridden 500 miles, pass for new; £21, bargain.—Bunting, Wealdstone.

3½ h.p. N.S.U., magneto, red tank; £16 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

3½ h.p. Centaur, powerful, good condition, for lower power.—Hipkins, 32, Osborne Road, Leyton.

KERRY, 3½ h.p., fast, splendid hill-climber; £9 10s.—Weston, "Richmond," Matlock Road, Brighton.

BAT, 3½ h.p., M.M.C., De Dion carburetter, excellent order; £15 15s.—41, Skelbrook Street, Earlsfield.

1904 Rex, good sterling machine; price £6 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

ROVER, 3½ h.p., good condition, belt drive, Palmers; £15.—"Redcott," Dacres Road, Forest Hill, London.

2½ h.p. Werner, fast and perfect, £6 15s.; 3 h.p. Scout, £7 10s.—A. Soper, 313, Coldharbour Lane, S.W.

OFFERS WANTED.

Cash, exchange, or extended payments.

5½ h.p. N.S.U., magneto (new) 1908	52	0
5 h.p. Twin VINDEC, magneto..	35	0
5½ h.p. REX DE LUXE (soiled) ..	35	0
6 h.p. Twin REX, blue lines ..	17	17
5½ h.p. Twin REX, spring forks..	17	17
5½ h.p. REX DE LUXE, magneto	27	10
Twin REX, blue lines, new tyres	18	18
6 h.p. Twin REX, non-skids	18	18
5½ h.p. Twin REX, magneto, 1907	23	10
4-5 h.p. Twin ALCYON, two speeds	20	0
4 h.p. Twin WERNER, fine machine	19	19
5 h.p. Twin SAROLEA, long frame	18	18
6 h.p. Twin ANTOINE, R.O.M..	22	0
Twin CLEMENT, spring forks....	14	0
5 h.p. Twin ONAWAY, very low	19	0
6 h.p. Twin ANTOINE, spg. fks.	22	0

SINGLES—OFFERS WANTED.

3½ h.p. N.S.U., magneto (new) 1908	42	0
3½ h.p. TRIUMPH, 1907.....	32	10
3 h.p. TRIUMPH, magneto	24	10
3½ h.p. REX, 1907, 2½ tyres....	17	17
4 h.p. ROC, 2-speed, like new..	35	0
3½ h.p. 1906 REX, spring forks	15	0
3½ h.p. Magneto REX RACER ..	25	0
3½ h.p. Magneto REX, (soiled) ..	21	0
3½ h.p. REX, spray, 21½ frame	11	10
3½ h.p. 1906 REX, spring forks	15	0
3½ h.p. REX, spray, fine climber	11	10
2½ h.p. Magneto REX, 1908	22	0
3½ h.p. MINERVA, M.O.V.	16	10
3 h.p. GIVAUDAN, nearly new	16	0
3 h.p. ROVER, 26 × 2½ Palmers	13	10
3 h.p. LLOYD'S, 26 × 2½ Palmers	13	10
4 h.p. ANTOINE, spring forks ..	16	0
2½ h.p. MINERVA, fine condition	14	10
2½ h.p. CLYDE, magneto.....	15	0
4 h.p. ANTOINE, 26 × 2½ tyres ..	16	10
3½ h.p. SIMMS, mag., 2½ Palmers	17	10
3½ h.p. QUADRANT, 1906	18	10
3½ h.p. CENTAUR, free engine ..	16	0
3 h.p. HUMBER, spray.....	10	10
3 h.p. FAFNIR, very low, spray	13	10
2½ h.p. CORONET, free engine ..	10	10
3½ h.p. REX, 22 frame	11	10
2½ h.p. MINERVA, 26 × 2, spray	11	10
3 h.p. BROWN	12	10
3 h.p. SINGER, magneto	14	0
3½ h.p. EXCELSIOR	12	10
2½ h.p. COVENTRY EAGLE	10	0
3½ h.p. Two-speed REX	13	10
2½ h.p. CLEMENT, very low	11	0
2½ h.p. KERRY, spray, low	10	10
2 h.p. RALEIGH, spray.....	8	0
2½ h.p. ROYAL, vertical, spray ..	8	0
2½ h.p. SINGER, magneto	8	10

TWINS—OFFERS WANTED.

6 h.p. Twin Rex, £17 17s. or £4 and '07 Single Rex, or £8 and '05 Single Rex, or level exchange with Single Magneto Rex.

SPECIFICATION.—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

TRICARS.

4½ h.p. W.C. BRADBURY	£37	10
5½ h.p. QUADRANT Carette	35	0
5½ h.p. REXETTE W.C. two speeds	35	0
REX-Mills-Fulford	13	0
4½ h.p. STEVENS	17	10
Twin REXETTE, W.C., two speeds	47	10

"PERFECTION" Leather V Belting—
 1in. 9d., 1in. 10d., 1in. 1/-, 1in. 1/1.
 "SERRATRIX" Rubber Canvas Belting,
 Best on test—1in. 9d., 1in. 1/-, 1in. 1/4,
 1in. 1/8 per foot.

THE HALIFAX MOTOR EXCHANGE,
 16, WESTGATE, HALIFAX.
 Telephone 766 Telegrams, "Perfection."

MOTOR BICYCLES FOR SALE.

5-6 h.p. Twin Rex, Cantilever seat, spring forks, fifty guinea model, as new, splendid running order; £18 10s.

5 h.p. Twin Hamilton, fast, racy machine, suit passenger work; £15.

3½ h.p. Werner Twin, very light and fast machine; £15.

2½ h.p. Rex Light Motor Cycle, smart machine; £8.

2½ h.p. Humber Lightweight, climb almost any hill, splendid condition; £8 10s.

3 h.p. Trent, in excellent condition; cash, bargain.

2½ h.p. Bradbury, fast, powerful machine; £10 15s.—128, High Road, Tottenham.

5-6 h.p. Humber, two speeds, water-cooled coach-built, reliable, all spares; £—Photo, 91, Stanhope Gardens, Harringay.

3 h.p. Kerry, replated, enamelled, overhauled, perfect; bargain, £11 10s. 91, Stanhope Gardens, Harringay.

LIGHTWEIGHT, 2½ h.p., spray, perfect order; £6, bargain.—134, Highgate Road, Kentish Town.

REX, 3½ h.p., spring forks, faultless, boug tricar; £13 13s.; any expert trial.—1 Highgate Road, Kentish Town.

2½ h.p. Werner, plating and enamelling new, very reliable; £6 15s.—Green Mashbury, Chelmsford.

3½ h.p. 1908 Triumph, handle-bar control, 84 by 86 mm. engine, splendid condition; £38.—At Wauchope's.

N.S.U., 3½ h.p., 1906, like new, not ridden 1,000 miles, faultless.—5, Lansdown Terrace, Maxton, Dover.

3 h.p. M.M.C., long and low, good condition; £11 10s.—Thompson, 14, Salisbury Road, Highgate Hill, London.

TWIN Rex, guaranteed perfect, all spares, new belt, car lamp; £24.—Mac, 190, High Street, Stoke Newington.

F.N. Lightweight, not much used, with spares; £20.—On view at 349, West End Lane, West Hampstead.

2½ h.p. Minerva, Chater-Lea, nearly new, good push bike taken in part; £16 5s., Herongate, Wanstead.

MINERVA Motor Cycle, 1½ h.p., faultless, take push cycle in part.—D. Sullivan, 40, Hubert Grove, Clapham.

3 h.p. Bradbury, complete; £14, or exchange push bike and cash.—Irving, Frobius Terrace, Altofts, Normanton.

3½ h.p. Minerva, Chater-Lea low frame; £32 bargain, £10.—Paterson, 13, Museum Chambers, Bury Street, W.C.

1908 Motosacoche, accumulator ignition, condition as new; £20 10s.—8, Barre Street, Manchester Square, W.

PEUGEOT, twin-cylinder, 7 h.p., and Motosacoche sidecar; £28.—Wauchope's, Shoe Lane, Fleet Street, London.

QUADRANT, 2½ h.p., first-class order, try new; £9 10s., or exchange for twin. Roper, 2, Friends Road, Croydon.

3½ h.p. Minerva, Longuemare, Palmers, 1908 seat, strong sidecar, all Chater; £39, Hillfield Place, Muswell Hill.

CHATER-LEA 2½ h.p. Jap, just been overhauled, new torpedo tank, coil, and accumulator case, all copper, very low, and extremely fast; can give honest reasons for selling; would take aviary of birds in part exchange and cash.—Letters only, Motor, Sydney Street, Chelsea, London.

BEESTON Humber, 2½ h.p., ready to go anywhere, new tyres; nearest £10, Tyrrill, 98, Rossiter Road, Balham.

J.A.P., 2½ h.p., footboards, starting hand cut-out, perfect condition; £15.—Lyons, Belsize Crescent, Hampstead.

ARIEL, 5 h.p., twin, Jap engine, excellent condition; cheap for quick sale; offer.—1, Arminger Road, Shepherd's Bush.

2½ h.p. Fafnir, perfect order, just been overhauled, new accumulators, etc.; 11 guineas.—Austin, Acadie, Orpington.

MOTO Cycle, 2½ h.p., spring forks, good running order, just overhauled; £9 10s.—J. Webb, Red Barracks, Woolwich.

MOTOR BICYCLES FOR SALE.

ASTBOURNE.—5 h.p. Vindec Special, perfect condition, Dermatine belt, new non-d on back; any trial given.—Roberts, Station Street, Eastbourne.

ASTBOURNE.—3½ h.p. 1907 Minerva, ridden 200 miles, and good as new.—Roberts, Station Street, Eastbourne.

ASTBOURNE.—What offers for a No. 1 flexible Montgomery sidecar, very good condition.

ASTBOURNE.—How about your old accumulator? 33½ allowed if exchanged a new one.—Roberts, Station Street.

h.p. Twin Antoine for sale, equal to new, very fast, climb anything, variable ley, too powerful for owner; £22, accept h.p. and cash.—P., 23, Jessica Road, ndsworth.

h.p. Motosacoche purchased three months ago, and only ridden 500 es; owner leaving England; must sell; —Seen at Wauchope's, 9, Shoe Lane, Fleet et, London.

h.p. Triumph, magneto, perfect condition, expert examination invited, tyres good new, Palmer back; very low price to en immediate sale; £19.—24, Manor Road, ton, E.

DR Sale, Motor Cycle, 3½ h.p., Longue- mare, Chater-Lea, in good order, and car (Montgomery); a bargain, £14; any l.—Box L2,996, The Motor Cycle Offices, 20, or Street, E.C.

h.p. Peugeot, vertical engine, in very good condition for a second-hand machine, old make a light runabout; price, lowest, 10s.—Wauchope's, 9, Shoe Lane, Fleet et, London.

07 3½ h.p. Two-speed Vindec Special, mag- neto, spring forks, large lamp, tools, rier, tyres, as new, guaranteed perfect, very little use; £26 10s.—186, South beth Road, S.W.

h.p. Buchet, very low and fast, handle- bar control, perfect; £25, or offer.— te, H. Kennedy, H.M.S. Commonwealth, nnel Fleet. Garaged Wauchope's, 9, e Lane, London.

TRIUMPH, 3½ h.p., 1907. perfect condition, tyres unscratched, new at Easter, es, lamp, horn, etc., Mabon's free engine ch; sacrifice £35.—15, Derby Avenue, N. hley, London, N.

BARGAIN.—3½ h.p. Fafnir, Chater-Lea fit- tings, late 1907, B. and B. carburetter, e hill-climber; £19; reason selling, owner another; any trial.—Dr. Moxey, Victoria ue, Finchley, N.

h.p. Four-cylinder F.N., bought two months ago, hardly used, latest el; seen any time; many accessories; — Munday, "Russelton," Graham ue, Upper Mitcham.

h.p. Brown, in splendid running order, Palmer tyres, £10; also 3½ h.p. Fafnir, er-Lea throughout, low built, long bars, ridden 500 miles; £25, or near offer. — 42, Creedon Road, S.E.

h.p. Rex, powerful enough to climb side of a house, low saddle, long handle- genuine, sound, and perfect condi- throughout; £10 10s.—E.S., 11, French e, Shoreditch, London.

BARGAIN, best over £12.—Twin Rex, 1906, handle-bar control, non-skid, perfect ing order, all accessories; cash wanted. ermore, 231, Albert Road, Jarrow-on- e. Garaged Wauchope's.

REY, 3½ h.p., splendid Clincher A Won, Brown and Barlow, Shamrock-Gloria 26in. plated wheels, all good as new, al spares; £14.—Dugmore, 51, Constan- Road, South Hampstead.

h.p. Aster, Chater-Lea, Collier spring forks, inch belt, many refinements, d mount, little used, and in exceptional ition; £14, or very near offer.—Redcar, High Street, Clapham, S.W.

ADRANT, 2 h.p., spares, tubes, perfect, back butted, two accumulators, Sim- stand, in splendid condition and work- order, scarcely used; £8 10s., or nearest —F. Arnold, tailor, Redhill.

h.p. Fafnir, very fast, practically new, £25; 2½ h.p. Kerry, excellent condi- tyres nearly new, £17; 2 h.p. Peugeot, erful value, £9; 2½ h.p. Buchet, bargain, Oakley, Allsop Street, N.W.

200 MOTOR CYCLES
To SELECT
FROM.

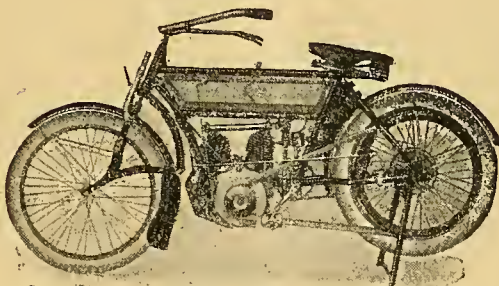
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LARGEST DEALER

TELEGRAMS OPIFICER, LONDON. TELEPHONE NO. 5777, HOLBORN.

Do not fail to inspect our Stock and obtain prices. Having made the Exchange Trade our speciality, can quote good sound market value for Second-hand Motor Cycles, Tricar or Light Cars in part payment for new 1908 models. We are agents for most makes, and can quote a liberal exchange allowance for any make at present on the English market.

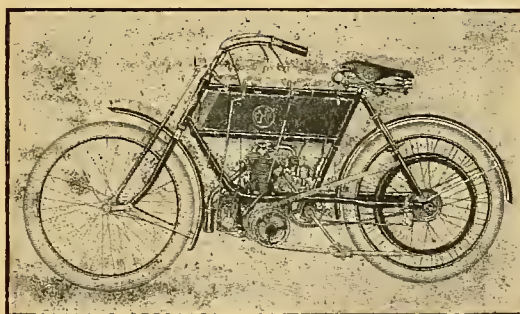
Send for August Clearance List of
Second-hand Machines.



1908 VINDEC SPECIAL.

Model H., 3½ h.p.,...	£48 10
" H., 3½ h.p., two-speed gear and free engine clutch	58 10
Model F., 5 h.p., direct drive	53 0
" F., 5 h.p., two-speed gear and free engine clutch	63 0
Model G., 5 h.p., light tourist	52 0

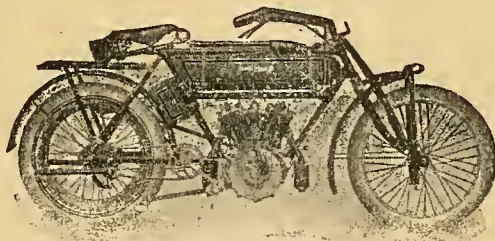
You can get them at WAUCHOPE'S. Exchanges arranged.



F.N.

Lightweight	£35 3
5/6 h.p., four-cylinder	52 10

You can get them at WAUCHOPE'S. Exchanges arranged.



MINERVA.

2½ h.p.	£29 0	4½ h.p.	£39 0
3½ h.p.	32 0	7/8 h.p.	45 0

You can get them at WAUCHOPE'S. Exchanges.

JOB LINE OF MOTOR CYCLE COVERS (BEADED).
26×2, 26×2½, 26×2¾, 28×2. All at 12/9 each; rapidly selling.

We have several 1908 models of various makes second-hand to offer, all guaranteed.

If you do not see what you want you will be hard to please. Call again and again. Fresh arrivals coming to hand daily.

WAUCHOPE'S
9, Shoe Lane, Fleet Street, London.

MOTOR BICYCLES FOR SALE.

MINERVA, 2½ h.p., Palmer 2in. cord tyres, 26in. plated wheels, Dermatine belt, Longuemare carburetter, spring saddle pillar, stand, very fast; £12, offers.—Bromley, 30, King Street, Camden Town.

3½ h.p. (1907) Rex Motor Cycle, with Osborne 32 four-speed gear, starts up and glides away like a car, condition as new; must sell; sacrifice 21 guineas, or near offer; stamp; photo.—13, Somerville Road, New Cross.

3½ h.p. Excelsior Bike, powerful M.M.C. engine, also one light motor, B.S.A. fittings, spring seat-pillar, both in going order, with accumulator; can be tried; sell cheap; what offers?—Collyer, Redbourn, Herts.

N.S.U. Motor Cycle, 3½ h.p., with sidecar, almost new, with free engine and two-speed gear, only ridden 400 miles.—Apply to Frank Boisset, 6 Flat, 4, Cranworth Gardens, St. Ann's Road, Brixton, London, S.W.

34 h.p. Quadrant, A.C.U. hill-climb winner, 34 handle-bar control, adjustable pulley, detachable footboards, Rich tubes, 4 to 45 m.p.h., splendid condition; ride for trial; photo; £30.—Bevir, Downhurst, Hendon.

STANDARD 5½ h.p. Twin Brown, latest pattern, in splendid condition, exceptional machine, romp up any hill, winner of several events; offers entertained, 3½ h.p., magneto, no rubbish.—H. Kirk, The Elms, Mortlake.

2 h.p. Minerva, perfect running condition, new tank, Palmer tyres, complete, tools and spares, two accumulators, carrier, stand, engine just overhauled, bearings re-bushed; 10 guineas.—28, Archway Road, N.

4½ h.p. Two-cylinder Minerva, 1907, Chater-Lea frame, spring forks, footboards, two Castle accumulators, handle-bar control, large saddle, horn, lamp, etc.; £25.—K. Hillier, 28, Hayes Road, Bromley, Kent.

3½ h.p. N.S.U., magneto, new August, 1907, 1in. Whittle belt, Brooks steel studded leather back tyre, with Rich tube, Continental front, Price's stand, carrier, etc.; £23.—North, Bankside, High Street, Rochester.

3½ h.p. Humber, long bars, and low position, engine just been thoroughly overhauled, 26in. wheels, new Continental to rear wheel, whole machine in first-rate order; £11.—F., 21, Fieldhouse Road, Balham, S.W.

1906 Rex, 3½ h.p., spring forks, splendid condition, Longuemare, Clinchers, new tubes and belt, Centipede, trembler, two accumulators, cut-out, all spares and accessories; bargain, £16.—9, Frith Road, Leyton, Essex.

6 h.p. Free Engine Gold Medal Twin, with best Montgomery sidecar (latest couplings), numerous spares; particulars on application; trial by appointment; bought car; £25.—Elwes, 1, Hall Place Gardens, St. Albans.

F.N., 2½ h.p., 26in. wheels, low, long bars, excellent condition, engine like new, will whack many a 3½ h.p., everything absolutely perfect, really wonderful hill-climber; £12 10s.—M. Langridge, jun., 7, Bodney Road, Hackney.

6 h.p. Bat, spring back and front, Jap engine, Roc free engine clutch, magneto ignition, in tank, recently the property of Mr. E. D. Fawcett, splendid machine; £32 10s.—At Wauchope's, 9, Shoe Lane, Fleet Street, E.C.

1907 Triumph, machine been well cared for, and is in fine condition, engine and everything perfect order, enamel and plating hardly scratched; only wants seeing and trying; £29.—Crouch, Grove Villas, Wanstead.

7-9 h.p. Peugeot, No. 6 frame, spring forks, rim brake, hubs, fittings, all genuine Chater-Lea, 24 by 2½ Peter-Unions, unpunctured, handle-bar control, Wright's spring footrests, long and low; £27 10s.—17, Acre Lane, Brixton.

3½ h.p. Rover, forecar, in splendid condition, Palmer tyres, spare wheel to convert, fast, and powerful, apron, spares; must sell; too nervous; £25, or nearest offer.—J. Gilbert, 529, York Road, Wandsworth, London.

3½ h.p. Magneto Progress, very fast, low, 32 and strongly built, an absolutely reliable machine, also coach-built sidecar; first offer of over £20 secures, a bargain.—Apply, Kenilworth Cycle Works, Bunsen Street, London, E.

MOTOR BICYCLES FOR SALE.

21 h.p. Alert, in good going order, inclined **22** engine, Continental tyres, two 25 ampere accumulators, trembler coil, two belts, stand, and pair valves, etc.; any trial; seen after 6; £5.-4, Orkney Street, Battersea Park Road, London.

MINERVA, 23 h.p., 1907, no faults, two accumulators, two belts, new Advance pulley, new Goodrich studded band on back tyre; can be seen or tried any time; giving up riding; a bargain, 19 guineas.—Layzell, Ockendon, Romford, Essex.

F.N. Motor Cycle, magneto ignition, very little used, perfect machine, always ready, 1907 model, wonderful hill-climber, geared pulley, carrying 13 stone man; owner purchasing car.—Write, "E.B.," c/o Willings, 73, Knightsbridge, London, S.W.

1908 2½ h.p. Fairy Lightweight, magneto, new condition, an opportunity to obtain one of the latest lightweights really new at a second-hand price; price £22 10s., guaranteed perfect.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

FIRST Reasonable Offer secures (cash wanted) 3½ h.p. Humber, 26in. wheels, excellent condition, engine and all parts equal to new; trial on steep hill with pleasure; climbs anything.—Motor, 5, New Norfolk Street, Curtain Road, London.

CLYDE, 23 h.p., magneto, long and low, Phoenix two-speed, spring forks, handle-bar control, belt, tyres, enamelling, and plating perfect, Premier searchlight, Price's stand; £17, or offer.—Metzgar, Stand 261, Machinery Hall, Franco-British Exhibition.

5-6 h.p. Twin Peugeot, practically new, Mabon free engine, tyres as new, Pullman studded back, very fast and powerful, and built expressly for sidecar work; £28 cash; seen and tried any time at Butler's Motor Garage, Green Street Green, Orpington.

31 h.p. Brown, 1908, fitted with two-speed **32** gear and free engine, footrests, low built machine, the whole machine as new, ideal machine for sidecar; price £30, cost £54; will ride any reasonable distance to intending purchaser.—Smith, 42, Preston Street, Brighton.

3 h.p. Quadrant, spring forks, just re-enamelled, re-plated, absolutely perfect, flies up hills, very neat machine, can be taken in and out of a house and up several stairs, one of the best and most reliable; accept £12 10s.—Motorist, 3, New Norfolk Street, Curtain Road, London.

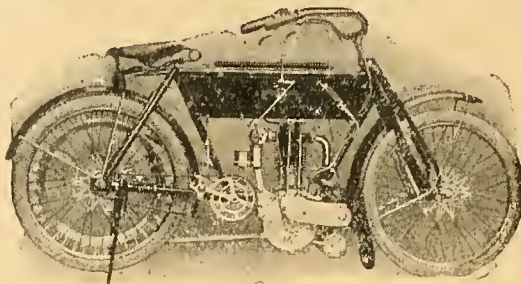
1907 3½ h.p. Motor Cycle, with comfort, fittings, and reliability of a Mercedes car, handle starting, elegant footboards, etc., all new accessories, tools; cost £70, perfect running condition, sacrifice £32; owner going abroad; only wants seeing; appointment; only write.—Downing, 100, Gloucester Road, Chalk Farm.

BARGAIN.—3½ h.p. Minerva, Chater-Lea frame and fittings, Advance adjustable pulley, new Palmer cord back, extra Stark Continental front, just been thoroughly overhauled and new piston and rings fitted, a splendid hill-climber, in first-class running order; sacrifice, as money wanted; £16 10s.—C. Altman, The Lodge, Watford.

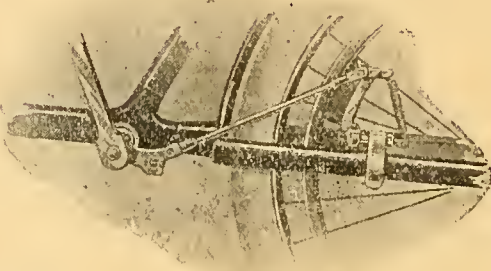
1906 Vindec Special, 3½ h.p., magneto and accumulator ignitions, spring forks, engine guaranteed absolutely equal to brand new, whole machine nearly new, crawl at walking pace in traffic, climb a tree, take a sidecar anywhere, absolutely reliable, sweet running engine; absolute bargain, £25; fully equipped.—Motor, 9, French Place, Shoreditch, London.

2 h.p. Complete Motor Bike, new, £12; pair of Rich detachable 26 by 24, never used, 10s. each; pair 26 by 2 Clincher covers, good condition, 7s. 6d. each; 2½ h.p. Givaudan motor, 60s.; belt rim 17 by 2½, 3s.; large motor saddle, 3s.; pair of 28½ Clincher covers and tubes, 15s.; motor frame, 60s.; pair wheels, 10s. each; B24 Longuemare, 20s.—Varney, Angel Lane, Stratford.

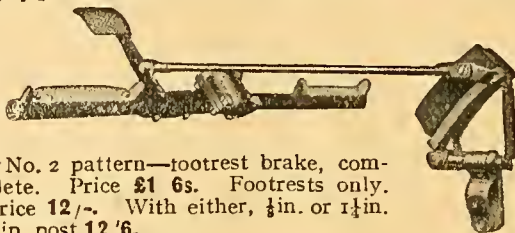
QUADRANT, 3½ h.p., N.S.U. two-speed gear and clutch, fitted only a month ago, pedals and footrests, spring forks, new headlight, new butt-ended tube to back wheel, new tube to front, all valves complete, carrier, toolbag and all tools, good hill-climber, and a most reliable machine; £27, or near offer; seen by appointment.—"Strathmore," West Side, Clapham Common, S.W.

MATCHLESS MOTORS!!**LONDON TO EDINBURGH:****3 STARTED.****3 FINISHED.**

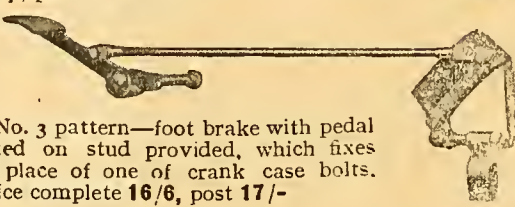
No Trade riders—ridden by private owners only.

"CHASE" DRIVING RIM BRAKE.

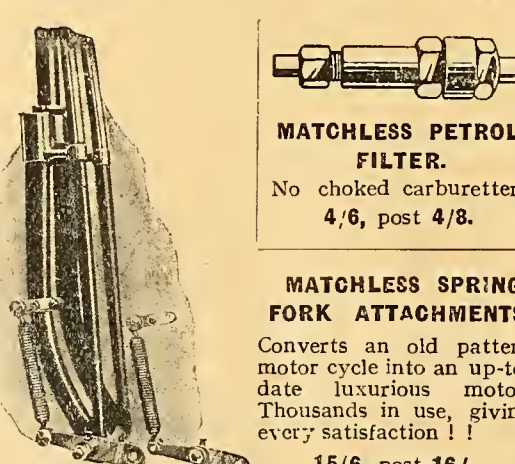
No. 1 pattern—back pedalling brake. Machine can be wheeled backwards. Extremely powerful. Price, 16/6, post 17/-.



No. 2 pattern—footrest brake, complete. Price £1 6s. Footrests only. Price 12/-. With either, ½in. or 1¼in. clip, post 12/6.



No. 3 pattern—foot brake with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete 16/6, post 17/-.

**MATCHLESS PETROL FILTER.**

No choked carburetters. 4/6, post 4/8.

MATCHLESS SPRING FORK ATTACHMENTS.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction!!

15/6, post 16/-

THE MATCHLESS SILENCER.

Up to 3 h.p., 10/-; from 3½ to 5 h.p., 12/-. Cut out 5/- extra. Two connections for twins with separate exhaust pipes, 4/- extra.



Catalogues of "Matchless" Motor Cycles and Accessories on application to

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Motor Experts and General Engineers.

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Telephone: 232 Woolwich.)

MOTOR BICYCLES FOR SALE**SECTION IX.**

Somerset, Devon, Dorset, and Cornwall.

FOR Sale, 3½ h.p. Triumph, accumulator ignition; £11 10s.—Matthews, H. dresser, Merton.

MOTOR Cycle, 3 h.p. Fafnir, thorough condition and appearance; £15, or near offer.—Lake, Coombeclancy, Crediton.

3½ h.p. Excelsior, very powerful, gear running, adjustable speed pulley, tyres good; registered; £10, or offer.—F. nicombe, 5, Johnson Place, Exmouth, Devon.

EXCEPTIONAL Bargain.—3½ h.p. Minerva Royal Enfield, magneto, variable gear free engine, spring forks, all in perfect condition; sell £22, or will take gent's good bike or lady-back tandem in part payment.—Kelloway, Holsworthy, N. Devon.

SECTION X.

Scotland.

TRIUMPH, 1907, magneto, perfect condition throughout; £32.—Dr. Love, Greenbank, Airdrie.

FOR Sale, 4½ h.p. twin Minerva engine, new, coil, carburetter; £19.—Apply, Sunnyside, Wishaw, Lanarkshire.

SINGER'S Motor Tricycle, 2½ h.p., magneto, splendid condition, exchange two first-class cycles (lady and gent's), cash, or sell £10.—Ferguson, Gipprock, Glasgow.

GLASGOW.—F.N., four-cylinder, 1907 model, handle-bar control, footboard, long handle-bars, all spares, as new; low £40.—"Motor," William Porteous and Glasgow.

BAT, 3½ h.p., low build, spring frame, 1907 handle-bars, new tyres, belt, stand, footrests, spares, splendid condition; £16 16s.; bargain; no offers.—Christ, baker, Ayr.

EDINBURGH Exhibition, Industrial Hall. Stands 126 and 127; finest exhibition of motor cycles ever shown on any one stand from May till October.—Alexander's Motor Exchange, Lothian Road.

EDINBURGH.—Vindecs, Quadrants, Re Adlers, Moto Reves, Ariels, Zeni Minervas, Griffons, Nortons, N.S.U., vances, Rocs, etc., in stock, and to be seen at Alexander's Motor Exchange, Edinburgh.

3½ h.p. Antoine, ready for the road, 1907 horn, tools, stand, carrier, accumulator, foot brake, spring forks, extra pulley, spares, perfect order; £15, or near offer.—Sommerville, Linden Avenue, Newport, I.

VINDEC Special, 5 h.p., twin, magneto, good condition, Truffault forks, Matchless adjustable pulley, practically new Powell-Hammer's lamp, horn, spares, tools, speed meter, cyclometer, etc. £30.—Mitchell, Fraserburgh.

EDINBURGH.—Scottish readers be sure to miss our grand show of motor cycles, Stands 126 and 127, Industrial Hall, Scottish National Exhibition; 16 different models shown by Alexander's Motor Exchange, Lothian Road, Edinburgh.

1908 Twin Tourist Rex, magneto, splendid condition. Dreadnought tyre, lamp, horn, tools, bag, Millennium Exhibition stand, carrier, N.A.B. seat-pillar, tubes, valves, Whittle belt, etc., complete outfit; £30, or near offers.—Hutton, A. Burntisland.

SECTION XI.

Ireland and Isle of Man.

1908 3½ h.p. Triumph, magneto, spares, forks, as new, lamps, tools; gent's bargain, £38.—Woodside, Liswyn, Osborn Park, Belfast.

INSURANCE.

PLEASE Send for full covering Motor Cycle Policy, from 19s. per annum.—Bassett, Insurance Broker, Ongar.

INSURANCE Policies of every description for motor cycles are issued by H. Boswell, insurance broker, Norwich, at exceptionally low rates; fire or self-ignition 2s. 6d.; third party, 7s. 6d.; accident to 15s.—Write for full particulars.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

DECARS AND FORECARS.

ENIX Forecar, cane chair, good condition; £7.—337, Ewell Road, Surbiton, Y.

TER-LEA Sidecar, latest model (brand new), fit any machine; £5 15s.—R. May, Arkhall Lane, S.W.

LS-FULFORD Forecar, made for 5 h.p. Rex, only used six months; what offers? g. Garstang, Lancs.

LS-FULFORD Forecar, 26 by 2 Clincher and Palmer, footboards, apron; £5.—ty, Ellesmere, Leytonstone.

Y Back Tandem, neat, low, £14; trembler coil, 6s.; splendid sidecar, £3 18s.; mp. accumulator, charged, 6s.; good meter, 2s. 6d.—114, Rutland Street, Step-

MFORD HILL.—Famous rigid sidecars instant delivery, none better, fit your line, £4 18s. 6d.; Millford sidecar, £4 7s. Liberty, £4; Montgomery, £5 5s.—128, Road, Tottenham.

MOTOR TRICYCLES.

AL Enfield Trike, 3 h.p., fast and powerful; £7 15s.—A. Soper, 313, Coldur Lane, S.W.

p. Humber Tricycle, in good condition; no reasonable offer refused.—Apply, Marlborough Road, Coventry.

MBER Tricycle, good tyres, Longuemare spray carburettor, good running, very good machine for anyone in of a first-class article; £5 17s. 6d.—e's, Powell Street, Halifax.

ENTER RIDING.—Won't skid. 3 h.p. De Dion trike and Whippet trailer, new accumulators and tyres, two s, free, just spent £10 overhauling, per-sacrifice £15; room wanted.—Dudley, ley Bridge.

QUADRICYCLES.

DION Quad, two-speed and free engine, water-cooled, new tyres, first-class con-; £25, or offers.—Lacey, Ashville, Al-

TRAILERS.

ILER, good, cane, Clinchers, apron; 50s., or exchange anything useful. —a, Bodmin.

IT Fulford Trailer, good condition, convertible to bath chair.—Waterson, ough, Doncaster.

CKER Trailer, faultless, good Dunlops, compulsory sacrifice, £2; photo, 0.—14, Sandgate Road, Sheffield.

ILER (Mills-Fulford) for sale, strong, as new, tyres and tubes as new; sacri-1 15s.—King, 53, Fisherton Street, Salis-

LE Trailer, splendid condition, Dunlops good), compulsory sacrifice; £2; photo, ; new belts, 3in., 8ft., 4s.; 3in., 8½ft., —14, Sandgate Road, Sheffield.

QUADCARS.

p. M.M.C., with Bozier two-speed gear, water-cooled head; £16.—39, Wyatt Road, Streatham Hill.

ENIX Quadcar, new condition; cost £130, £65; motor cycle wanted. — Mo-, Palace Theatre Newcastle-on-Tyne.

ENIX Quadcar (new 1907), very little used, 7-8 h.p., perfect condition through-expert examination invited; £58.—Dr. Greenbank, Airdrie.

p. Phoenix Quadcar, Fafnir water-cooled engine, two speeds and reverse, excel-machine; £45; exchange arranged. —hope's, 9, Shoe Lane, Fleet Street, Lon-

CARS FOR SALE.

MBER, 9 h.p., tonneau, single-cylinder, any trial; £40.—7, Broad Walk, Strat-on-Avon.

p. Beeston Humber, two-seater, latest pattern, cardan drive; £29.—140, Camell Grove.

GYLL, 10-12 h.p.; £85, or exchange small two-seater and cash. — Tate, er, Menston, near Leeds.

PLEASE NOTE

We can supply all parts for 2½ and 3½ h.p. F.N. Engines.

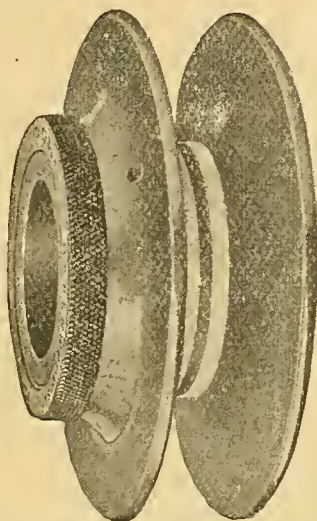
"VINDEC" Adjustable Pulleys for 2½ h.p. F.N. Engines, 10/- each.

"VINDEC" Adjustable Pulleys for 3½ h.p. F.N. and 3½ or 5 h.p. Peugeot Engines, 15/- each.



"KUMFO" Sponge Rubber Grips, 7/8 in. or 1 in. bars, 2/6 per pair.

South British Trading Co., Ltd.,
13-15, Wilson St., London, E.C.



"SUTTON
BANK."

"WASS
BANK."

Fastest times up these hills was accomplished by Mr. J. Scriven, fitted with one of our "Original Variable Speed Pulleys," which are made to-day the same as when we introduced the idea four or five years ago. We originate; others follow.

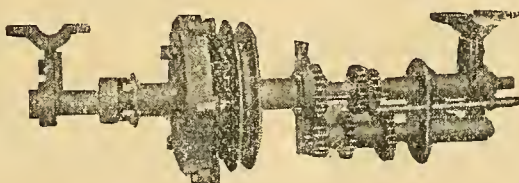
When you have seen one of our **Glare Electric Headlights** you will discard your messy acetylene lamp and get a "Glare." Remember, this is another of our original ideas, and there are no others like them. Send for our leaflet of Adjustable Handle-bar Lamp Bracket. If you carry a heavy lamp, this will stand it.

J. W. Greenwood, Ltd.,

Portland Place Works,

HALIFAX.

**THE KENT
THREE-SPEED GEAR.**



This gear has been re-designed and improved. Can be fitted to Tricar in two hours. Price **£11-11-0**. List Free. Discount to Trade.

RODGERS BROS.,
330, Kennington Road, S.E.
'Phone: 1000 Hop.

CARS FOR SALE.

6 h.p. De Dion Populaire, two-seater, genuine licensed car; £65.—Below.

16-24 h.p. De Dietrich, five-seater, four-cylinder, magneto, four speeds, reverse; £110.—Below.

16-20 h.p. Winton, 1907 model, five-seater, side entrance, four-cylinder, vertical engine, H.T. magneto, steel chassis; £100.—Below.

24-30 h.p. Hurst, five-seater, side entrance, four-cylinder, three speeds, reverse, cardan, direct top gear; £95.—Below.

18-28 h.p. Gladiator, five-seater, side entrance, four-cylinder, Krebs carburettor, disc clutch, late model car; worth over £250, accept £165.—L. N. Palmer, 190, Mellison Road, Tooting. Telephone, 208, Streatham.

8 h.p. Horley, two-seater, three speeds, reverse, everything perfect; £47; photo.—7, Norwood Grove, Southport.

EASY Payments taken for any make car. Motor cycles and tricars taken in part payment and liberally allowed for.—Next.

SPECIAL Agent for the best little two-seater on the road, the Laurin and Klement, 6-7 h.p.; £150, including magneto, twin-cylinder engine. These little cars are absolutely reliable, and carry all before them. Write for illustrated list, and let me tell you more about them. Motor cycles and tricars part payment; easy payments or cash.—Stanton, 86, Colvestone Crescent, Dalston, London.

10 h.p. Two-seated French Car, bucket seats, Stepney wheel, perfect; £57 10s., or exchange.—Crabtree, Bridgend, Lancaster.

9 h.p. Oldsmobile, four-seater, about three years old, in very good condition; £30.—Box 503, The Motor Cycle Offices, Coventry.

8 h.p. De Dion Engine, Rothwell car, four-seater, detachable, smart, red leather, all lamps, tools, Stepney, etc.; £75.—Carr, Bury.

h.p. Automoto, three speeds, reverse, removable tonneau, seats five; £45, or exchange.—39, Hillfield Park, Muswell Hill, N.

5-6 h.p. Automotor, fast, very reliable, pretty two-seater; £30, or good motor cycle or tricar part.—Inniss, 137, St. Giles' Road, Derby.

8 h.p. Beaufort, four-seater, three speeds, reverse, Cape hood; £39 10s., tricar or motor bike part payment.—Farrar, Square Road, Halifax.

SMART, 8 h.p. De Dion Car, roomy tonneau, three speeds and reverse, excellent and perfect order; bargain, £65.—28, Woodbridge Road, Ipswich.

28 h.p. Four-cylinder Touring Car, perfect condition; £75, accept cycle or tricar in part; appointment.—J. Neighbour, 14, Dagmar Road, S.E.

5 h.p. Vindec Runabout, three wheeler, Anglian two-speed gear, magneto; 30 guineas.—Garaged at Wauchope's, 9, Shoe Lane, Fleet Street, London.

10-12 h.p. Humber, new 1907, four-cylinder, folding screen, side entrance, Stepney, and carrier, lamps, spares, etc.; £170.—Carr, Fleet Street, Bury.

DE DION-DENNIS, 8 h.p., finished brown, leather upholstery, thorough going order; trial; £45; appointment.—Stevens, 22, Mitcham Lane, Streatham.

5½ h.p. Alldays Three-seated Voiturette, two speeds and reverse, water-cooled, good running order; trial here; £20.—Hartley Clegg, Motors, Burnley.

4½ h.p. New Orleans Two-seated Car, good running order, good hill-climber; £20, good motor cycle part payment.—Riddelsdell, Boxford, Suffolk.

8 h.p. Alldays, smart light car, detachable tonneau, three speeds, cardan, equal artillery, lamp, etc.; photo; bargain, £49.—98, Potternewton Lane, Leeds.

7 h.p. Imperial Car, two bucket seats, sloping back, artillery wheels, three speeds and reverse, perfect; £28; tricar or motor cycle in part exchange.—Stevens, 4, Goldhawk Mews, Shepherd's Bush.

CARS FOR SALE.

5½ h.p. Humberette, in perfect condition; sacrifice £35, or part exchange 3½ h.p. Triumph, or four-cylinder F.N.; no rubbish.—H. Rumers, Doves, Cranbrook.

EXCEPTIONAL Bargain.—15 h.p. Ariel, in splendid running order, four-cylinder, five-seated body; inspection invited; any trial; cash £98; photo.—Alvaston Motors, Derby.

9-11 h.p. Clement, four-seater, Rothschild body, in splendid condition; £75; exchange for 6 or 8 h.p. Rover, cash adjustment.—Haigh, The Portlands, Lindley, Huddersfield.

10-12 h.p. Gillet-Forest Car, three speeds and reverse, live axle, well sprung, and in good order; nearest offer to £30, or exchange and cash.—Newark, 551, Seven Sisters Road, Tottenham.

5 h.p. Twin-cylinder Decauville Car, three speeds, gear driven, Michelin tyres, seats two; £20, or offer, for immediate disposal; in good condition.—Apply, Clarke, Chain Street, Reading, Berks.

5½ h.p. Oldsmobile, horizontal engine, epicyclic gears, artillery wheels, smart Victoria body, with hood, and detachable back seat, perfect running order, splendid condition; nearest offer to £30.—256, Burley Road, Leeds.

h.p. Quinton Runabout, two-speed gear, brand new, with bucket seat at the back, not enamelled or plated, condition as new, requires very little spent on it to complete it; price £22 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

FINE Opportunity.—Pope Tribune, side entrance, 14 h.p., splendid hill-climber, seats four or five, showroom soiled only; cash, exchange tricar or cycle, or extended payments arranged; also new chassis same make.—The Service Co., 292, High Holborn.

SIMMS Tonneau Car, about 8 h.p., tonneau, four-seater, equal artillery wheels, three speeds and reverse, very good condition, and perfect running order; £35; want good open frame tricar, or twin and sidecar; cash either way.—128, High Road, Tottenham.

6 h.p. Twin-cylinder Decauville, new two-seater body, in royal blue, yellow lined, smart and light, three speeds and reverse, gear driven, guaranteed perfect; trial any time; photo on application.—Apply, King's Arms, King Street, London, N.W.

ROVER Cars. — The 6 h.p. single-cylinder two-seated Rover is the best low-priced car on the market. It is fast, silent, exceptionally reliable, and far more comfortable to ride and drive than tricars or motor cycles. We will take these in part exchange, or supply on deferred payments. — Louis Davis and Son, Moseley, Birmingham.

HOTELS AND APARTMENTS.

WHEN Visiting London stay at Waverley Temperance Hotel, 17, Euston Square. Bed, breakfast, attendance from 3s.

GARAGES.

EXCELLENT Garage, near Oxford Circus, every convenience; terms: motor cycles, 1s. 6d.; tricars, 2s. 6d. weekly.—Apply, A. Borland, 2, Lowdues Court, Carnaby Street, Regent Street, W.

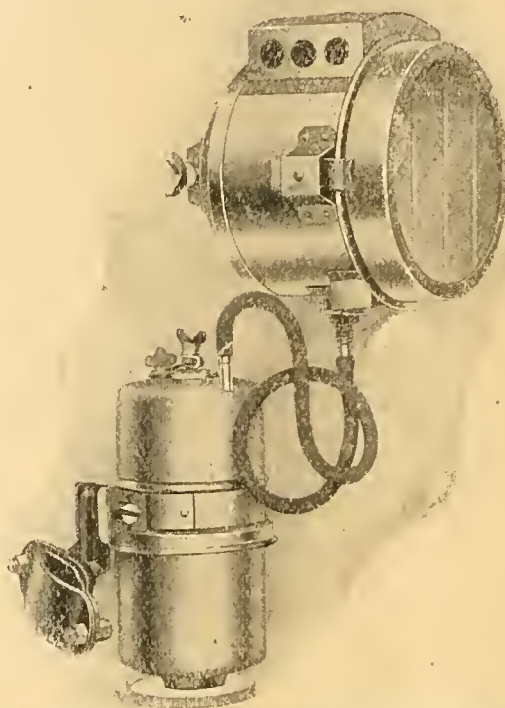
BRIGHTON. — Black Lion Garage, back of Sea View Hotel, Black Lion Street, fifth turning from Aquarium, on right, along front; specially for motor cyclists; repairs on Sundays.

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6HP Rexette, water cooled, two speeds good order. Price £25.

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HILLS
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PEDAL.**

Read this extract from testimonial.

Before I had the gear I had frequently to use pedals to assist engine up steep pitches, but since purchasing the gear from you, I have never on the road had to use the pedals and can easily get up any hill round here including Clayton and Hand Cross with passenger on board. H. ASHLEY GAITSKELL, M.D.

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ACCUMULATORS, celluloid, speciality: 2 amp. hours; 10s.—Works, 17, Landcroft Road, E. Dulwich.

CELLULOID Accumulator Repair Outfit useful for all celluloid repairs; full directions; post free, 1s.—Osborne Works, Forest Hill, London.

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IRIDIUM "Champion" Contacts, any part fitted; returned same day; 1s. 3d. each.

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JEBRON Magneto Screws, complete, for Bosch magneto, DA2, will fit contact breakers 5A, 5B, 5C, 5s. 9d. pair; old screws fitted with Jebro, 2s. 6d. each; everlasting wear, requiring no attention.

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3½ h.p. 1908 Genuine Quadrant engine quite new; £6 19s. — Farrar, Squa Road, Halifax.

4½ h.p. Engine, tank, radiator, pump, suitable for tricar, £5; trembler coil, 1s. —Miles, Almondsbury, Bristol.

GOOD Tricar Engine, 5-6 h.p., single-cylinder, air-cooled; £5 10s.; fine condition too large for present owner.—Mellor, Grange, Urmston, Manchester.

GENUINE De Dion, 2 h.p., complete with silencer and pulley, 30s.; also 3 Whittle belt and Bowden brake, 5s. each. 69, St. Mary's Road, Prittlewell.

23 h.p. Clyde motor cycle engine, Simon 24 Bosch low tension magneto, less carburetter; accept £3; wants overhauling. Johnson, Woodsome Ridge, Tunbridge Wells.

31 h.p. 1905 Rex engine, M.O.V., complete with pulley, lifter, induction pipe silencer, in perfect running order; a bargain £2 10s.; Longuemare carburetter to fit, 1 6d.—Wallis, Grocer, Hills Road, Cambridge.

21 h.p. Minerva, inclined, £3; 3½ h.p. Standard, vertical, £3 10s.; 3 h.p. Quadrant, £3 10s.; 1½ h.p. Minerva, 25s.; 3 h.p. Minerva pattern, M.O.V., £3 10s.; 2 h.p. Quadrant, 35s.; 2½ h.p. De Dion pattern, 45s.—Farrar, Square Road, Halifax.



THE MOTOR CYCLE



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The Judges' Report on the End-to-end.

By B. H. DAVIES.

EVERY motor cyclist should read, learn, and inwardly digest the official report of the End-to-end trial, published in the *Royal Automobile Club Journal* for August 6th. It is doubtful whether any motor cycling organisation has ever published a document of such great practical value, and its "live" qualities are chiefly due to the very thorough and frank way in which Mr. A. G. Reynolds has inspired the A.C.U. officials of to-day to treat their duties. Under various heads the report includes quite a host of valuable tips worth taking to heart for ordinary pleasure riding; the majority of these appear in the analysis given below:

Clothing Recommended.

Woollen underthings; stout tweed suit of lounge pattern; knee boots of waterproof leather (I query this detail, personally); showerproof coat and leggings, to be supplemented by an additional umbrella coat in heavy rain; celluloid collar (indispensable).

Bearings.

The judges recommend that vaseline should be melted and injected by an "oilgun" through the usual lubricator hole, the helmet oiler having first been removed. This is excellent advice. Many motor cycle bearings, especially those in the hubs and steering head, simply cannot be tightened up if allowed to become so loose that grit has been admitted. Before the trials started from Penzance two machines of excellent make had broken a ball race apiece from this cause alone, and on two or three occasions in touring practice I have had a cycle bearing work loose, and not having noticed it

till grit had found ingress, I have had to take the part entirely to pieces before I could proceed without fear of ruining a ball race completely.

Engines.

The judges report that I commented on a week or two ago, a universal immunity from engine trouble, great or small. They can find nothing more important to mention than leakages of oil on to the exterior of the crank cases in a few instances. They note that this nuisance was generally caused by loose fitting tappets. I think we may go as far as to say there is no engine that can be kept quite clean outside if liberally oiled as some of us prefer to oil an engine. What we need is a more perfect system of lubrication to prevent loss of oil, dirty appearances, and unpleasant smells.

Transmission.

The judges report no serious trouble with rubber belts, and an entire absence of trouble with the gear drive of the two F.N. four-cylinders, the chain drive of the P. and M. and Indian machines, further adding that these more rigid drives had no deleterious effect upon tyres. The conditions were all against leather belts, which necessitated much cleaning, and in several instances collected grit on their sides and wore the pulleys down badly. They emphasise the need of a better fastening joint on the round leather belts used on certain of the light-weights. This report is in perfect accord with usual experience. They omit to state whether the leather belts showed signs of a longer, if less even, existence

The Judges' Report on the End-to-end.—

than the rubber belts, and if any of the more rigid transmissions showed any signs of wear. It would have been interesting to learn officially how much, if any, the chains had been adjusted, and whether there was any looseness or noise in the bevel drives.

Tyres.

The main recommendation is in accord with a recent complaint in these columns, to wit, that tyre makers must not rest until they have remedied the chaotic condition of nominally identical tyres and rims actually differing by several inches in their most vital measurements. They opine that the tandem tyres on the lightweight machines were unequal to sustained fast running as required by this trial. They might have added that these tyres are too small to save any size of motor bicycle rim from being dented by quite small stones when struck at speeds in excess of ten miles an hour; this is my personal experience. I have found tandem tyres wear and last as well on an 80 lb. machine as the usual brand of $2\frac{1}{4}$ in. or $2\frac{1}{2}$ in. tyres



A.C.U. officials on Shap Fell watching the End-to-end competitors ascend. □

stand on a 150 lb. or 180 lb. machine; their fault, in my experience and opinion, is that they are too small to prevent inequalities in the road surface from affecting the rim, no matter whether it be a light push bicycle rim or a standard motor bicycle rim. Nor do they add that the rubber studded tyres were a magnificent preventive of side-slip, and wore a good deal better than the metal studs popular in the past.

Pedalling Gear.

These are condemned wholesale. Both chains and free-wheels were in a bad state on most machines before the end of the trials. A guard is recommended for the point where the chain passes the back tyre. My experience is that nothing will keep the pedalling gear fit and well short of a complete chain case, such as I use on my all-weather push bicycle. These are always ugly, often noisy, and generally undesirable. The pedalling gear is most needed in bad weather, and no simple means of safeguarding its efficiency has so far been discovered. This is one reason why variable gears are to be advocated so strongly. They enable us to dispense with pedals as no other device can, and they can easily be made weather-proof. The printed

report, unfortunately, entirely ignores the baker dozen of two-speed gears entered, which might have figured under several heads.

Silencers.

The judges note the undoubted fact that it is very difficult to make a motor cyclist aware of your approach when you wish to pass him. This is true, and emphasises the need of handle-bar mirrors. They proceed, however, to draw what I consider a very dubious deduction from the fact, that the difficulty arises solely or mainly from the noise his machine makes. As a driver of both cycles and cars, I unhesitatingly assert that it is generally quite as hard to make a car driver conscious of your approach as it is to warn a motor cyclist. On Mr. Levick's Napier in the End-to-end we had no end of trouble in making the competitors hear our horn (and we had three of them). On the Great North Road the other day I travelled for three miles in the dust of a 40 h.p. Napier, because I simply could not make the driver know I was waiting to pass. I personally do not wish to ride a dead silent motor cycle, nor do I think that a dead silent motor cycle will be much easier to overtake than present noisy patterns.

Clutches and Pulleys.

The judges praise the free engines of several two-speeders without one word of commendation for their emergency gears themselves—a curious omission, as the low gear is probably used twenty times where the free engine is used once. They wisely advocate stronger spokes for machines that are made to be started on the clutch from rest. They give adjustable pulleys some merited words of praise.

Footrests.

The report comments on the fact that long footrests of good substance averted several retirements which would otherwise have taken place through falls. One feature of the trials was the number of bent footrests at the finish—a minor damage which saved many riders from smashed contact-breakers, broken pedals, bent crankshafts, and so on.

Lamps.

"As usual, there was hardly a lamp in good condition at the end of the trials." Yes, but this year for the first time the lamps were not generally to blame. Lamps have usually but one weakness to-day and that is the hinge to the front, which is of too light construction. We need (a) much stronger brackets (b) a bracket clamp in the form of a bolt screw clean through both lamp and bracket. Friction does not give enough security for heavy lamps.

Ignition.

Praise is worthily won by the almost universal high-tension magneto, but exception is taken to certain positions in which it was mounted, and to the skimpiness of the protection afforded by covers. There is no doubt now that the abaft of the engine position is the most practical, or, failing that, a cover that envelops the whole of the magneto is desirable. One rider ingeniously compensated himself for not having a magneto cover by smearing the whole of his instrument with vaseline—a tip worth knowing. I think a word of praise might have been given to the single coil, high-tension distributor system fitted to the three Douglas machines, which behaved admirably, and is a distinct novelty on motor cycles.

The Judges' Report on the End-to-end.—

The report selects for special mention the Kumfo handle grip, and the 8in. flexible rubber grips on Hastings's Indian machine. I liked the latter grip immensely; the Kumfo is all right if one's fingers are unusually long and prehensile, but I should prefer a pair of Kumfo's of narrower bore to be fitted in lieu of the original exonite grips, instead of on top of them. They are not intended to fit over exonite grips.—ED.]

Ease of Starting.

The judges very wisely draw attention to the fact that a certain popular make of machine was very troublesome to start, owing to the piston being a very tight fit, and congealed oil on the whole length of its surface calling for much injection of paraffin before it could be got on the move. I do not know why one machine is singled out in this respect, as I could name three others at least which figured in the trials which always give me the same trouble when I ride them, and which I personally saw misbehaving in this respect in the End-to-end. One of them glues up pretty tightly after it has stood for as short a time as ten minutes. Doubtless the riders of these other makes were astute enough to perform their injections when the official eye was otherwhither. It is rather a sign of the times that nearly every make of machine carries a petrol squirt prominently exposed in a very accessible position. Time was when I seldom thought of a starting injection; nowadays though I often venture forth with no other weapons than my King Dick and pocket screwdriver, yet never, never, never do I leave my doorstep without my petrol squirt. I say "squirt," but the last maker I got a machine from provided me with a petrol can which in shape and size resembled a baby's bottle.

The Omission of Names.

There is one point I should like to raise, but with certain hesitation. When a bad point of any machine is referred to in this report, the machine is not named. When a good point is picked out, the machine is named. In the eyes of many sensible riders this single omission will damn the whole report; in the minds of others who do not know our judges as I know them, this omission will engender unworthy suspicions. Such a document as this judges' report furnishes a magnificent opportunity for a little plain speaking, and I cannot help feeling sorry it has been missed. My point is that all machines, even the very best, have weak points. Two things are, therefore, desirable in connection with these weak points, viz.:

1. That the makers should remedy them.
 2. That the buying public should be aware of them.
- Point 1 is, generally speaking, only obtained by *publicity*. Most makers are shockingly lethargic about correcting weak points which are not serious enough to entirely damn the machine, but are yet pronounced enough to cause customers a great deal of bother. I was just in from a run on a 1908 single tracker. It contains several minor defects, every single one of which was figured in the same firm's 1905 machine. In 1905 I wrote that firm strongly about these. I have repeated the process at various times. Every customer of theirs whom I have known intimately has done much the same; but they remain deaf and blind. Had these weak points been made public not one of them would have survived to injure their business and annoy their

customers, as is actually the case. As far as public information, which is Point 2, goes, this has a separate value of its own. I look on its main value as lying in the weight with which it reacts upon manufacturers. But two or three items in the report are of urgent personal interest to certain buyers. For instance, if a man is elderly or weakly, he reads with timidity about those machines that were difficult to start in the Trials, and wonders why on earth the make was not named, so that he might avoid it; another prospective buyer lives in a country district where the roads are bad; he wants to know which machine it was that had light rims and tyres; and so forth. In conclusion, I do not venture to assert that the judges could have given names; I only suggest that it would be of inestimable value could they see their way to do so in future.

This point concludes an invaluable practical and observant report, the honesty of the praise and the fearlessness of the criticisms being about equally marked, and the general tenour showing that, though motor cycles are very nearly perfect in point of reliability, and almost beyond blame in climbing powers, yet in the matter of absolute perfection of detail there is still room even in the pick of our market for a further advance. That advance, I confidently prophesy, is very near at hand. I have already enjoyed a few anticipatory talks with various makers about their 1909 models, and the points they are busy with cover most of the above ground, and in some instances include a few highly ingenious departures which even the fertile brains of our four ingenious adjudicators have not foreseen. I think the whole of the motor cycling community will desire to join with me in a very hearty and admiring vote of thanks to the four gentlemen whose brilliant, painstaking, and kindly labours have made the 1908 End-to-end Trial so eminent in the history of British motor cycling.

G. T. Riches and Co., 30 and 31, New Bridge Street, Ludgate Circus, E.C., send us a copy of their No. 8 catalogue containing particulars of motor cycle accessories and spare parts. The catalogue consists of 200 illustrated pages, and will be found most useful.

Mr. W. T. Smith, who rode a Moto-Rêve motor bicycle in the A.C.U. 24 hours London to Plymouth and back ride, sends us a sample of puncture material which he picked up *en route*. This consists of a piece of iron $2\frac{1}{2}$ in. long, $1\frac{1}{8}$ in. wide, and about $\frac{1}{8}$ in. thick, with several sharp edges. Mr. Smith informs us that this cut the tyre crossways and nearly severed it, sprained his ankle, and caused his retirement from the competition. Judging from its appearance, it must have been on the road for some considerable time.

Messrs. J. C. Lyell and Co., 55, Victoria Street, Westminster, inform us, after reading the correspondence on silencers which has been appearing in our pages, that they are the sole manufacturers, under license, of the Clair silencer, which won a gold medal at the Automobile Club de France silencer trials in 1907, and in the same year a gold medal at the Travel Exhibition. Messrs. Lyell and Co. supply these silencers on the understanding that if they do not give satisfaction they will refund the money to the purchaser. The silencer consists of a chamber containing a series of perforated cups fitted one inside the other.

Questions & Replies.

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, must be accompanied with a stamped addressed envelope for reply.

Fixing a Sidecar Attachment.

?

Kindly tell me how to put a sidecarriage in proper alignment with motor bicycle? Also should the bicycle lean towards the sidecarriage at all?

Should it not be vertical?—F.H.

Get a piece of wood and measure the distance from the centre of the tyre of the sidecar to the centre of the tyre on the motor bicycle; then go to the opposite side of the sidecar and see if the distance corresponds on the other side. The bicycle should be perfectly upright and the sidecar the same.

The Amount of Oil.

?

I ride a 1907 Triumph, and am puzzled about lubrication. Some say if oil drips from case when the stopper is removed that is enough, others say it should run out about half a tumblerful. Which is right, or how else is one to know?—J.D.S.

The subject of lubrication has been dealt with many times in these columns. It depends how much oil drips from the crankcase when the plug has been removed as to whether you are giving the engine sufficient or too much oil. There should always be about three pumpsful of oil in the crankcase. You will not go far wrong if you first of all drain the crankcase, then inject three charges of oil and give the engine a further charge every fifteen miles or so, depending upon the speed and amount of hill-climbing the machine is doing. If it is working almost to its utmost, a rather more liberal supply would be better.

Excessive Petrol Consumption.

?

In March last I wrote to you as regards petrol consumption with my $3\frac{1}{2}$ h.p. Peugeot, and you advised me to try different jets, etc. My machine is now running with a jet which has only three slots in it, the remaining six having been soldered up. I cannot get more than thirty miles from a gallon. Would you advise me to fit a different carburetter, the present one is a Longuemare? My engine also gets very hot and will take hardly any air, the rings are in good order. Do you think the valves are wrong?—J.H.C., Morpeth.

It is very unlikely that all the petrol you use goes through the engine. The tank or the feed pipe unions must be leaking badly, or the carburetter con-

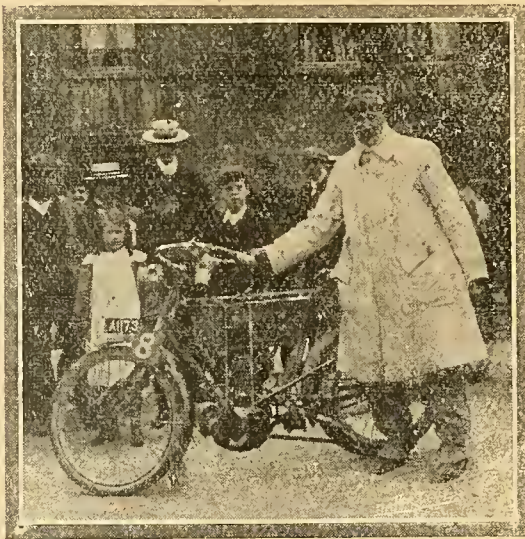
tinually dripping due to the level being too high or the needle valve needing grinding in. The carburetter in question is, generally speaking, quite satisfactory, and is quite economical when properly adjusted. It is quite possible that the exhaust valves may not have sufficient lift. We should advise you to check them over. The new edition of "Motor Cycles and How to Manage Them" explains how to do it.

Effect of Advancing or Retarding Spark.

?

(1.) Can you explain to me the theory of the advance spark—how it works exactly? I have an idea that in some way it causes the gases to explode earlier or later during the stroke, but how it does this I do not know. (2.) What damage is done to engine when lifting exhaust valve to slow down at corners, etc? (3.) Do you know of a little book on the theory and practice of petrol motors?—W.H.S.

(1.) Your theory is perfectly correct, but we cannot see why you do not



S. W. Carty, winner of the N.S.U. Cup in the Newcastle and District M.C.C. 420 Miles Reliability Trial.

understand it, since as the position of the spark is controlled by hand, it must necessarily take place earlier or later according to the position in which the contact breaker is set. (2.) No harm is done if valve is completely lifted, and engine does not fire. (3.) The new edition of "Motor Cycles and How to Manage Them" will give you many useful hints concerning petrol motors.

Wiring a Dry Battery.

?

I wish to add a two-way switch to my bicycle, but would like to retain and use the handle-bar switch. I shall carry a Hellenes dry battery on the front carrier, and I see that in the instructions it says wire the two + terminals to the switch, and then connect switch with "P" on coil. Shall I do any harm by using two switches, i.e., the double one to make connection with either battery, and the handle-bar as an "on and off" switch?—E.W.P.

There is no reason why you should not use two switches, or you can use a two-way switch for that matter. It really does not matter whether the negative or the positive is connected to the coil, as it only has the effect of sending the current the other way.

An Accidental Cure.

?

My engine is a $3\frac{1}{2}$ h.p. White and Poppe. For many months I was troubled with popping in the carburetter. I tried stronger inlet springs (m.o.v.), trembler adjustment, etc., all to no purpose. When running slowly, and especially when the load was off the engine and the spark retarded there was generally a regular fusillade going on in the carburetter, somewhat bettered by shutting off extra air. My theory was that the incoming charge was ignited by the fired one, although the exhaust valve had the proper lift, but I don't think I can be right because the cure I stumbled on does not have any relation to it that I can see. I found my piston rings so worn that there was no spring left in them, and so had new ones fitted. This done the trouble disappeared. Can you account for this cure?—A.R.R.

We can more or less account for the cure. The carburetter was originally adjusted to give the correct and proper mixture, but as the piston rings and other parts became worn, and the compression failed, the suction, of course, decreased and less petrol was drawn through the jet, with the result that you could not close air-holes sufficiently to cause a strong suction around the jet, and the mixture was too weak to explode properly. Had there been any range of adjustment on the fixed air inlet, you would have been able to obtain an explosive mixture by partially closing the apertures.

Causes for Loss of Power.

What is the likely cause of a general loss of power in a 1904 3 h.p. motor bicycle? It has a B. and B. carburetter, and 5 to 1 gear, but I am unable to get more than thirty miles per hour out of it, and the gradients it sails on are not by any means steep, that is, unless I pedal. I bought the machine second-hand three months ago, and at that time it was running well. Any tips I shall be glad of.—B.B.

Loss of power in an old engine is usually due to weak compression, reduced lift of valves owing to wear of valve cams, and to wear on the first cam. If you have the cylinder reamed by a first-class firm, new piston rings fitted, and cams replaced if necessary, the engine would give off as much power as when new.

Concerning Coil and Carburetter.

I was testing my coil on a brick wall and had one hand on the wood case. I touched the negative terminal with the other, when I received a fine shock. Is this correct? My only solution is that the wood case was damp. Would there be any loss of current while the coil is on the machine? I am leaving the coil in the sun to dry it out if that is the case. How is it that when running at thirty-five miles per hour I can lose the throttle and give more air than when machine is running at fifteen miles per hour? I cannot understand that at all. The carburetter is an Amac. Have you had any experience with this article? I propose boring some small holes in the induction pipe if you advise it.—M.E., S.W.

The shock you speak of might probably have been due to the case of the coil being damp. Owing to the greater suction there is a greater suction on the valve, and more petrol is drawn through. The carburetter you are using is a good one. If the engine will stand it, a few holes in the induction pipe which can be covered by a clip when starting or running slowly, or better still an ordinary compression tap screwed in the induction pipe, will make an efficient extra air inlet, but it is unnecessary on a single-cylinder.

Another Case of Excessive Petrol Consumption.

I ride a 2½ h.p. Kerry with Longuemare carburetter No. 74152 (but no other marks). My usual distance on a gallon of petrol is absurd, viz., thirty-five miles. I have tried all remedies, such as throttling, admitting full air, etc., but even then cannot run with any more success, and at times have to reduce the air. The carburetter appears far too large for the work it is required for. What would you advise? The carburetter is in first-class condition. I have had the float adjusted by a mechanic.—W.P.

You state, the consumption is perfectly ridiculous. Your machine should run regularly between 80 and 100 miles to the gallon. The petrol level should come to within ½ in. of the top of the tube into which the spray screws.

You can alter the level by shifting the position of the weight upon which the float rests on the needle valve. Use as small a jet with as large a choke tube as you can. The machine should only take full air when running at full speed. If the carburetter drips or floods in any way the consumption is bound to be excessive. The needle valve probably requires grinding in. Examine carefully the tank joints and unions; we are inclined to think there is a leak somewhere.

READERS' REPLIES.**¾ in. Belts on 3½ h.p. Bicycles.**

In reply to "A.C.," Southsea, in Questions and Replies, I notice you say, "Nothing less than a ¾ in. belt will stand for long." I have a heavy 3½ h.p. machine, and I was in the same fix, the pulleys only being ¾ in. After trying several good makes of belt, which all pulled out at the fastener, I fitted a ¾ in. Whittle link-grip which has now run considerably over 2,000 miles without any trouble, and without showing signs of wear. I may mention I am in no way connected with the firm.—A.S.

Plugs for Magneto and Battery Ignition.

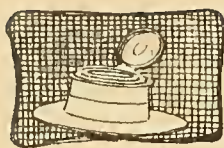
With regard to sparking plugs, which are equally suitable for magneto and accumulator ignition, I find the Pognon the best I have ever tried. I have two in my engine, and but for cleaning the points a few times, caused by over-lubrication, I have not needed to take them from cylinder. As regards magneto spares, a complete contact breaker is by far the best for quick repair of any ignition trouble.—CY 510.

One Cylinder Firing in the Silencer.

In answer to "J.M.D.'s" query in your issue of the 22nd ult., I had the same trouble with my twin-cylinder Minerva. Upon examining the engine I found that there was not sufficient clearance between the exhaust valve and tappet of the cylinder which did not fire. This would not allow the valve to close properly, thus causing explosions in the silencer. After filing the exhaust valve stem the cylinder fired perfectly. I may mention that my machine is fitted with coil ignition, so perhaps the cause of the trouble in "J.M.D.'s" machine is the magneto, as you suggested in your answer to his query.—H. D. HELLIWELL.



*A Suggestion for
a Lightweight
(patent not applied for)*



LETTERS TO THE EDITOR



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Running on Naphtha.

[3482.]—I notice in your issue of July 22nd a letter signed Cyril V. Albrecht. As I and others are much interested in the subject of using crude naphtha, it would be of great interest to many to know where your correspondent gets his supply, as from enquiries I find his statement of 4d. or 5d. retail quite misleading from the address he names.

S. STIMPSON.

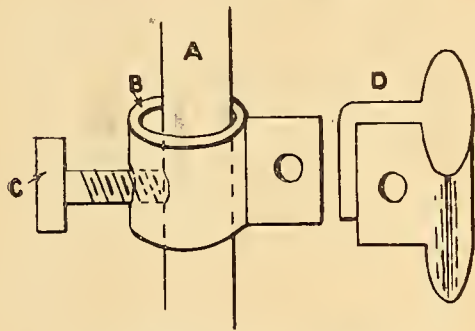
Hill-climbing.

[3483.]—In a recent issue of *The Motor Cycle*, re the climbing of Clay Bank, Mr. Raper is not the only one who has achieved this feat upon a motor cycle. I climbed the hill in 1906 on a 6 h.p. air-cooled Quadrant Carette minus passenger, and also upon a $3\frac{3}{4}$ h.p. two-speed gear N.S.U. motor bicycle. Also I climbed at the first attempt the celebrated Sutton Bank last year (June 30th, 1907) on the same $3\frac{3}{4}$ h.p. N.S.U., after riding straight through from Durham, and was witnessed by three gentlemen, who gave their signatures for verification. As Mr. Raper says, it is nearly impossible to remain seated in ascending Clay Hill, owing to the vile surface and the gutters across the road.

J. W. LUCAS.

Front Wheel Stands.

[3484.]—Why not the following for a front wheel stand? By having the stand on the front fork the front wheel would be fixed.



- A. Metal rod.
- B. Ring.
- C. Screw for fastening A.
- D. Clip for front fork.

Why do not makers put a lock on motor cycles for fixing the head? They are invariably put on pedal cycles. Also I have never seen any motor cycle that has proper lubricators whereby the steering socket bearings can be oiled. To those who find the ordinary wallet too small for

spares, may I suggest a wickerwork hamper lined with American cloth?

A. B.

Front Fork Breakages.

[3485.]—Regarding the breakage to front forks, I have been unusually unfortunate in this respect. Twice I have had one blade break off on an ordinary pattern fork, once one of the three girder plates forming the crown of the same forks broke, and only recently I had the misfortune to break a fork, on a $2\frac{1}{2}$ h.p. machine, at the root of the steering column, just flush with the bottom ball-race, in this case having girder forks of the pattern perhaps most common—i.e., fastened to head locking clamp at top and wheel spindle at bottom. In the last case I heard a snap, and was fortunate enough to dismount before the wheel came out of place, but soon after dismounting the girders simply swung out on their top bolt and let the engine down on to the road with a bump.

Arising out of this, I should like to know if any of your correspondents have seen or designed a girder fork which will not do this. It would also be interesting to know what the general opinion is as to whether or not spring forks minimise risk of breakage, or reduce vibration without really lengthening the reasonable life of the fork proper.

INTERESTED.

[Spring forks undoubtedly minimise, if they do not absolutely prevent, breakage. Trussed girders will hold machine and engine up if fork tube breaks.—Ed.]

An Enclosed Magneto.

[3486.]—"Ixion's" remarks re position of magneto open up a very interesting subject. On most machines a delicate and vital part is exposed to both rain and mud. Placing the magneto in the tank adds unnecessary weight, whilst it is placed behind the engine, rain can still get to it. I would suggest, as an improvement on these, placing the magneto in a special case cast in one piece with the valve side of the crank case. The rough sketches 1 and 2 will illustrate what I mean. A is the magneto case with the

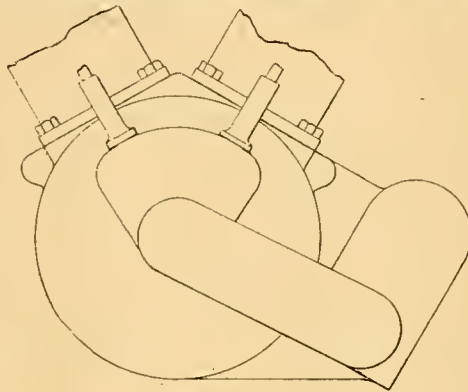


Fig. 1.

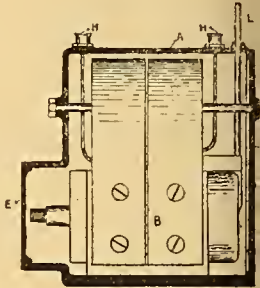


Fig. 2.

magneto B in position. The cover E would be part of the gear case cover from the engine. The cover C, held in place by the bolt D or other means, would allow easy access to the contact breaker, and absolutely keep out all mud or water. The rod L would move the contact breaker, and the bearing could be oiled by means of the lubricators and tubes H I. The wires could be taken through vulcanite bushes placed in any convenient part of the case. The magneto would then be a fixed part of the engine, and thoroughly protected against the weather or a fall. Fig. 1 shows the idea applied to a twin-cylinder engine, and fig. 2 a section through the case.

A. S.

Hill-climbing in North Wales.

[3487.]—A friend and I have lately returned from a tour in N. Wales. The machines were 6 h.p. twins, mine being fitted with the Nala two-speed hub. Our idea was to explore some of the lesser known side and cross roads, as well as the main ones, but we soon gave it up, and have now great respect for Welsh roads. The single-gear twin with a 4 to 1 gear proved a total failure at the work, although will take hills such as Muswell or West Hill, Hampstead with a gear of $3\frac{1}{4}$ to 1. My own machine with gears $3\frac{1}{2}$ and 7 to 1 proved equal to anything we came across, and in one instance towed the other machine over a bad knuckle when it came to a stop. In a good many cases gates were the trouble, and it took our united efforts to get the machine away again or to push it up to an easier starting place. Anyone riding alone or with another single-gear machine would have a bad time.

If anyone wants to try a hill which is worse than Sutton Bank he should try the road from Bettws-y-Coed to Cap Garmon; there is only one gate, and an easy start beyond it or the one from Penmachno to Festiniog. The latter provides a little practice at gate opening, as there are five the hill, on various grades from 1 in 6 downwards. Mine is the only machine that has been up either of these hills, far as I can discover. The contact breaker on my twin "Ixion's" ideal one, I think; the only adjustment required is to see that the single pair of platinum contacts are exactly opposite, and they are then allowed to wear out without any further attention; they will last about 2,000 miles, and with a slight alteration the contact breaker can be used, if necessary, without any platinum at all for a further 200 or 300 miles. It would fire four, six, or eight cylinders with the same pair of contacts.

R. MEESOM.

Silence.

[3488.]-*Re* silence, are not the makers chiefly to blame? The majority of machines are still turned out with very inefficient silencers, and it is hardly to be expected that the riders will go to the additional expense of replacing them. I should have thought it would have been to the makers' advantage to turn out quiet machines. Noise is responsible for much of the ill-feeling against motor cyclists. Noise frightens off many would-be riders. Noise is the cause of many a headache and "tired feeling" in those who do ride. Noise attracts an undue share of police attention, and may possibly have something to do with the excessive fines. Noise has turned the motor cycle from Brooklands. What other restrictions are awaiting us?

I daresay my experience is not exceptional. Having to return my bicycle to makers for repairs, I asked them to fit one of the good silencers on the market, or make me a new one (of course, at my expense). They made me one consisting of a couple of tins slipped over the exhaust pipe, outside dimensions 3½ in. by 2½ in. (2½ h.p.) Result: My machine was as quiet as a Maxim gun in action. People would rush into doorways or cling to walls like limpets until I had passed by. Is it good for the pastime or the industry?

THE GALLOPING MAXIM.

The Rival Belts.

[3489.]-Might I suggest to those who are so warmly advocating the rival claims of rubber *versus* leather belts that both have good points, and that the wise rider who wishes to get the most satisfaction and value for his money will provide himself with one of each kind for use as circumstances permit. So far as my experience of each kind goes, I find that nothing gives so nice a drive or so little trouble as a good leather belt in fine weather or under conditions where it is not exposed to a soaking treatment. It will stand a day of this without damage, but then wants dressing and drying, whereas mud and rain have no bad effect on rubber belts at all; neither does the grit get into them and cut out the pulleys in bad weather.

Although the rubber has this advantage under adverse conditions, it has nothing like the life of a good leather belt. It is the exception to get a rubber belt to stand over 2,000 miles—many give up the ghost at a very insignificant total—whereas a good leather belt has a long life. For instance, I used on a light tricar a ¾ in. Watawata belt from the Sunday after Fernhurst in 1906 until September, 1907, running nearly 6,000 miles, and a portion of this belt is still in use in my mills driving a machine running all day long. I replaced this belt with a double ply of the same make, which I have now driven close on 3,000 miles, and recently, when it was so wet, I used it for 507 miles, including a portion of the Peak District of Derbyshire, without trouble. All I did was to take up ¼ in. at Chesterfield (on the fastener), and twice I oiled the belt before starting in the morning. The load it has to pull is about 5½ cwt. I have no pedals, and passenger only got out on one hill. As it rained nearly every day, and on one occasion machine was in water up to the

top of the sparking plug, the test was a severe one, but the belt appears no worse.

As regards frequency of tightening, I may say that I took it up on Easter Monday, ran nearly 1,200 miles, and again shortened it on Whit-Monday, the next tightening operation being the one at Chesterfield.

This should prove to some extent that all leather belts are not masses of slime and oil. Did users more frequently dress their belts with the proper oil, they would stand much better. A slipping belt can often be cured, especially in wet weather, by well oiling it. The same applies to a belt that is dry and shiny. Mere indiscriminate tightening of a belt soon leads to its destruction. In good order, a ¾ in. belt will transmit enough power to propel a passenger combination when quite slack, but if the pulleys are not correct or the belt in good order lin. will not give satisfaction. One thing is certain: no chain would ever stand anything like the bad treatment belts receive.

A. C. PEMBERTON.

Standardisation of Rims.

[3490.]-I am very glad to see that Mr. B. H. Davies has again taken up the question which I started over two years ago on the standardisation of rims for motor cycle tyres. No one but the manufacturer, who is anxious to supply any tyre a customer may desire, knows the great annoyance that is caused by different makes of tyres requiring special size rims. The only way to overcome this difficulty is for the manufacturers of motor cycles to get together and adopt standard size rims, and insist upon the tyre manufacturers supplying tyres to fit these rims. On Vindec Special motor cycles this year we have as far as possible fitted what we call our standard rims for 2½ in. tyres, which measure exactly 22½ in. outside diameter, and we have found that Michelin, Dunlop, Goodrich, Clincher, and the special Palmer Cord tyres fit this size rim perfectly. There are other makes of 2½ in. tyres which with considerable effort can also be forced on to this size rim, but of course they are not a perfect fit. At the same time, if you were to compare the makers' sizes and the tyres mentioned you would find a variation, both below and above our standard, of possibly ¼ in. For a 2½ in. tyre a 22 in. outside diameter rim should be used; any smaller rim than this does not permit a 20 in. belt rim being fitted.

The Motor Cycle would certainly be doing, not only motor cycle manufacturers but the motor cycling public in general, a good turn if they would follow up the matter in regard to standardisation of motor cycle tyre rims.

W. H. WELLS.

[We went into the matter very carefully some time ago, and published an article under the heading of "Interchangeability of Tyres" on May 22nd, 1907, page 409. In this article we particularly emphasised the fact that the correspondence with and personal calls upon the leading tyre makers had not elicited the information we desired, viz., which makes of tyres are interchangeable one with the other. Although all the makers were most willing to give every information regarding their own tyres, they were extremely reticent respecting other makes. After all, this is perhaps only natural.—ED.]



Meet of Scottish Motor Cycle Club members at Stirling on the 8th inst.

Belts and their Fasteners.

[3491.]-In the case of rubber belts, the following is the way I prevent my fasteners from pulling out. Take a piece of ordinary bicycle chain and hammer the rollers out. The sides will then be loose. Take one side plate and place it on the top of the belt, just under the fastener, so that the screw will go through the fastener and also through the side plate. Drill another hole through the belt to correspond with the other hole in the side plate, and put a small bolt through and secure it with a nut on the top of the belt. It is advisable to put a small washer on the bolt, so that the head is not drawn into the rubber. The belt will require shortening before the fastener shows any sign of pulling out so that the bolt can be taken out, a piece cut off the belt, and the fastener screw can be put in the hole originally occupied by the bolt. AJ 223.

Record Lubricating.

[3492.]-Will "Ixion" forgive me saying so, but I see nothing extraordinary in his so-called record published a few weeks ago. Some two years ago I wrote you on the subject, assuring your readers what I can do, and do do, on a $3\frac{1}{2}$ h.p., and I have proved long ago that most riders of motor bicycles over-lubricate.

Without a doubt, "Ixion" need not "wonder" if the B. and B. carburetter has anything to do with it; of course it has. If everyone adjusted their carburetter perfectly, this overheating question would not be the source of worry it is.

I am sure I do not use half the oil others do, and for four years now I have had no troubles with my engines. The one I use now has not been dismantled since new, some fifteen months ago, and when I do take it down I expect to find only very little carbon deposit, in spite of using it nearly every day. EXPERIENCED.

Footrests v. Pedals and Stands.

[3493.]-"The time is surely near when pedalling gear may be dispensed with on first-class powerful modern machines."

The above quotation points to a landmark in the transition period from pedals to footrests, which may be illustrated by way of question and answer:

Define a motor bicycle? A mechanically-propelled single-passenger road vehicle.

Define its functions? A means of transit (in pursuit of pleasure or business).

As a designer partly responsible for the introduction of the footrest idea, I am pleased to see the point now timely expressed by "Ixion" as to a safe road clearance. Footrests should have at least 7in. road clearance; at this distance they are infinitely less dangerous than pedals, which on some machines leave barely a 3in. clearance. But the controversy now awaiting settlement is pedal assistance v. auto-propulsion proper. The advent of the variable gear surely settles it. The partisans of pedals who have a propensity for physical exercise may be reminded that a course of Sandow culture at home is likely to be more beneficial and less ludicrous than the display of a perspiring and distorted countenance amid the scenery of country lanes and roads.

The suppression of pedals tends to bring about the abolition of the stand, for surely it is more convenient for cleaning or tyre repair to incline one's machine on the footrests! The process of jacking up the back wheel and pedal persuasion to start an engine instead of a comfortable hand turn through live axle is as unnecessary as it is irksome and undignified. No; as an eminent author once remarked, "The existence of pedals proves the weakness of a motor bicycle." They have a proper place on push cycles; I notice they are even admissible on the pedal-propelled gondolas at the White City. Their retention on motor bicycles is prejudicial to that low, comfortable, safe position which alone will prevail.

ARTHUR W. WALL.

Leaking Batteries.

[3494.]-Referring to Mr. R. N. Morley's letter [No. 3446] in July 8th issue, as a brother motor cyclist I would like to say that I, too, have suffered inconvenience both with cycle and car batteries.

Accumulators in the first instance are costly if you get good ones, they want constant watching, recharging, and replenishing with acid, they run down whether in use or not, and after a time the joints at the top open, acid oozes

out and trickles down, spoiling the enamel or paint work, and rotting everything with which it comes in contact.

What a job, too, to keep the terminals clean; I have had much trouble that way, so have discarded accumulators altogether, and adopted dry batteries, which have given me every satisfaction.

I wrote to Messrs. Siemens Bros., Ltd., Woolwich, who very kindly made me a battery of three cells in one case giving 4.5 volts, which has been very satisfactory. It was not a stock size, but made to give as large a battery as the space would admit. The price is so small (only the cost of charging a leaky accumulator a few times) that it is a wonder to me that more is not heard of these batteries.

I have recommended them to several friends and acquaintances, and at the present moment Messrs. Siemens are making one to dimensions for a cyclist friend of mine, who, like myself, is tired of leaky batteries.

If Mr. Morley writes to this firm for their booklet on "Ignition Dry Batteries" he will find a short article written expressly for motorists which I am certain will interest him.

He will find there is no need to watch a dry battery. While standing it recuperates itself, no acid to spill, no corroded terminals, and no running about to get it charged.

I was told by the makers that I might expect fully from 2,000 to 3,000 miles from my battery. I have not done that distance yet, only riding my cycle occasionally, but if at the end of the season it gives out, the price is so small that it can be thrown away and a new one purchased.

In conclusion, I would like to add that I am in no way connected with Messrs. Siemens, Ltd., except as a satisfied user of their ignition dry battery. A 5756. A 6340.

[3495.]-Having derived much benefit from your paper, I thought my experience might be of use to some of your readers.

I used to use accumulators. My coil never exceeded twenty miles without sticking. The acid used to splash out, and they always wanted recharging when I wanted to go twenty or forty miles. The last, a well-known 20 a.h., both plates broke in about 300 miles. Nine months ago I bought a Hellesen dry cell (Flash). Since then I have rarely had to adjust my trembler coil (Guénet), which I was told would soon run it down. I have now been about 1,000 miles on one dry cell, and it is still at work.

WILLIAM C. CRAWLEY.

Adjustable Pulleys.

[3496.]-I do not know whether other riders have had the same experience as I have, but after three years' use I have come to the conclusion that the only satisfactory adjustable pulleys are those which have a sliding flange. A flange that is screwed the same way as the locking ring, as in the old Greenwood pulley, was tolerable, though even this was a nuisance at times, but a flange that is screwed with a left-hand thread against the ring's right-hand thread is, to my mind, wrong. Personally, I would recommend all users of the latter type to discard them before they break up their bearings in an attempt to unlock the locking ring—that is to say if they can get them off!

Having broken an otherwise unbreakable ball bearing, I am speaking from hot and bitter experience, and while the makers know what I feel, I wish they could only see the array of racked and twisted spanners I have used on their "patent adjustable pulleys." AM 675.

[We think our correspondent must use too much force in tightening the lock ring, as we have experienced no real trouble in this direction with right and left-hand threads on lock nuts.—Ed.]

MOTOR CYCLING IN ARGENTINA.

E. W. Brown writes that he will be pleased to give readers any information they require regarding motor cycling in Argentina. Letters addressed to him, care of the Editor, will be forwarded to the right quarter.

EXPERIENCES WANTED.

"Spark."—Of the roads to avoid in E. Riding of Yorkshire S. P. (Mon.) would like readers' experiences of the Gillett Lehmann carburetter control.

OCCASIONAL COMMENTS.

By "IXION."

A Plethora of Belt Fasteners.

I desire to return thanks to the numerous patentees who have sent me sample belt fasteners. Their number prevents me replying individually, and the same misfortune will also prevent me from completing my tests for a month or so. A great deal of ingenuity is evidently at work, and so many brains should eventually produce more than one good fastener between them.

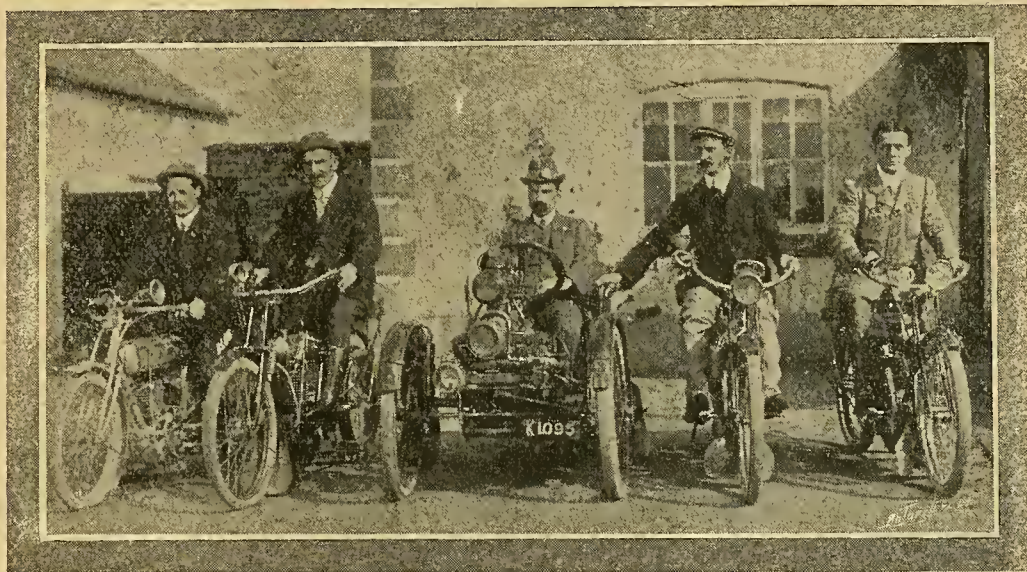
Lightweights in the End-to-end.

Mr. B. H. Davies commented a week or two back upon the novelty of seeing lightweight machines well up with the leading competitors in the A.C.U. Trials, and averaging legal limit. He failed to comment upon a fact which was at least equally obvious, and that is that, gallantly as the lightweights indubitably performed, they failed to show the same high level of efficiency as their heavier rivals. A large proportion failed from one cause or another to finish, and of those which reached John-o'-Groat's House, none secured a gold medal. I admit they would have made a better show had the conditions not been exceptionally arduous during the trial; and while we welcomed this for the magnificent opportunity it afforded other machines of surmounting difficulty, it certainly was arrant bad luck that the roads and weather should have proved so adverse in the first year, which welcomed a large team of 80 lbs. machines to the A.C.U. Trials. One thing was proved, and that was that the engines fitted to these lightweights are all right; and, after all, when the engine is right, there is little more work to be done before a sound machine can be turned out. The imperfections of the present lightweights vary with the make, but, as a rule, tyres, rims, wheels, belts, and detail fitments generally leave a little to be desired. These points will be tremendously improved by this season's experience and failures, and if the trials next year are lucky enough to get fair weather, I expect to see a whole fleet of lightweights win gold medals, while two or three firms, such as the Motosacoche and Moto-Rêve, will get a complete team through, if, as I hope, they see their way to enter three machines apiece.

Belts and Tyres on Lightweight Machines.

I do not profess to be specially enthusiastic about the lightweight motor bicycles of to-day, whatever ardour I may be able to summon up about those of to-morrow; and consequently my words may be a little jaundiced. But in respect of tyres and belts many of them strike me as undesirable resurrections of faulty details buried about the year 1902. About that date I rode or owned several machines only a few pounds heavier than the lightweight of to-day. Those machines were as strong uphill as the modern 80 lbs. machine, much as their 1908 relative surpasses them in comfort, carburation, ignition, and mechanical reliability. But my main troubles with those early lightweights were confined to the tyres and the belts. The tyres were soon worn out, easily punctured, and too

small to prevent quite small stones from kinking the rims if struck at normal motor cycling speeds. The belts were also a fruitful source of trouble, owing more to the low gear than to their tiny section. Consequently before I again become a regular and contented rider of lightweight machines I must stipulate for a specification excluding what are only push-bicycle tyres, rims, and wheels under another name, and which does not force upon me once again the abomination of a twisted round belt, or, alternatively, of a stiff V belt, gripping only half the circumference of a 3in. engine pulley. And of the lightweights I have tried, few promise me any secure immunity from those loathed annoyances of bygone days. I have just returned from a short run in hilly country on what I suppose to be the best of the modern 80-pounders. I have had two



Gold medal winners in the Manchester M.C. non-stop run to Cheltenham and Back. From left to right the riders are: W. Heaton (5 h.p. Rex), H. Reed (4 h.p. Dot), O. Gros (4½ h.p. Eagle), J. Tytler and C. E. Kettle (3½ h.p. Triumphs).

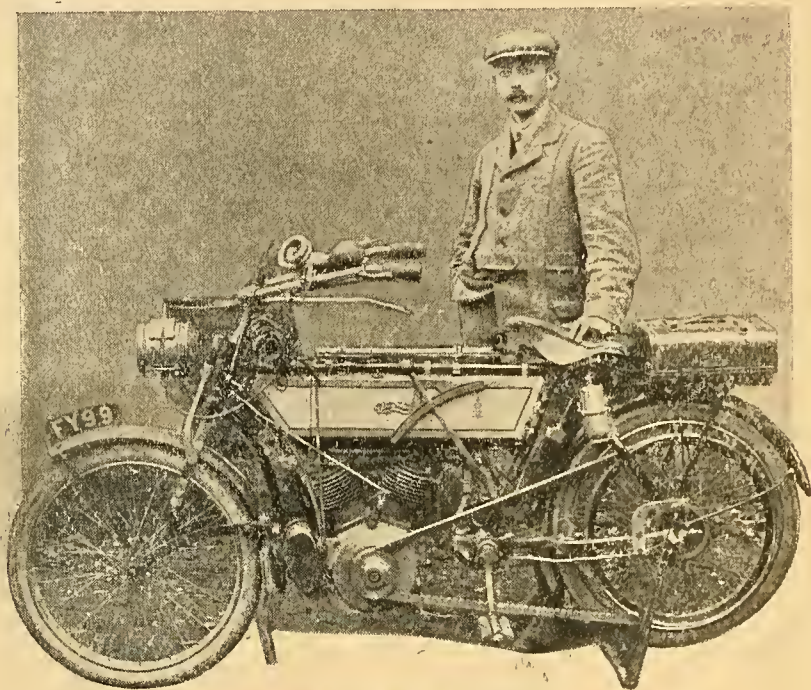
punctures, and both wheels are buckled. The belt is made up of odd lengths and fasteners, and even now is slipping so badly that I had to assist it with the pedals down my own drive.

Special Hill-climbing Machines.

One or two correspondents have written to ask what deviations from standard specification have been made in the one or two cases where "tourist" hill-climbing events have been carried off by special machines. I can only speak from personal knowledge of one or two such cases, and in these instances the special points of the machines were general reduction of weight throughout, the use of a far higher compression ratio than is employed for the same firm's roadster machines, and the use of ball bearings for the crankshaft and connecting rods, whereas the standard mount had plain bearings. I may remind readers that the building of these special machines does their inventor no manner of good whatever, for if the motor cycling public see that these remarkable performances are solely produced by a single man and a single machine, instead of being duplicated by private customers, they naturally smell a rat. Consequently the trade as a whole have ceased to seek advertisement of this particular kind, and many concerns never for a moment countenanced any such tactics.

HOW WE CLIMBED GLENFINART.

PROBABLY readers of *The Motor Cycle* may still remember the entertaining account written by Mr. Maitland of a hill-climbing tour he undertook in the Western Highlands of Scotland, and of his rather distressing experience on a certain hill, viz., Glenfinart. Mr. Maitland made the assertion that no motor bicycle could climb Glenfinart, even with a two-speed gear. With this statement I disagreed, being aware from personal experience of the capabilities of my two-speed 5 h.p. Vindec.



Hugh Gibson, the writer of the accompanying article.

Another writer, "Argyllshire," also doubted the ability of any motor bicycle to accomplish the climb, and remarked that were any machine to do so the makers would be kept busy with orders from Scottish riders alone.

Accordingly a friend and I decided to attempt the climb. B.'s mount is a standard 1908 Triumph, with a slightly larger jet and a few additional airholes; gear, $5\frac{1}{4}$ to 1. My machine is a 1907 5 h.p. Vindec, two-speed gear, with handle-bar control and Watawata belt; gear, $4\frac{3}{4}$ to 1.

In order to reach the hill in tip-top condition, we took the steamer from Glasgow to Dunoon, which is a cheap ride at 1s., and I strongly advise this route to anyone desirous of reaching the hill quickly.

Worse than Sutton Bank.

We left Dunoon, and soon covered the fourteen miles to the Glen, *via* Kilmun and Ardentenny. B. was ahead, and went tearing up the Glen for a quarter of a mile before he found his engine was slowing, and that we had already climbed part of the famous hill. After studying the map and making certain of our position, we jacked up our machines and took a stroll upwards. At each bend our spirits became more depressed, and when we saw the awful left-hand turn on a gradient of about one in five or one in six, we agreed that Mr. Maitland had not exaggerated the hill in the least. It is the worst hill we have ever seen, and eclipses Sutton Bank, the surface on the bends being vile. B. christened the last corner "Hell's Corner," and this is a very appropriate sobriquet.

At this stage B. was prepared to struggle up in three

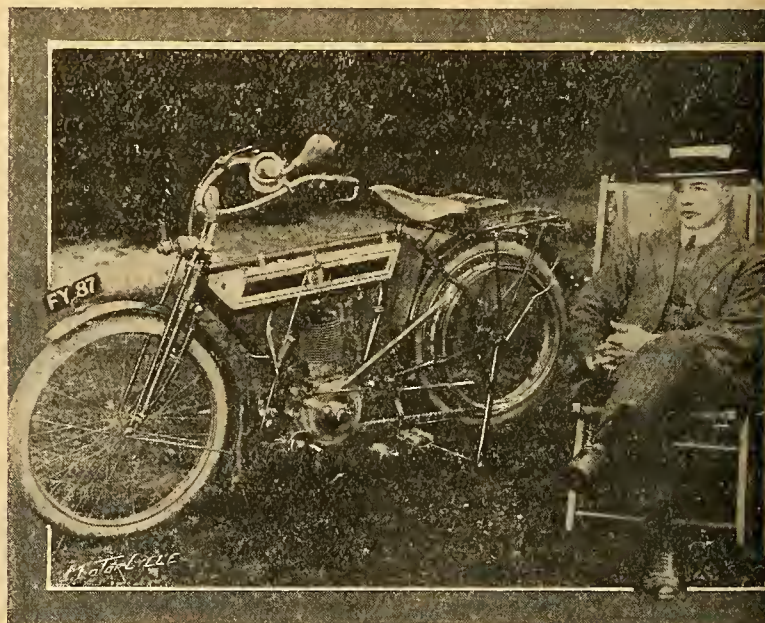
rushes, whilst I thought that my two-speed gear would at last get a chance of proving its worth. We no longer returned to the foot of the hill and detached all our luggage, but kept our machines equipped with tools, roll, lamp, and horn, whilst I also left my spare tools, bag and tubes on the machine. Its weight though equipped is 265 lbs., my weight 9 stones 3 lbs.

B. having divested himself of several articles of apparel, decided to make the first attempt, and, as being ready, I gave him a hearty push-off and shouted out "Good luck!" The Triumph was picking up a pace the way until I lost sight of machine and rider, and there was a sudden silence as they disappeared round the corner.

Successful at the First Attempt.

I was alone for ten minutes or more, when I suddenly saw a strange figure approaching, and a closer inspection proved this to be B., minus leggings, coat, vest, and other small accessories. His face was red, but he wore a radiant smile, and he had every reason to feel happy, since he had climbed to the top of Glenfinart at the first attempt. Of course, some pedalling had been necessary, but even then it was a splendid performance to climb a strange hill of the calibre of Glenfinart. B. remarked facetiously that if he had been shaved, put on his slippers, and left his only cigarette with me, he might have gone up a good deal faster. We longed for a "Bar," or even a stone gin, but these luxuries are not to be had on Glenfinart. The sun was in his glory, and we perspired freely, B. reducing himself by at least 3 lbs.—at least that was what he worked it out at (1 lb. per hour).

On my first attempt up Glenfinart the Vindec pulled well, and after getting round the first bend I had to switch off twice in taking the left-hand turn. I was going up well, and accelerated my speed to about twenty miles per hour as I rushed at the last awful



J. H. Brereton, the writer's companion.

corner. I was travelling too fast to get round, and I snatched in the low gear rather too sharply; the front wheel swerved, struck a boulder, and took me into the gutter on the left-hand side of "Hell's Corner." My heroic attempt to get out of the gutter failed. I stopped within an arm's length of the top

How we Climbed Glenfinart.—

The indefatigable B. had now arrived with the luggage, and I went back some two hundred yards to try and pick a track round the last corner. My belt was slipping, so we took it up, and B. marked out a track for me to follow. There is only about eighteen inches of hard surface on the corner, and unless one can keep on this strip a skid is bound to take place.

Another Attempt Successful.

We had both long since reached boiling point, and it was agreed that my next attempt from the bottom should be the last before lunch. B. could not help thinking of Whistlefield Inn, so I promised that this time I would take great care on his pet corner and sail up to the top. I coasted down to the foot of Glenfinart, and after seeing that I had a reserve pumpful of oil at hand I started off once more. The engine pulled better, and, owing to the tightened belt, seemed to climb better; no pedalling was necessary, but I decided that I would go round "Hell's Corner" on the low gear to obviate any chance of skidding. There is nothing more to add, save that I changed down from high to low so imperceptibly that B. never knew at which point I had changed gears. The Vindec next took up our luggage, and we made a quick run down to Whistlefield Inn.

After a well earned rest we set off for Arrochar *via* Cairndow and Glencroe, but we missed Cairndow, and got on the famous pass before we were aware of the fact.

We had ridden some twenty miles, but did not stop many minutes before tackling the famous climb over Glencroe.

A large car a mile ahead was our guiding star, and we followed in its wake. There is really only one bad corner on this the west side of Glencroe, but, unluckily for B., the car, the Triumph, and the Vindec all struck the turn about the same time. The

Vindec's low gear scored here, the Triumph being stuck on the bend, owing to there not being sufficient room for B. to rush the corner.

We took the Devil's Elbow down hill, and I should say that it will require a lot of getting round on a fixed geared machine. At the foot of Glenfinart, a beautiful stream of running water tempted us to halt, and B. gave me a fine aquatic exhibition before the "purr" of a fast approaching car caused him to hide behind a friendly boulder.

We had tea at a small cottage near Glencroe.

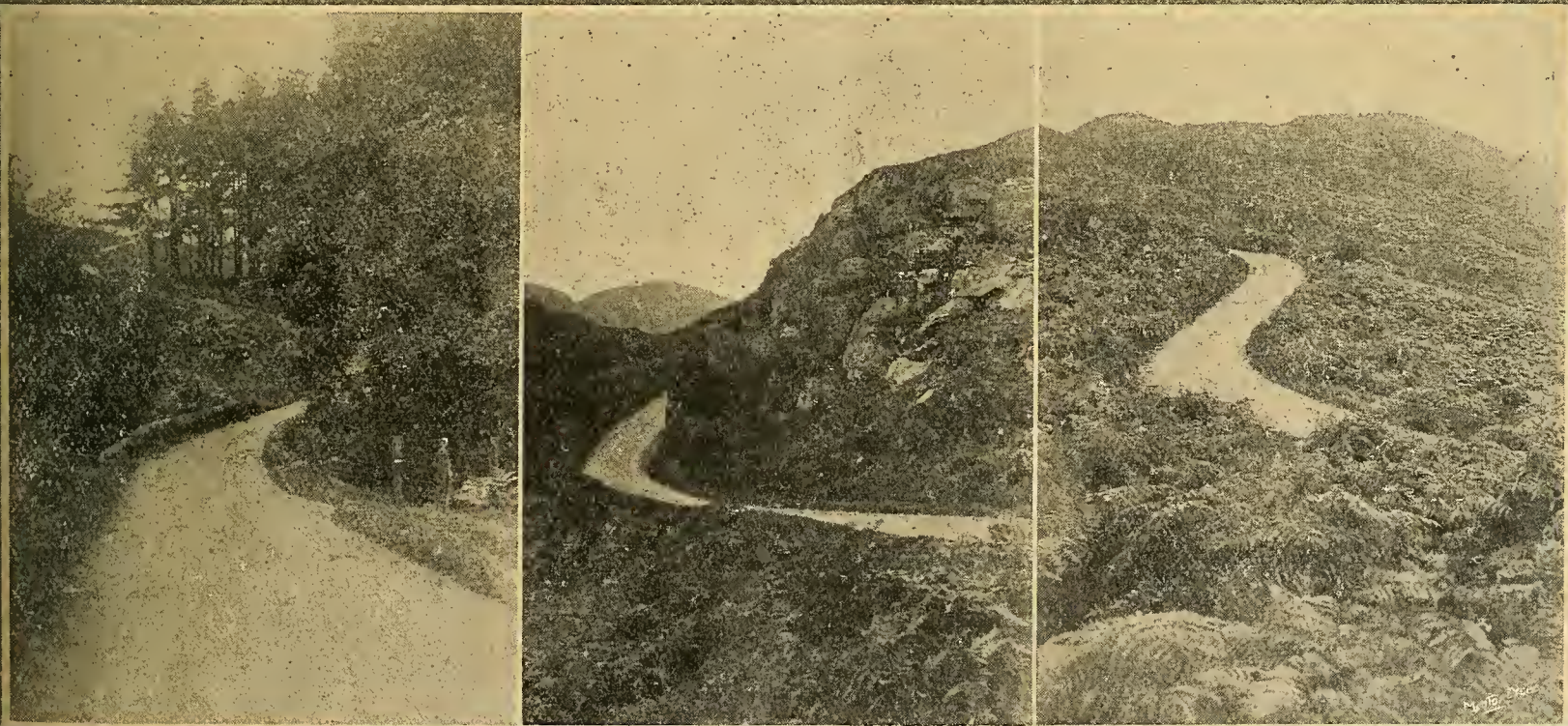
A quiet 8 m.p.h. down the bank of Loch Lomond to Luss finished up a day full of incident, and, as B. put it (or was it some other poet), "Something attempted, something done, *had* earned a night's repose."

We returned South, *via* Erskine Ferry, Paisley, Kilmarnock, Ayr, Cumnock, Sanquhar, Dumfries, Carlisle, Appleby, Brough, Sedburgh, Quornholme, Garstang, and Preston, missing the series of police traps that now stretch from Milnthorpe through Lancaster to Garstang.

The machines ran perfectly throughout the trip. The Triumph sustained a nasty gash in the back tyre, but beyond two punctures B. had no further trouble. The Vindec was as reliable as usual, and I only had one stop to change a sooted plug, due to over lubrication. The machine has now done over 12,000 miles, and the way the engine still pulls is really remarkable. Speaking for myself, I am prepared to climb Glenfinart at any time, without pedal assistance, but any rider on a single-geared machine must be prepared to take risks at the corners on account of the vile surface. The last turn is considerably worse than the famous Sutton Bank corner, as the gradient is 1 in 5 or 6 all the way round.

I understand that we are the first motor cyclists to climb Glenfinart, so I am now looking round for two cheap medals and——, but I do not want this to reach the ears of B.

HUGH GIBSON.

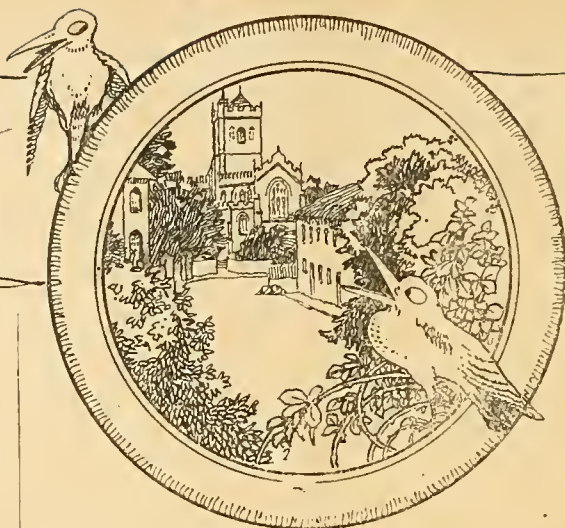
**VIEWS OF GLENFINART.**

(1) The lower reaches, showing the road winding upwards to the left of the pine trees.

(2) One of the many awkward turns. After rounding the corner the gradient is 1 in 4 for 250 to 300 yards.

(3) Showing the steep and winding nature of the road.

CURRENT CHAT



Special Features

Motor Cycles for Patrolling.

Motor cyclists are now assisting in the excellent road patrolling arrangements of the A.A. Motor cyclists are advised to carry the machine badge crossways on the front guard extension.

A Record Entry List.

The entry for the Coventry M.C. open hill-climbing competition for motor cycles at Newnham on Saturday last was a record, the number of entries totalling 94. Moreover, one or two had to be refused owing to their late arrival.

The T.T. Motor Cycle Race.

The Tourist Trophy Race for motor cycles is fixed to take place in the Isle of Man towards the end of next month, probably the 22nd inst. Entries close on the 1st prox. Up to the present eleven entries have been received.

Saturday's Race Meeting at the Stadium.

The annual race meeting of the Auto Cycle Union will be held on Saturday next, the 22nd inst., at the Stadium, Shepherd's Bush. There should be a large attendance, as all the well-known racing men have entered for the various events.

Motor Cycle Hill-climb at Trouville.

Our French contemporary *Les Sports* is organising a hill-climb for August 26th at the well-known French seaside resort Trouville. The Herdtle, Bruneau, and Albatross motor cycles have already entered. The hill is known as the Côte du Calvaire.

A.C.U. Permits.

Permits have been granted for the following events: August 22nd, three miles motor cycle handicap, 76 by 76 class, Worthing Excelsior C.C. Sports. Hon. secretary, V. Cowan, 22, St. Dunstan's Road, West Worthing. August 26th, three miles motor cycle handicap, 76 by 76 class, Uxbridge C.C. Sports. Hon. secretary, W. H. Gough, High Street, Uxbridge.

Imports of Motor Cycles.

162 motor cycles were imported last month (value £4,062) and £3,713 worth of parts, a decrease of £621 over July, 1907. Imports during the seven months ended 31st July were 1,070 motor cycles valued at £28,956, and parts value £15,026—a total of £43,982, as against £58,033 in the corresponding period of 1907, and £58,586 in 1906.

Exports of British Machines.

Eighty-five motor cycles were exported from this country during July (value £3,009) and £1,305 worth of parts. During the seven months ended 31st July 475 British made motor cycles have been exported of the value of £16,172, together with parts value £12,627—£28,799 in all.

New A.C.U. Badges.

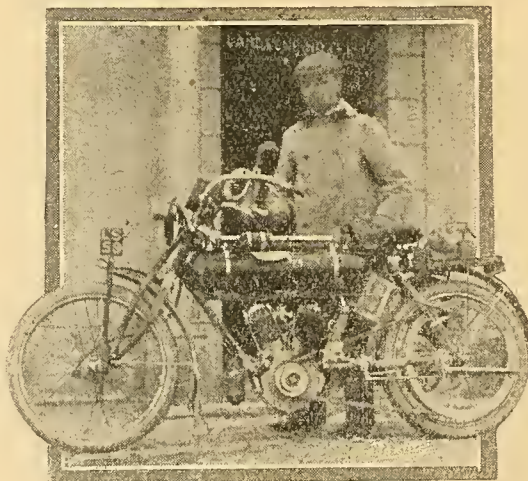
The new badges, which are rapidly being sent out to all those who have ordered them, have been very greatly admired, and there is a big demand for them, both from the private members of the Union and from members of affiliated clubs.

Summonses on the End-to-end Run.

In our report of the End-to-end contest it was mentioned that Miss Hind and Mr. Sproston encountered a police trap at Penrith on the third day. The case came on recently, and Miss Hind was fined £2 and costs and Mr. Sproston £5 and costs. Both had their licenses endorsed.

Harry Tate Wins a Motor Cycle Race.

On Wednesday last at Herne Hill, the music hall sports meeting was held, and a motor cycle race was one of the items on the programme. Leonard Mortimer (scratch) rode a 1908 Triumph with mudguards and pedals, and conceded 200 yards start to Harry Tate (on C. R. Collier's famous Matchless racer) and T. Cowan (on Harry Martin's Matchless racer). There were two other competitors on roadster machines. Harry Tate caused much amusement by keeping the competitors on the starting line while he went round the track two or three times to warm his engine. The race was a good one, Leonard Mortimer making a very good struggle. Harry Tate won, T. Cowan finishing second—only a wheel in front of L. Mortimer. Mr. Straight was the handicapper.



S. G. Frost, who won the Jarrott Cup in the M.C.C. London to Land's End and Back Run, on August 3rd and 4th. He rode the same 4½ h.p. Twin Minerva, on which he won the M.C.C. Cup in the London-Edinburgh and Back Trial at Whitsuntide.

COVENTRY M.C. OPEN HILL-CLIMB.

HOW WE CLIMBED GLENFINART (Illustrated).

Police Traps.

A police trap was instituted on the 9th inst. on the main road between Lincoln and Newark, starting a little on the Newark side of the half-way house. It is about three miles in length.

Motor Cyclists' Meet at Stratford-on-Avon.

Motor cycle club secretaries should make a note that the great meet of motor cycle clubs at Stratford-on-Avon will be held on Saturday next, the 22nd inst. Mr. R. Vernon C. Brooks of the Birmingham M.C.C., has organised the meeting, and we understand that more than twelve clubs will take part.

Long Distance Runs Popular.

The popularity of long-distance riding on motor cycles is surprising. The A.C.U. twenty-four hours' ride was the second long run during the same week, yet the entry list totalled thirty-five, the entrants being chiefly amateurs. It proves at any rate the absolute reliance riders have on the machines, for a continuous run of twenty-four hours on hilly roads is undoubtedly a severe test.

Victim of Night Trap.

At Greenwich, Cecil E. Pinkerton of Blackheath, was summoned for driving a motor cycle at the "estimated speed of over 28 m.p.h." P. Battersby admitted that he was caught in the night trap at Eltham. Defendant, who denied the speed, was fined 40s. and costs. Since the signalling was by the extremely uncertain method of flashing a lamp, readers can draw their own deductions.

A.C.U. Penalty Run.

It has been decided that a penalty run, open to both members of the Union and associate members of affiliated clubs, shall be held next month. The route will probably be the same as in previous years, starting from Woodford, Essex, and finishing there. The entrance fee will be 3s. per member with a fine of 1s. for each stoppage, the maximum amount of the fines to be 5s. Bronze medals will be awarded competitors making non-stop runs and finishing within schedule time. A tea prize of two guineas is also to be awarded to the club whose member as a team accomplish the best performance. This event is always the most enjoyable sporting fixture, and is to be hoped that it will be well supported by all members and the affiliated clubs that can conveniently compete.

A Promising Motor Cycle Track Racer.

A rider who has been rather unfortunate this year on the racing path is A. Greenaway. He rode second in the scratch race at Aston, and was only prevented from finishing through his coil failing. At Cambridge he was only beaten by one length in the first race by Hodgkinson, and he made a very good race with Bennett in the scratch race. Such close running should encourage him to persevere, and shortly he will doubtless be able to place a first to his credit.

A Lucky Motor Cyclist.

Andrew Phillips, of Middlesbrough, was summoned last week for riding a motor bicycle at a speed dangerous to the public at Eaglescliffe on July 5th. Two constables stated that they timed defendant, who was towing two cyclists, one on either side, the speed being 23 m.p.h. There were a good many people about. Defendant denied travelling at more than eight or nine miles an hour, and called the two cyclists and a Middlesbrough fruiterer in support of his statement. Defendant's solicitor pointed out that not one of the thirty people said to be on the road had been called. The case was dismissed. Alderman Page said the Bench thought the evidence of the prosecution very unsatisfactory, to say no more. They had very strong evidence to say there was scarcely anybody about, and the police, they thought, should be careful as to what they said. Defendant's solicitor asked for costs, and the Bench, by a majority, decided to allow the application. Surely this constitutes a record!

International T.T. Prize Fund.

A special fund has been opened to provide good cash prizes for the winners, and to assist in defraying the cost of the race. Any contribution towards this fund will be much appreciated, and should be sent to the secretary, Auto Cycle Union, 18, Down Street, Piccadilly, W., as early as possible.

The T.T. Motor Cycle Race.

The Tourist Trophy Race for motor cycles will be held over the same course as last year, viz., St. John's, Ballacraine, Kirkmichael, Devil's Elbow, St. Germain's, Peel, and back to St.

John's. The following entries have been received: Mr. C. R. Collier, Matchless (holder single-cylinder class); Mr. H. Rem Fowler, Norton (holder twin-cylinder class); Triumph Cycle Co., three 3½ h.p. Triumphs; Bat Motor Co., 6 h.p. Bat; Mr. W. H. Wells, 5 h.p. Vindec Special; Mr. R. W. Ellis, 3½ h.p. Rex; Mr. W. H. Bashall, 3½ h.p. Triumph; Mr. C. Gordon Gibson, 3½ h.p. Triumph; and Mr. Noel E. Drury, 5 h.p. J.A.P.

Driving Licenses in Scotland.

The Midlothian County Council, in violation of the Motor Car Act, Sec. 3, Sub-sec. 3, has hitherto refused to issue licenses to drivers of motor cycles and motor cars extending beyond the 31st December in the year of issue, thus causing great inconvenience. Thanks to the efforts of a local official of the Cyclists' Touring Club, the County Clerk has now decided, after correspondence with the Secretary for Scotland, to issue, or renew, drivers' licenses for a period of twelve months from the date of issue or renewal, as is general elsewhere.

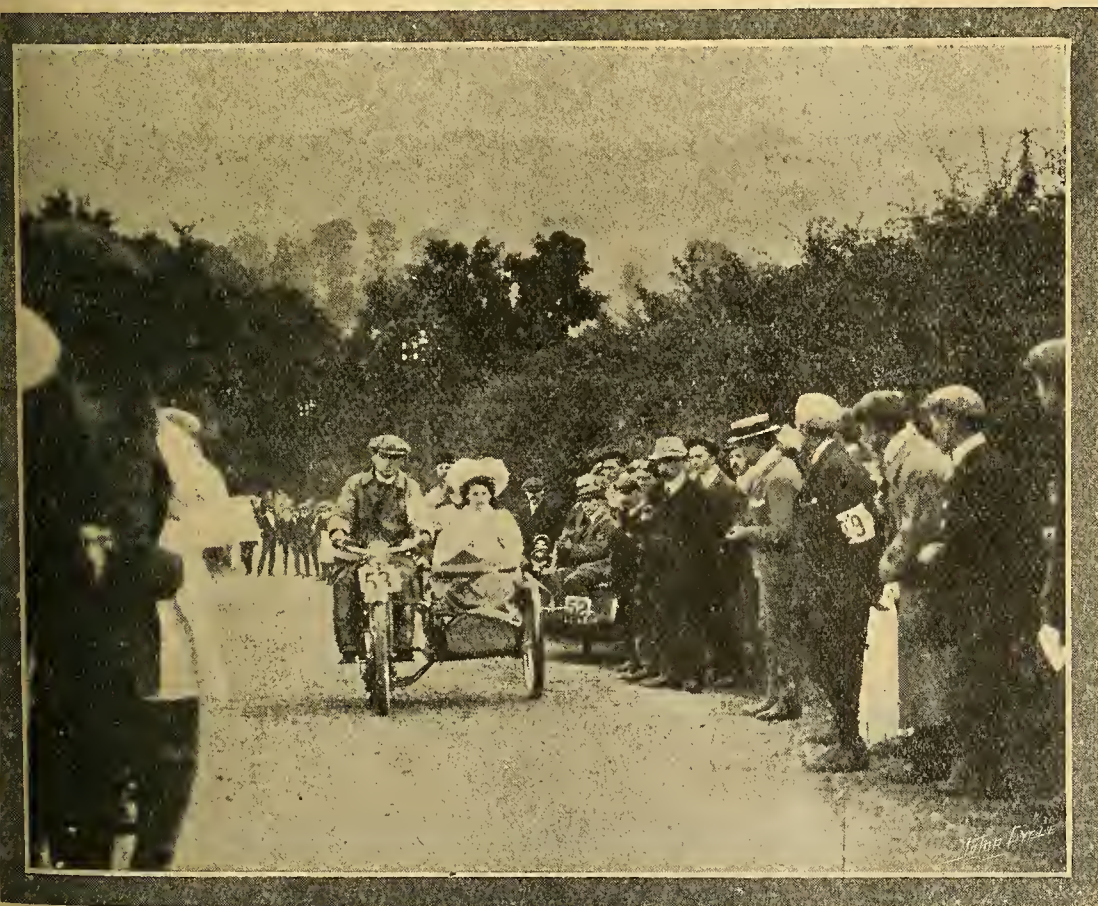
A.C.U. Race Meeting.

The annual race meeting of the Auto Cycle Union, which is to take place at the Stadium, Shepherd's Bush, W., on Saturday next, August 22nd, will provide some exciting racing, as all the well-known racing motor cyclists will be competing. Messrs. C. R. Collier, H. Martin, C. E. Bennett, H. V. Colver, W. W. Genn, T. A. Carter, and W. Hodgkinson will be fighting for supremacy in the one hour scratch race, which is always an attractive feature of this meeting. In addition to this race there will be a series of one mile time trials, a five miles handicap, and also a five miles handicap for standard touring machines. With such a programme as this there should be a large crowd of spectators at the Stadium to witness the sport.

Motor Union Notes.

The demand for the Motor Union motor cycle badge continues. Fourteen applications were received during the week ended August 8th. The following is an extract from a letter received from a London motor cyclist: "I must say I found the badge very useful during my run through the Peak district, and I must thank you for the prompt attention given to my application and the delivery of the badge." The Motor Union is constantly receiving letters similar to the following: "With regard to the badge, does the 6s. paid once cover the whole cost or is it a yearly charge?" The Motor Union charges one amount of 6s. only for the use of the motor cycle badge, and no further charge is made so long as the motor cyclist continues his membership with the Motor Union. If a member exhibiting the badge is charged for an offence of which he is innocent half his legal expenses are paid by the Union. Several clubs have decided to continue their joint affiliation to the A.C.U. and M.U.

FUTURE EVENTS.	
Aug. 21-22—	Motor Cycle Union of Ireland Open 400 Miles Reliability Trials for the Muratti Trophy.
" 22—	A.C.U. Annual Race Meeting at the Stadium, Shepherd's Bush.
" 22—	General Inter-club Meet of Motor Cyclists at Stratford-on-Avon, organised by the Birmingham M.C.C.
" 22—	Worthing Excelsior C.C. Three Miles Motor Cycle Handicap.
" 26—	Uxbridge C.C. Three Miles Motor Cycle Handicap.
" 29—	Essex M.C. London to York and back, for members only.
Sept. 1—	Entries close for the Motor Cycle Tourist Trophy Race.
" 12—	Motor Cycling Club Petrol Consumption Tests.
" 23—	The International Auto Cycle Tourist Trophy Race in the Isle of Man.
" —	Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.
Oct. 3—	A.C.U. Council Meeting at Warwick.
Nov. 20-28—	Thirty-second Annual Stanley Show, at the Agricultural Hall, Islington.



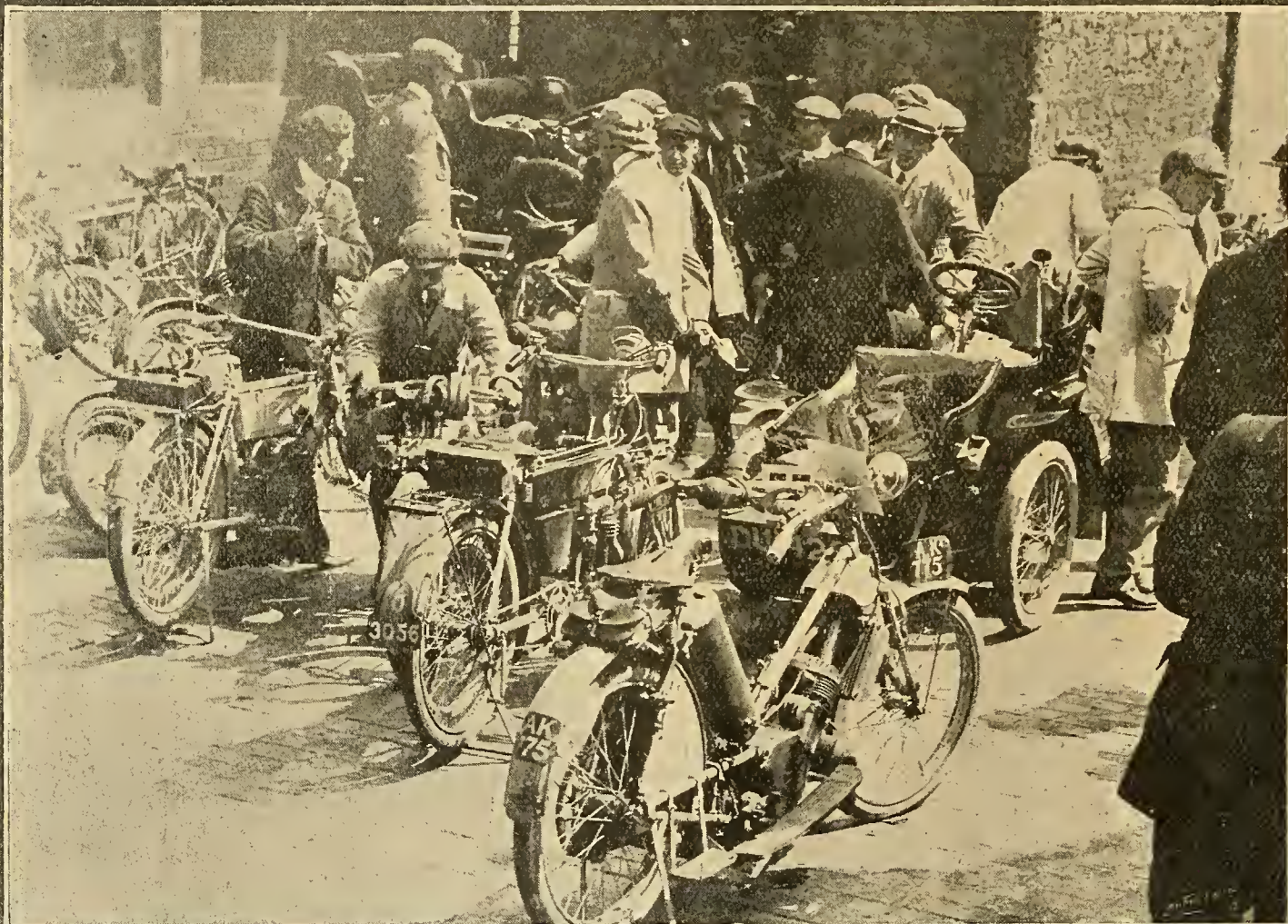
C. W. Hathaway (3½ h.p. Triumph and Sidecar) making fastest time in the Passenger Class at the Coventry M.C. Hill-climb on Saturday last he was also second on formula.

Coventry M.C. Hill-climb at Newnham.

THE Coventry Motor Club is to be congratulated on having added another success to its list of open competitions. On Saturday last at Newnham, near Daventry, motor cyclists converged from all points of England to take part in the open motor cycle hill-climbing competition promoted by the above club. The entries were divided into six classes, and no less than ninety-four separate entries were received. This we believe to be a record entry for any motor cycle hill-climbing competition, closed or open, and such a complete entry must be particularly gratifying to the promoters. As early as 11 a.m. the weighing of the various machines and competitors commenced, under the superintendence of Messrs. H. Reynolds and R. Pugh. Mr. H. Reynolds had rigged

start. Soon after 3 p.m. the competitors in Class 1 commenced to ascend the hill, one minute intervals being allowed between each competitor, and ten minutes between each class to allow time for those entered in more than one class to descend the hill.

The hill is a severe one, and the course was about one kilometre in length, the steepest gradient being 1 in 6. It is a somewhat difficult hill to climb, owing to the fact that the gradient is in parts very deceptive. Soon after the start there is a cross road. Here the gradient is steep, although it does not appear to be so to a rider who is approaching it. This gradient necessitates a change down on all except the more powerful cars. Then comes a long stretch of slightly easier grade, followed by a bend near a barn which requires



The weighing-in at Messrs. Reynolds Bros.' Garage, Daventry. In the foreground is the interesting 3 h.p. Scott, fitted with a twin-cylinder two-stroke water-cooled engine. The machine is also provided with a two-speed gear and chain transmission. Mr. Scott won three first positions on formula in Classes 3, 4, and 6.

an excellent and accurate weighing machine in his yard at the Tudor Works, Daventry, and with Mr. Pugh's assistance the men and machines had all weighed in by 1 p.m. An adjournment was then made to the weighing platform at Daventry Station, where the passenger machines were duly weighed and passed.

Newnham village green is a pretty spot at any time, but on Saturday with the increased life and animation provided by the presence of visitors' cars and competitors' and visitors' motor cycles, it presented a picture that will be best realised after a glance at the illustration on the following page.

On the green numbered cards were placed at various points to indicate the positions to be occupied by the competitors when being marshalled prior to the actual start and to avoid confusion when those who rode in more than one class returned to the green for a fresh

some care. Soon afterwards the steeper portion commences, and there is no ease until the 1 in 6 section at the top is reached.

After this description it will not surprise readers to hear that some of the machines with small engines failed. J. P. le Grand usually makes very fast time in hill-climbing events, but Newnham proved too much for his 2½ h.p. Matchless, also for H. L. Cooper's 3 h.p. Triumph and F. E. Barker's 2¾ h.p. Rex.

The excellent performance of the first four riders in Class 2 (J. Marshall, W. F. Newsome, W. G. McMinnies, and E. S. Myers), who all rode 3½ h.p. T.T. Triumphs, was remarkable, there being a difference of only 6¼ s. between the first and fourth riders. Then came Brice on his Brown, followed by five more Triumph riders (J. H. Slaughter, E. L. Roberts, A. W. Bentley, Gordon Gibson, and T. W. Drayton)

Coventry M.C. Hill-climb at Newnham.—

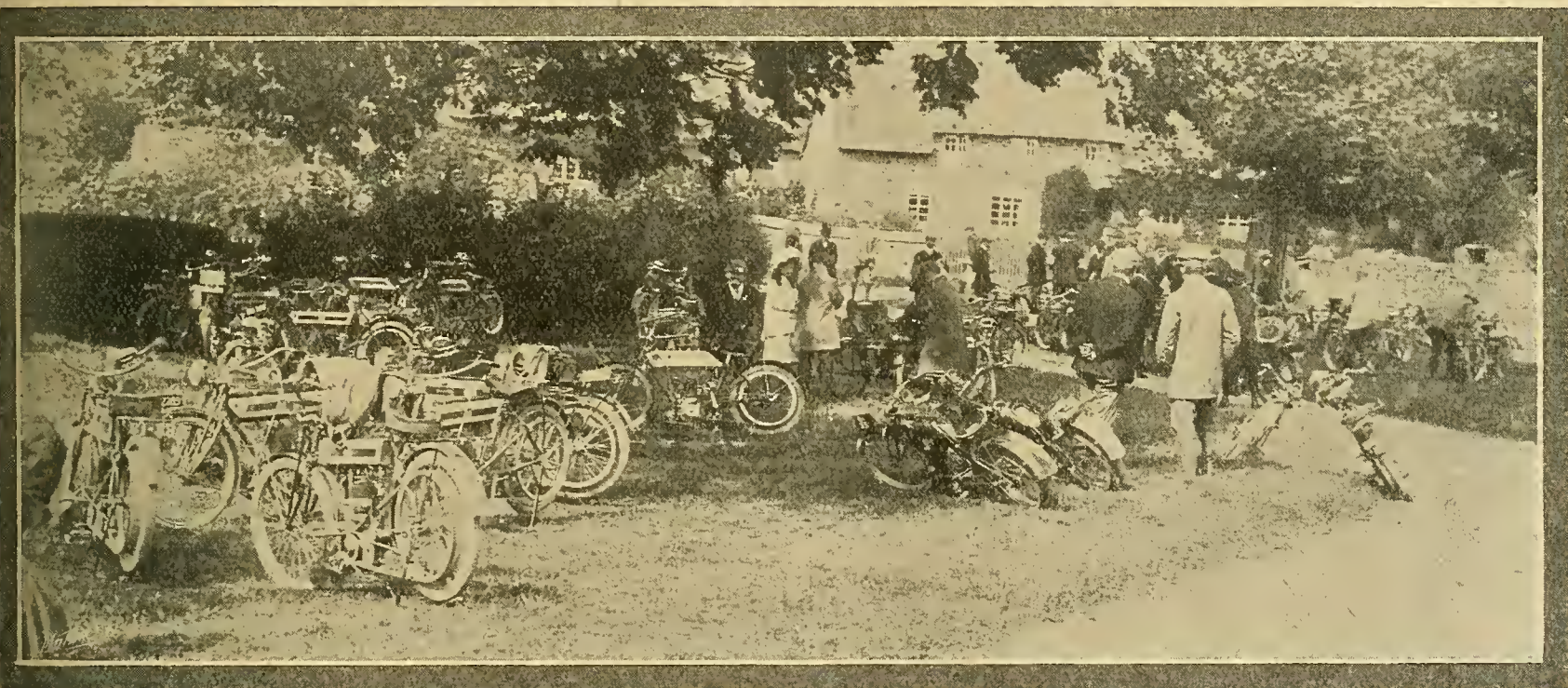
Of these five, Bentley doubtless would have made far better time had he not been forced on to the grass at the cross roads near the foot by some of the spectators. Geoffrey Smith also suffered bad fortune; the petrol tap of his machine shook upwards on two occasions, and stopped the supply of petrol to the carburetter.

Considerable interest was taken in the fact that two old-time winners on motor cycles (Bert Yates and J. Wright) took part in this competition on new pattern Humber motor cycles, but their luck was not with them on Saturday. Class 3 was confined to twin-cylinder machines, and F. W. Applebee, jun. (5 h.p. Rex), scored a popular win on time, closely followed by W. H. Bashall (6 h.p. Bat-Jap), W. Heaton (5 h.p. Rex), and W. H. Wells (5 h.p. Vindec) in the order named. Then came Jack Scriven, F. White, and D. C. Godfrey, all on 5 h.p. Rex machines. The performances in this class were again remarkable for

some alterations made, which were not completed in time.

In Class 4, which was open to any motor bicycle, it was hardly expected that a single-cylindered machine would beat all the high powered twins, but so it proved; J. Marshall (3½ h.p. T.T. Triumph), who rode superbly, won on time by ⅓s. from F. W. Applebee, jun. (5 h.p. twin Rex), W. Heaton, Jack Scriven, and J. W. Wareing (all on 5 h.p. twin Rex machines) being third, fourth, and fifth. The next fastest single-cylinder performance was accomplished by Guy Lee Evans on a 3½ h.p. Rex, who sustained ill-luck in Class 2, the inlet valve cotter coming adrift.

It is interesting to note that in Class 5 three members of the Coventry M.C. were the only competitors who succeeded in climbing the hill with their passenger motor cycles. C. W. Hathaway (3½ h.p. Triumph, with sidecar and Nala two-speed gear)



A general view of the village green at Newnham, near Daventry, on the occasion of the Coventry Motor Club's Open Motor Cycle Hill-climb.

close running, 3⅔s. separating the first four competitors. Despite the horse-power, two riders failed to reach the summit (W. O. Bentley on a 5 h.p. Rex and E. Stubbs on a 3½ h.p. Rex). One of the Moto-Rêves ridden by W. Smith, although slowest of all, surmounted the hill without pedal assistance—a really marvellous feat considering the size of the engine and steepness and length of the gradient.

A. J. Sproston (5 h.p. Rex) was suffering from a cold sustained in the morning while on the way to Daventry.

A. A. Scott on the Scott with twin-cylinder two-stroke water cooled engine caused a considerable amount of interest; his speed was not high, as he was last but one, but the ease with which the engine was started and the novel features embodied in the design of the machine attracted attention from enthusiasts in motor cycle construction.

Miss Muriel Hind (5 h.p. Rex) and T. H. Tessier (5 h.p. Bat-Jap) did not compete. Miss Hind, who drove her Deasy car from Dorset to Coventry on Friday last on purpose to compete, was disappointed at the delivery of her machine; she has been having

easily made fastest time, followed by H. Williamson (6 h.p. Rex Litette) and A. N. Startin (5 h.p. Riley tricar).

The variable gear class was fairly well supported, but not by any means representative. R. Lord, the winner, rode a 5 h.p. Rex with that firm's two-speed gear in the back hub; F. W. Barnes (3½ h.p. Zenette, Gradua gear) was second, and W. Newman (3½ h.p. Roc, Roc gear and clutch) third.

After a well-earned tea the officials met and worked out the placings, which will be found in table form on the next page.

The thanks of the club are due to Messrs. H. P. Boot, H. Hazlewood, W. E. James, R. Pugh, and H. Reynolds.

The judges were Messrs. V. A. Holroyd, John V. Pugh, and H. W. Staner. Clerks of the course, Messrs. B. H. Davies and H. W. Duret. Marshals, Messrs. J. K. Starley and E. W. Harris. Stewards, Messrs. J. F. Hug, C. Lloyd, A. Riley, J. W. Roebuck, and A. Wright. Timekeepers, Messrs. John Urry and C. Wheelwright. Trials hon. secretary, Mr. W. F. Grew (*The Motor Cycle*).

Coventry M.C. Hill-climb at Newnham.—

In the following table the fastest time in each class

is given as X in the first column, and the second column denotes the rider's position on A.C.U. formula.

CLASS I.

No.	Name of Driver and Machine.	On Time.	On Formula.
6	†Phil Baker (P) (2 $\frac{3}{4}$ h.p. Minerva)	x	1
7	W. Savage (P) (2 $\frac{3}{4}$ h.p. Garrard)	x+9 $\frac{1}{5}$	2
3	P. Smyth (2 $\frac{3}{4}$ h.p. Rex)	x+11 $\frac{3}{5}$	3
1	C. S. Burney (P) (3 $\frac{1}{2}$ h.p. de Havilland)	x+19 $\frac{1}{5}$	4

CLASS II.

11	J. Marshall (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x	1
12	F. W. Newsome (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x+3	7
19	†W. G. McMinnies (P) (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x+6 $\frac{3}{5}$	5
20	E. S. Myers (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x+6 $\frac{4}{5}$	6
17	R. M. Brice (3 $\frac{1}{2}$ h.p. Brown)	x+7 $\frac{1}{5}$	3
10	J. H. Slaughter (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x+7 $\frac{4}{5}$	2
18	E. L. Roberts (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x+8 $\frac{4}{5}$	4
23	A. W. Bentley (P) (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x+10 $\frac{3}{5}$	8
9	Gordon Gibson (P) (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x+12 $\frac{3}{5}$	10
15	T. W. Drayton (P) (3 $\frac{1}{2}$ h.p. 1907 Triumph)	x+20 $\frac{4}{5}$	11
26	Bert Yates (3 $\frac{1}{2}$ h.p. Humber)	x+21	13
21	F. E. Walker (P) (3 $\frac{1}{2}$ h.p. Triumph)	x+23 $\frac{1}{5}$	15
24	A. Manning Lomax (P) (3 $\frac{1}{2}$ h.p. Triumph)	x+24 $\frac{1}{5}$	9
16	W. A. Jacobs (P) (3 $\frac{1}{2}$ h.p. Rex)	x+26	16
28	F. W. Applebee (3 $\frac{1}{2}$ h.p. Rex)	x+26 $\frac{4}{5}$	18
14	Geoffrey Smith (P) (3 $\frac{1}{2}$ h.p. Triumph)		14
25	S. Wright (3 $\frac{1}{2}$ h.p. Humber)	x+27 $\frac{3}{5}$	12
13	A. B. Jepson (P) (3 $\frac{1}{2}$ h.p. Triumph)	x+29 $\frac{1}{5}$	17
22	E. Stubbs (P) (3 $\frac{1}{2}$ h.p. Rex)	x+36 $\frac{2}{5}$	19
27	Reg. Samson (3 $\frac{1}{2}$ h.p. L.M.C.)	x+37 $\frac{1}{5}$	20

CLASS III.

45	F. W. Applebee, jun. (5 h.p. Rex)	x	6-7
29	W. H. Bashall (P) (6 h.p. J.A.P.-Bat)	x+11 $\frac{1}{5}$	13
33	W. Heaton (P) (5 h.p. Rex)	x+15 $\frac{1}{5}$	5
38	W. H. Wells (5 h.p. Vindec)	x+32 $\frac{2}{5}$	3
32	Jack Scriven (P) (5 h.p. Rex)	x+53 $\frac{3}{5}$	10
35	F. White (P) (5 h.p. Rex)	x+43 $\frac{4}{5}$	6-7
47	O. C. Godfrey (5 h.p. Rex)	x+44 $\frac{4}{5}$	12
41	F. C. Bagshaw (P) (5 h.p. Rex)	x+7	8
45	F. C. Perryman (P) (5 h.p. Norton)	x+8 $\frac{2}{5}$	11
37	G. F. Cooper (P) (5 h.p. Vindec)	x+8 $\frac{4}{5}$	9
39	F. W. Applebee, sen. (5 h.p. Rex)	x+9	15
44	H. G. Hill (P) (5 h.p. Vindec)	x+9 $\frac{1}{5}$	2
36	W. J. Clarke (P) (5 h.p. Rex)	x+10	16
43	A. J. Sproston (5 h.p. Rex)	x+12 $\frac{3}{5}$	14
49	J. Winslow (5 h.p. Rex)	x+32 $\frac{4}{5}$	17
40	A. A. Scott (3 h.p. Scott)	x+34 $\frac{1}{5}$	1
46	W. Smith (2 h.p. Moto-Reve)	x+42 $\frac{2}{5}$	4

*Denotes best performance by private owner on time.

†Denotes best performance by private owner on formula.

CLASS IV.

No.	Name of Driver and Machine.	On Time.	On Formula.
11	J. Marshall (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x	2
48	F. W. Applebee, jun. (5 h.p. Rex)	x+3 $\frac{1}{5}$	21
33	*W. Heaton (P) (5 h.p. Rex)	x+12 $\frac{1}{5}$	17
32	Jack Scriven (P) (5 h.p. Rex)	x+2	18
50	J. W. Wareing (7 h.p. Minerva)	x+23 $\frac{3}{5}$	19
8	G. Lee Evans (3 $\frac{1}{2}$ h.p. Rex)	x+4 $\frac{3}{5}$	7
41	F. C. Bagshaw (P) (5 h.p. Rex, Bagshaw)	x+44 $\frac{4}{5}$	16
12	W. F. Newsome (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x+5	9
38	W. H. Wells (5 h.p. Vindec)	x+6	13
47	O. C. Godfrey (5 h.p. Rex)	x+62 $\frac{2}{5}$	22
17	R. M. Brice (3 $\frac{1}{2}$ h.p. Brown)		4
45	S. C. Perryman (P) (5 h.p. Norton)	x+74 $\frac{4}{5}$	20
19	†W. G. McMinnies (P) (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x+82 $\frac{4}{5}$	8
20	E. S. Myers (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x+9	10
36	W. J. Clarke (P) (5 h.p. Rex)		23
39	F. W. Applebee, sen. (5 h.p. Rex)	x+10	24
10	J. H. Slaughter (3 $\frac{1}{2}$ h.p. T.T. Triumph)	x+12	6
14	Geoffrey Smith (P) 3 $\frac{1}{2}$ h.p. Triumph	x+13 $\frac{2}{5}$	5
15	T. W. Drayton (P) (3 $\frac{1}{2}$ h.p. 1907 Triumph)	x+17 $\frac{1}{5}$	11
6	Phil Baker (P) (2 $\frac{3}{4}$ h.p. Minerva)	x+18 $\frac{3}{5}$	3
43	A. J. Sproston (5 h.p. Rex)	x+18 $\frac{4}{5}$	25
26	Bert Yates (3 $\frac{1}{2}$ h.p. Humber)	x+23 $\frac{1}{5}$	12
40	A. A. Scott (3 h.p. Scott)	x+26	1
49	J. Winslow (5 h.p. Rex)	x+26 $\frac{4}{5}$	26
13	A. B. Jepson (P) (3 $\frac{1}{2}$ h.p. Triumph)	x+27 $\frac{1}{5}$	14
46	W. Smith (2 h.p. Moto-Reve)	x+31 $\frac{2}{5}$	15

CLASS V.

53	C. W. Hathaway (3 $\frac{1}{2}$ h.p. Triumph and sidecar)	x	2
57	H. Williamson (6 h.p. Rex Litette)	x+16 $\frac{1}{5}$	3
55	A. N. Startin (P) (5 h.p. Riley Tricar)	x+41 $\frac{1}{5}$	1

CLASS VI.

60	R. Lord (5 h.p. Rex, Rex gear)	x	4
59	F. W. Barnes (3 $\frac{1}{2}$ h.p. Zenette, Gradua gear)	x+23 $\frac{2}{5}$	2
51	W. Newman (3 $\frac{1}{2}$ h.p. Roc, Roc gear)	x+24 $\frac{1}{5}$	3
25	S. Wright (3 $\frac{1}{2}$ h.p. Humber, Roc gear)	x+24 $\frac{4}{5}$	5
40	A. A. Scott (3 h.p. Scott, Scott gear)	x+25 $\frac{1}{5}$	1
58	C. A. Palmer (5 h.p. Roc, Roc gear)	x+27 $\frac{4}{5}$	6

† Denotes best combined performance by a private owner on time and on formula and winner of *The Motor Cycle* silver rose bowl.

(P) private owner.

The other awards are a prize for fastest time in each class and a gold medal for best placing on A.C.U. formula in each class.

CLUB NEWS.

Sunderland and District M.C.C.

are holding a speed-judging contest this (Wednesday) evening, August 19th, over a course of about nine miles in length.

Leeds M.C.C.

The result of the two days' reliability trial for non-trade riders only, from Leeds to Bowness (Lake District) and back, has now been declared: 1st, T. G. Bullus (3 $\frac{1}{2}$ h.p. P. and M.); 2nd, W. Grinstead (5 h.p. Rex); 3rd, Frederick Bagshaw (5 h.p. Rex). The next event is the speed competition at Templenewsam, for the N.S.U. Shield and medals.

Essex M.C.

This club's 200 miles reliability trial, fixed for the 29th August, has been abandoned owing to the large number of long distance trials held this year, and also the fact that it is impossible to get a permit from the Royal Automobile Club for the Light Car class.

The London-York run will take place on the 29th August as the same had to be postponed on account of Newham Hill climb last Saturday; entries should be sent in immediately.

Entry forms are now issued and may be obtained upon application to Mr. Harold Fuller, Wynndale Road, Woodford, Essex, the hon. sec.

Scottish Motor Cycle Clubs Meet.

On August 8th the motor cycling clubs of Perth, Dundee, Edinburgh, Glasgow, and Falkirk held an inter-club meet at Stirling. A most enjoyable afternoon was spent.

Hull and East Riding A.C.C.

Nine competitors took part in the above club's 150 mile non-stop run on Thursday last. The results will be announced next week. On Saturday next a meet and hill-climbing competition will be held at Elsham (Lincs.)

Manchester M.C.

Five out of twenty-two entrants in the M.M.C. reliability trials, held on the 1st and 3rd inst., completed non-stop run for both the outward and the homeward journeys (350 miles). The winner of the Triumph cup, gold medal, and prize for hill-climb on formula was Otto Gross (4 $\frac{1}{2}$ h.p. Eagle Runabout). Special trade prize, value £5 5s., C. E. Kettle (3 $\frac{1}{2}$ h.p. Triumph). Special club gold medals for non-stop runs: H. Reed (4 h.p. Dot); J. Tytler (3 $\frac{1}{2}$ h.p. Triumph), tied for cup last year. W. Heaton (5 h.p. Rex); and C. E. Kettle (3 $\frac{1}{2}$ h.p. Triumph). Gold medals for 98% marks: H. Andrews, E. Broadhead, E. W. Buckley, J. L. Rose, and T. E. Leigh. Fastest time on hill-climb, A. J. Moorhouse (5 h.p. Rex), who wins special prize presented by Mr. Percy Butler.

London to Plymouth and Back in a Sidecar.

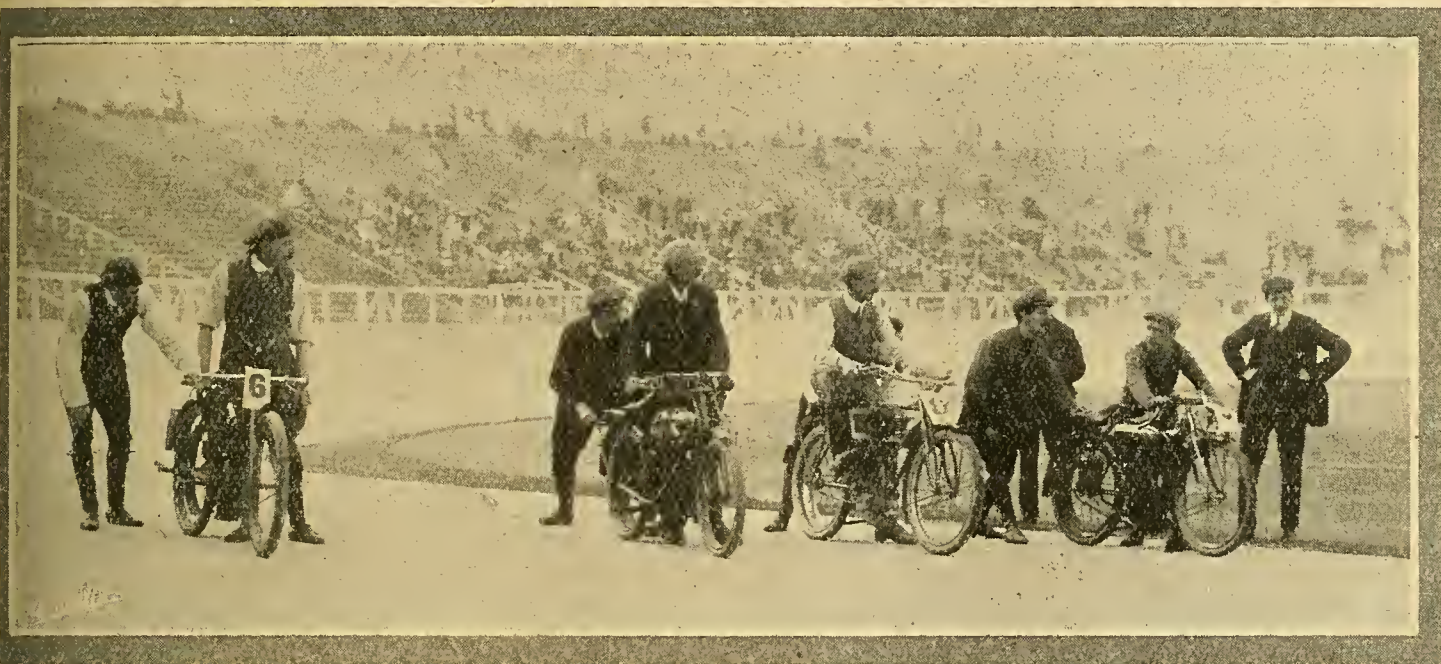
As my own entry for the A.C.U. twenty-four hours' run was sent in too late, and being unable to move the stony hearts of the Down Street officials, I was on the point of following the competitors unofficially on my trusty Rex, when Mr. Wright kindly found me a seat in the sidecar of the $\frac{1}{2}$ h.p. Phänomen.

This is the beginning of my story, and our adventures may prove interesting. At 9.12 p.m. on Friday night we started on our long run of 223 miles in the best of spirits, and very soon had checked at Guildford. After Guildford came the Hog's Back, which I have always considered a stiff morsel for a passenger machine, but to my surprise the Phänomen made light of the gradient. From there we purred along the up and down road through Farnham, Alton, Winchester, and Alresford, and soon after the latter place our luck deserted us, for we lost our way with a vengeance,

stretch we were misinformed of the distance from Crewkerne to Yeovil, and arrived there twenty minutes late. Again, just as we were leaving, Newman arrived, having been delayed by a puncture, but he was as determined as ever.

We Again Miss the Road.

Continuing our way to Salisbury, bad luck overtook us again, for we lost our way out of the town, every person we asked pointing out a different route. We found ourselves at last on Salisbury Plain. We were advised to turn off to the right and try to make Romsey, and after that the journey became for us a malignant nightmare. We lit up, but lost our way with mortifying persistence, and after rousing many irritable cottagers from their beds, succeeded in reaching Romsey at about midnight, tired, hungry, and numb from the bitter cold. About five miles from Rom-



Start of heat 2
of the event for
Tourist motor
bicycles at the
Essex M.C. meet-
ing at the
Stadium on
Saturday, the
8th inst.

avelling in some extraordinary way to within seven miles of Southampton, when the writer happened to notice the inscription on a milestone. Turning quickly, we made up for lost time as much as the corners would allow, and eventually checked at Salisbury, having lost nearly two and a quarter hours.

Making Up Lost Time.

Thereafter we purred rapidly along, and about eight miles out of Shaftesbury we came across the unlucky weiger, who had run into a bridge in the dark and damaged the forepart of his machine very badly. As we could do nothing for him, we reluctantly continued our way to Yeovil, where we partook of breakfast. We managed to complete the timed stretch between Yeovil and Honiton within four seconds of schedule time, and I do not think I have ever seen such awful roads in a trial before, except the London to Land's End run. At Yeovil we found the unfortunate Newman with two teeth out of his timing gear, hard at work overtailing two more in.

We made light of the dreaded Yarcombe Hill on our new gear, and soon reached Plymouth. Just as we were leaving, Newman came in, tired and dusty, but jubilant notwithstanding, and left just before us. We journeyed from Plymouth to Honiton at a good pace, and then settled down for the timed stretch to Yeovil. In this

sey we could stand it no longer, and fell asleep by the roadside till 4.30 a.m. on Sunday. We awoke and started off immediately, and got going at a rapid pace, making Winchester, Alton, Farnham, and Guildford in quick succession, and arriving at Thames Ditton at 7 a.m. on Sunday. If we had not missed our way so much we should have gained at least a silver medal, as the machine and tyres were untouched from start to finish, bar shortening the belt. We heard a lot of grumbling about finding the way in the dark, and it is to be hoped that next year means will be found for ensuring a straight-through night journey.

The cheery purring of the Phänomen helped to keep our spirits up, and our failure to finish in time was all the more mortifying because of the complete absence of trouble.

On the whole, the competitors seemed to regard the run as more severe on machine, tyres, and riders than the London-Edinburgh run, and I am bound to agree with them.

A. G. FENN.

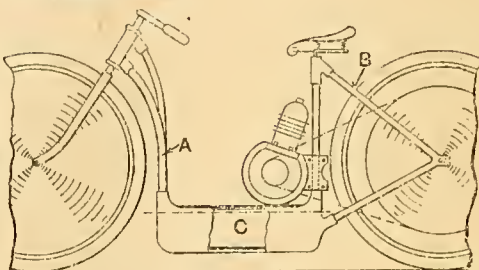
The Chief Constable of Lincolnshire has notified the Motor Union for the general information of motorists "that circumstances have made it imperative for increased police supervision of traffic on the Sleaford to Lincoln and the Lincoln to Newark high roads."

RECENT PATENTS.

By ERIC W. WALFORD, F.C.I.P.A.

A Danish Idea.

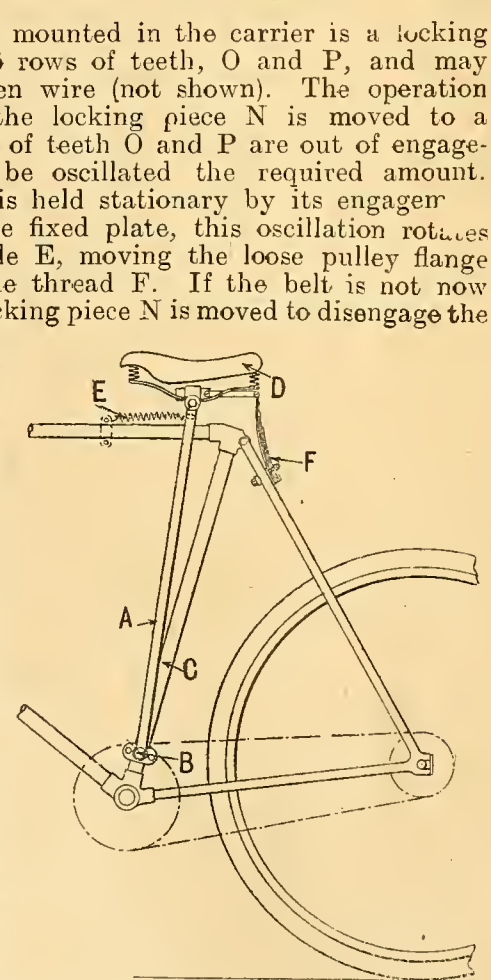
The front portion A and rear portion B of the frame are connected by a box-like structure C, which is adapted to contain the tanks and ignition mechanism.—J. C. Hansen-Ellehammer, No. 19,485, 1907.



A Combined Pulley and Belt Adjuster.

A carrier A is mounted upon the engine crankshaft and adapted to oscillate concentrically therewith, but eccentrically to the driven pulley. The carrier A has attached to it a sleeve upon which is mounted the belt pulley. The fixed flange B of the pulley has connected to it a chain wheel C by which it is driven from the engine. The loose flange D

is carried upon a bearing which can be acted upon by a spindle E working in a thread F to provide the lateral adjustment. This spindle extends through the carrier A and carries at its end a spur pinion G gearing with corresponding teeth on a segmental plate H. Between the segmental plate H and another fixed plate J is a movable segment K, which is provided with a row of teeth L, normally held in engagement with teeth on the segmental plate by springs M. Slidably mounted in the carrier is a locking piece N, which has two rows of teeth, O and P, and may be operated by a Bowden wire (not shown). The operation is as follows: When the locking piece N is moved to a position where both sets of teeth O and P are out of engagement, the carrier may be oscillated the required amount. As the segmental plate is held stationary by its engagement with the teeth L on the fixed plate, this oscillation rotates the pinion G and spindle E, moving the loose pulley flange through the action of the thread F. If the belt is not now at the right tension the locking piece N is moved to disengage the teeth L, and to engage its teeth P with those on the segmental plate. The carrier can now be oscillated to vary its distance from the driven pulley. As in this case the segmental plate moves with it the operation is accomplished without affecting the adjustment of the movable pulley flange D.—H. J. Rake, No. 15,166, 1907.



A Spring Saddle Support.

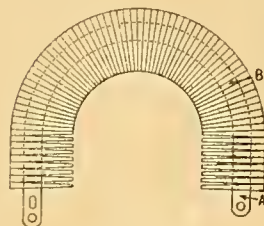
A pair of supporting bars A are pivoted to an adjustable clip B, which is secured to the frame member C. These bars carry the saddle D at their upper ends. The oscillation of the supports A about their pivots is restrained by a spiral spring E, and a laminated spring F adjustably secured to the back forks of the machine.—V. Rawson, No. 23,069, 1907.

A New Driving Belt.

This inventor boldly proposes that a flat steel belt be used covered with waterproof canvas and provided with metal studs. This is to run on belt pulleys and belt rims provided with rubber washers.—W. S. Ferguson, No. 11,438, 1907.

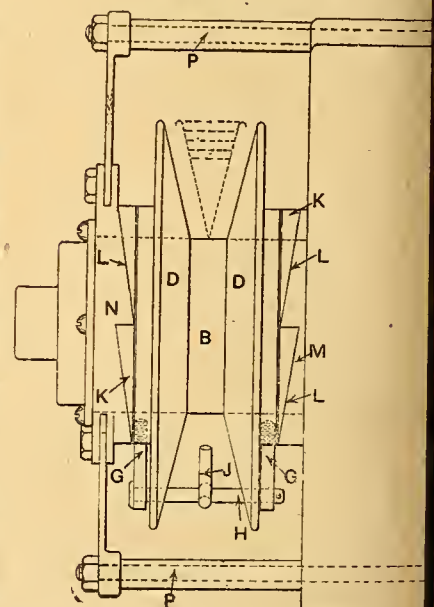
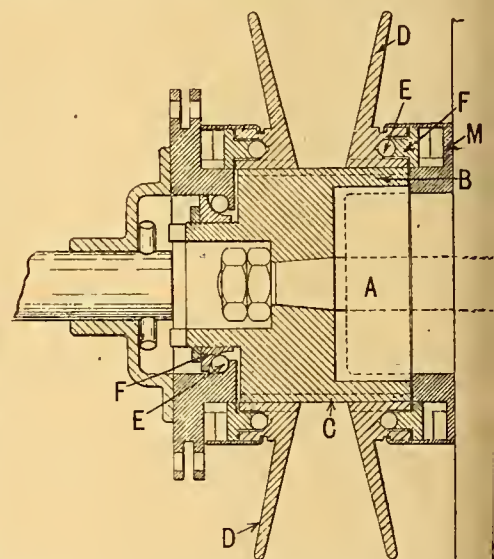
An Improved Chain Belt.

A driving chain A forms the core of the belt. This chain apparently is of an ordinary type, and on it is threaded a number of leather pads B. These taper to conform the belt pulley groove, and they also taper in the other direction, so that as shown in the drawing, the belt can take up a curve of quite a small radius and loss of power owing to bending is prevented. Special devices are mounted on the chain A to prevent slipping of the pads B.—J. J. Bergin, No. 1,329, 1907.



A Variable and Free Engine Pulley.

Secured to the engine-shaft A is a boss B, which carries on feathers C the sliding pulley flanges D D. Each pulley flange at its outer side is provided with an anti-friction ball race E, the balls being retained by a second disc F mounted on the outer side of each flange. The discs F do not rotate with the pulley flanges, but are adapted to rotate to a limited extent on the boss B, being provided with arms G, connected by a pin H, to which is secured the operating rod J. The outer face of each disc F is provided with one or more inclines K co-operating with corresponding inclined planes L on collars M and N, the one secured to the engine crank case, and the other carried rigidly by arms P projecting therefrom. Thus, when the operating rod is moved the inclined planes co-act to move the sliding pulley flanges simultaneously inwards and outwards on the boss B. When the pulley flanges are at their greatest distance apart, the driving belt comes down upon the boss B and a free engine is provided.—C. Haigh, No. 15,276, 1907.



NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

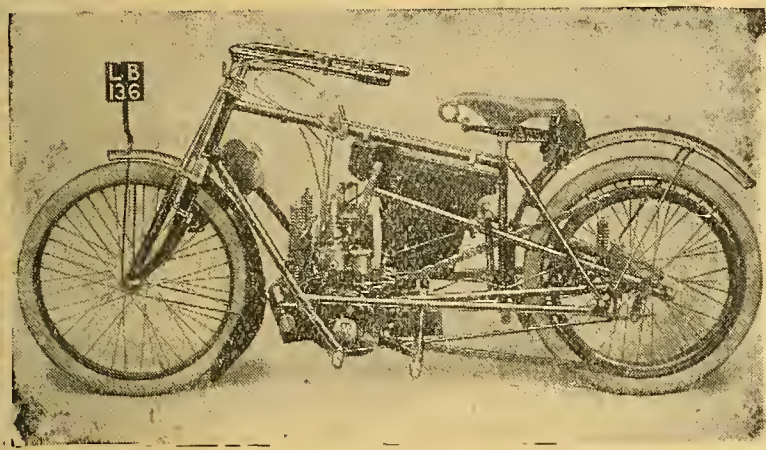
LONDON TO PLYMOUTH AND BACK A.C.U. 24 HOURS RIDE

UNIVERSALLY ADMITTED THE MOST SEVERE TRIAL OF THE SEASON.

The **ONLY MAKERS** who obtained 100% of **CERTIFICATES** for machines entered were Zenith Motors, Ltd., for their

ZENETTES WITH GRADUA (INFINITELY VARIABLE) GEAR

The **ONLY** Machines with any kind of speed gear to finish the run.



"ZENETTE" SPRING FRAME MOTOR CYCLE WITH "GRADUA" GEAR **50 GUINEAS.**
(4 GUINEAS EXTRA FOR MAGNETO).

LAND'S END TO JOHN-'O-GROAT'S
ZENETTE with GRADUA GEAR AWARDED

SILVER MEDAL.

"END TO END IMPRESSIONS," by M. B. H. Davies (*The Motor Cycle*) says—

"The Zenette gear is splendid. The engine runs at normal speed without variation in speed from the foot of the steepest hill to its summit, and it is all accomplished by gently revolving a neat little hand wheel conveniently placed.

THE ONLY GEAR WITH DIRECT DRIVE ON ALL SPEEDS AND MAINTAINING A CONSTANT BELT TENSION THROUGHOUT NO JOCKEY PULLEY. NO END THRUST.

TRIALS BY APPOINTMENT.

ZENITH MOTORS, LTD.,

WORKS—101a, Stroud Green Rd., Finsbury Park, LONDON.

SHOWROOMS—119, Stroud Green Rd., Finsbury Park, LONDON.

The "WOLF" is not a plaything — it's rightly and soundly constructed with a view to high speed and hard work.

THE "WOLF"

Featherweight Motor Cycle.

The "WOLF" has a specially built frame, has an astonishing hill-climbing capacity, and is British made throughout.

The Lightest, Cheapest, and most soundly constructed motor cycle at a bicycle price.

SPECIFICATION.—Engine—A. J. Steven's 2½ h.p.; bore 2½ in., stroke 2½ in.

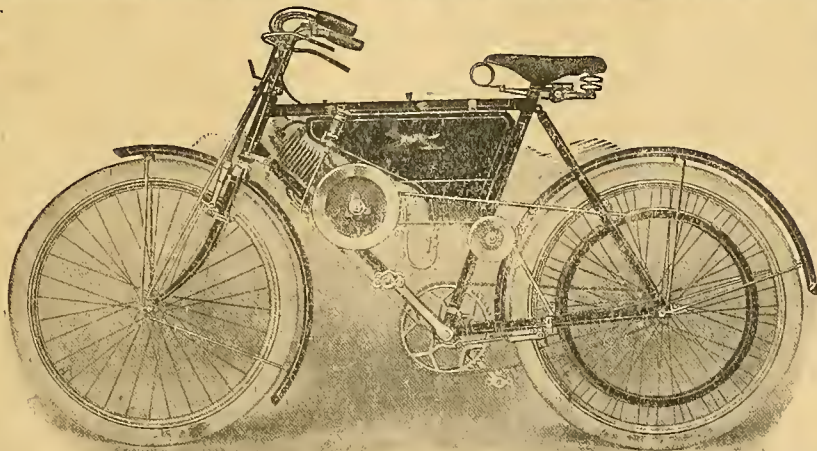
Coil—Fuller. Accumulator—Premier. Carburetter—A. J. Steven's automatic air inlet and throttle combined. Belt—Best Chrome. Jockey Pulley—Ball Bearing. Frame—22 in. and 24 in.

Tank—To which combined petrol, lubricating oil, and coil compartments are fitted. Wheels—26 in. or 28 in. Tyres—Wasp No. 1, 1½ in. diameter. Made specially by the Dunlop Rubber Co., Ltd. Controls—Valve lifter and ignition are controlled by one lever; when magneto, extra lever for ignition. Handlebar—Wide raised, to which a switch of neat design is fitted. Brakes—Wasp front and back roller or inverted levers. Finish—Best black enamel, lined two colours. Olive green, silver lines, 10s. extra.

"Wolf" Tyres made by the Dunlop Rubber Co., Ltd., 2 in. to fit any standard 1½ in. rim, 20s. extra. Write for lists.

WEARWELL MOTOR CARRIAGE CO., Ltd., WOLVERHAMPTON.

AN EFFICIENT MOTOR CYCLE WEIGHING ONLY 60 lbs.



A WELL-CONSTRUCTED BRITISH-BUILT MACHINE FOR ONLY £19 19 0.

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London, by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

PREMIER

New Machines.
Second-hand Machines.
Exchanges.
Extended Payments.
No other firm can better our prices.

NEW MODELS.

TRIUMPH 3½ h.p., 1908, magneto	£48 0
WARWICK, shop-soiled only	48 0
TRIUMPH 3½ h.p., 1907, magneto	39 0
N.S.U. 3½ h.p., 1908, magneto, new, 26" wheels	40 0
N.S.U. 3½ h.p., magneto, new, 1908, 24" wheels	40 0
N.S.U. 3½ h.p., 1908, twin, magneto, 24" wheels	45 0
N.S.U. 6 h.p., 1908, twin, magneto	54 0
N.S.U. 1½ h.p., 1908 lightweight, magneto	34 0
REX DE LUXE 3½ h.p., 1908, magneto, two-speed gear	50 0

Also various other new models, Motosacoche, F.N., Roc, Vindec, Warwick, etc., all in stock.

SOILED AND SECOND-HAND

TWIN N.S.U., 1908, 6 h.p., Roc clutch, and improved two-speed gear, Montgomery sidcar	£58 0
N.S.U. TWIN, 6 h.p., magneto, 1907, two-speed gear, coach-built sidcar	38 0
N.S.U. 3½ h.p., 1908, accumulator, shop-soiled, cost £36	28 0
G.B. ZIEDEL 5-6 h.p., 1908, engine magneto, two-speed, spring forks, fan, footrests, perfect, cost over £70, will accept	35 0
TWIN ROC 5 h.p., Peugeot engine, magneto, free-engine	30 0
VINDEC SPECIAL, 3½ h.p., two-speed	30 0
ROC 4 h.p., 1907, magneto, free-engine, Druid spring forks	25 0
N.S.U. 3½ h.p., 1907, magneto, new Roc two-speed gear, spring forks	30 0
JAP, 6 h.p., magneto, '08, Chater Lea frame, not run	27 0
VINDEC SPECIAL 3½ h.p., magneto, Truffault spring forks	26 0
F.N. Lightweight, magneto, spring fork, perfect	21 0
NOBLE, 3 h.p., long wheelbase, good order	10 0
WHITLEY 3½ h.p., spray carburettor	8 10
JAP, 6 h.p., Twin, Chater Lea frame, grand condition	20 0
KERRY 5 h.p., twin, two-speed, hand-starting	20 0
ANTOINE 4 h.p., low frame, free-engine	15 0
ZENITH bicar, free engine, good condition	17 0
WERNER, twin, 4 h.p., recently overhauled and refinished	16 0
N.S.U. 5½ h.p., magneto, overhauled, two-speed gear	25 0
N.S.U. TWIN, 5½ h.p., good condition	20 0
REX 3½ h.p., John-o'-Groat's model	10 0

Others constantly arriving.

Let us give you details of the

WARWICK CAR-STYLE MOTOR CYCLE.

Hand-starting, ball bearing 4 h.p. engine, Bosch magneto, spring forks, Roc (licensed) clutch, epicyclic two-speed gear, started and driven like a car; several seasons in advance of ordinary motor cycle design.

Price 45 guineas.

TYRE BARGAINS.

Get your machine WELL SHOD.

Sent on approval from our **BRAND NEW 1908 STOCK.**

PETER UNION COVERS.

PREMIER PRICE.	ORDINARY PRICE.
24 x 2½ £0 18 0	..... £1 2 0
26 x 2½ 1 1 6	..... 1 8 0
26 x 2½ 1 5 0	..... 1 13 0

SHAMROCK COVERS, 26 x 2½, 12/6 each.

PREMIER PRICE.	ORDINARY PRICE.
24 x 2½ £0 8 0	..... £0 11 0
26 x 2½ 0 8 6	..... 0 12 0
26 x 2½ 0 10 6	..... 0 13 0

CLINCHER TUBES, New, Best Grey Quality.

PREMIER PRICE.	ORDINARY PRICE.
24 x 2½ £0 7 6	..... £0 11 6
26 x 2½ 0 7 6	..... 0 12 0

Delivery per return. Sent on APPROVAL for three days.

PREMIER ACCUMULATORS.

BRITISH-MADE. Sent on four days' actual TRIAL

Specially heavy plates—do not disintegrate.

10 amp. 9/6	} List on application.
20 amp. 12/6	

PREMIER MOTOR AGENCY,

Aston Road, BIRMINGHAM.

Telephone: 4310. Telegrams: "Primus," B'ham.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes will be sent for forwarding replies. Only the number appearing in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' entry"; or if "London" is added to the address, to the number given, c/o "The Motor Cycle," Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties advised of this receipt, and upon intimation of arrival and acceptance of the goods, the money forwarded less a charge of 1s. for registration. Time allowed for a decision after receipt of the goods three days. For all transactions exceeding £1 value, a deposit fee of 2s. 6d. is charged. All matters are dealt with at Coventry, and cheques and money orders should be made payable to Little Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive answer to their enquiries are requested to regard silence as an indication that the goods advertised already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply each one by post.

All letters relating to advertisements must be distinctly under what heading they appeared, and of issue.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

TWIN Magneto Minerva, tip-top order, two thousand, 26 by 2½ tyres; offered by Forster, Eamont Bridge, Penrith.

CHATER-LEA, No. 6 frame, 3 h.p. Fa engine, fully equipped for touring bargain; Newcastle-on-Tyne.—Box 550 Motor Cycle Offices, Coventry.

3½ h.p. N.S.U. Motor Cycle, two-speed, 34 spring forks, magneto, spare condition excellent; £28.—Ward, 10, La Crescent, Newcastle-on-Tyne.

REX, 3½ h.p., new piston and bushes, Whittle belt, new inner tubes and Palmer cord back, good condition; £16 Westwood, Eaglescliffe, Durham.

ONE 2½ h.p. Lightweight 1908 Rex, new £22 10s.; one 3½ h.p. 1905 Rex, perfect condition, £11; one 2½ h.p. Minerva, £2 exchange for small car, good make.—T. West Hartlepool.

3 h.p. Clement-Garrard, twin-cylinder, £10; also 3 h.p. Singer tricar (altered), two-speed gear, all in very order. price £23.—Apply, No. 541, The Cycle Offices, Coventry.

REX, 3½ h.p., Bosch magneto, spring forks, Watawata and Dermatine belts, Clincher tyre and detachable tube, plugs, valve, two stands, carrier, first condition; £16 10s.—Coates, Stephen S Consett, Durham.

SECTION II.

York and Lancashire.

£4.—2½ h.p. Motor Bicycle, wants overhauled; bargain.—95, Pinstone S Sheffield.

WALKDEN.—N.S.U., 1907, 3½ h.p., magneto, £25.—Howard, 18, Harriet S Walkden.

TRIUMPH, 1907 (September), standard model, scarcely ridden; £31.—81, Lane, Preston.

3½ h.p. N.S.U., accumulator, like new, solute bargain, £16.—J. Green, 1 Street, Bolton.

ROC, 4 h.p., military model, single free engine, magneto, perfectly cancelled order; £30.—Hartley Clegg, M Burnley.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

FOR BICYCLES FOR SALE.

GUINE Offer, 16 guineas.—2½ h.p. Minerva, splendid condition. Chater-Lea, long and low, footrests, two accumulators; write for full particulars.—Fouls, 34, Alfred Street, Gainsborough.

SECTION V.

olk, Suffolk, Cambridge, Huntingdon, and Bedford.

p. Werner, only wants coil and accumulator; £3 15s.; photo.—Todd, Old n, Norwich.

p. Rex Motor Cycle, condition throughout as new; £11 10s.—D. Delf, 17, Sta-Road, Beccles.

p. Clarendon, perfect running order; price £12.—For full particulars, write, n, West Raynham, Fakenham.

3½ h.p., large horn, guinea lamp, large saddle, toolbag and spares, little n; 11 guineas, a bargain.—Beale, Cury, ridge.

F.N., four-cylinder, magneto, excellent condition, new tyres, just over-d; £27, bargain.—Evered, Erpingham ry, Norwich.

h.p. Minerva, perfect order, as new, vertical, low, long bars, 10 guineas; 2½ h.p. Minerva, 7 guineas; bargains.—ry, Kempston, Beds.

p. Hobart, condition and tyres as new, good hill-climber, long handle-bars; near offer; trial allowed.—Davis, 85, tock Street, Bedford.

h.p. Motor Cycle. Brown and Barlow carburetter, low frame, new this year, appearance; £17, or offer.—S. Wild, s Road, Flitwick, near Ampthill, Beds.

Roc, Bosch magneto, two-speed, free engine, Dunlops, Continental belt, let for road, new four months ago; £51, bought car, sacrifice £38.—Riddles-Hadleigh, Suffolk.

SECTION VI.

cestershire, Herefordshire, Radnor, ecknock, Monmouth, Glamorgan, rmarthen, Cardigan, and Pembroke.

p. Bike and Sidecar; £14; take tandem, bike, anything useful, part payment. ris, The Firs, Astwood Bank, Redditch.

7 Quadrant, magneto, very little used, Roc clutch and speed, handle-bar ol, new Whittle belt, spares, Mills and rd castor wheel sidecar; what offers?—Aberavon.

SECTION VII.

cester, Oxford, Buckingham, Berks, iltis and Hants, and Channel Islands.

h.p. Minerva, 1908, as new, not ridden 50 miles; £27 10s., or near offer.

h.p. Quadrant, magneto ignition, 190/, hardly used, perfect condition, head-separate generator, bell, horn, Brooks g seat, cut-out; a bargain, £32 10s., ar offer.

h.p. Excelsior, surface carburetter, Pal-mer back tyre. Clincher front, in good r; £8, or near offer.

h.p. De Dion Car, seat four, in good running order, lamps, tyres in good ige, genuine bargain; sale or ex-ge, £30, or near offer.

h.p. Stirling Panhard, horizontal en-gine, dogcart body, three speeds an-se, brand new gears, lately painted, as new, wheel steering; sale or ex-ge, £25, or near offer.

p. Rover, 1907 type, seats four, splendid order, hood, screen, lamps; £170, or offer.

p. Werner; £5.

0 Above Cycles are to be seen at W. J. Randall's Garage, 3, High Street, And

RRY, 2½ h.p., new tyres and accum-lator, first-class order; £10.—Hooper ge Terrace, Southampton.

AGAIN.—3½ h.p. Kerry Motor Cycle, in good condition and going order; price s.—Seen, 4, New Road, Southampton.

WE SELL

For cash, Exchange, or deferred payments. State your requirements, and we will quote you per return.

ARIEL, 3 h.p., brand new, perfect ..	£29
N.S.U., 5½ h.p., twin, two speeds, mag.	£31
REX, 5 h.p., 1907 model, blue finish	£18
REX, 3½ h.p., 26" wheels, very low ..	£12
MINERVA, 4½ h.p., 2½" tyres.....	£23
N.S.U., twin, two-speeds, magneto.	£27
SAROLEA, 5 h.p., very low, new tyres	£23
WERNER, 3½ h.p., twin, good condit'n	£17
ARIEL, 3 h.p., B. & B.	£13
MINERVA, 3½ h.p., M.O.V.,	£16
VINDEC, 2½ h.p., mag., spring forks.	£16
VINDEC, 2½ h.p., spring forks.	£10
CLARENDON, 3 h.p., vertical, Peter Unions	£11
REX, 3 h.p., 50-guinea model	£10
BAT, 3½ h.p., spring frame.....	£19
REX, 3½ h.p., two speeds	£14
QUADRANT, 3 h.p., spring forks	£12
BAYLISS, 3 h.p., special price	£8
N.N., 2½ h.p., splendid puller.....	£12
HUMBER, 2½ h.p., very fine mount..	£10
CLYDE, 2½ h.p., magneto	£15
GIVAUDAN, 2½ h.p., perfect, non-skid rear	£15

LIGHTWEIGHTS.

£11 ZEDEL, 2 h.p.	£11
£11 LLOYDS, 2 h.p.....	£11
£7 QUADRANT, 2 h.p.	£7
£8 MINERVA, 2 h.p.....	£8
£7 JAP, 2½ h.p.	£7
£7 HUMBER, 2 h.p.	£7
£8 MINERVA, 2½ h.p.	£8
£10 ARIEL, 2½ h.p.....	£10

50/- down and 5/- per week secures :

3 h.p. EXCELSIOR	£11
2 h.p. SINGER	£9
2½ h.p. JAP	£11
3 h.p. REX	£10
2 h.p. ORMONDE	£8
2 h.p. WERNER.....	£10
2½ h.p. MINERVA	£10
2½ h.p. CUNARD	£12
2½ h.p. LLOYDS	£11
2½ h.p. HUMBER	£8

ACCESSORIES.



RIP BOXES.

The finest extant for carrying tubes or belts. Try one on approval. A quality, 7/6; B quality, 4/6.

BELT BOXES.

Hold nine feet. Any size easily fitted. A quality 8/8; B quality, 5/6. Trade terms on request.

PARMER TYRES (Cord).

Cover.	Tube.	Cover.	Tube.
26 x 2, 43/6	10/-	28 x 2, 50/3	10/-
26 x 2½, 58/9	11/-	28 x 2½, 63/6	11/-
26 x 2½, 59/3	16/3	28 x 2½, 64/3	17/3

11/- allowed on old covers and 2/6 on tubes

TUBES—Fully guaranteed

26 x 2in.	6/-	28 x 2in.	7/-
26 x 2½in.	7/-	28 x 2½in.	7/6
26 x 2½in.	8/-	28 x 2½in.	8/-

Immediate Delivery. Approval.

COVERS.

26 x 2in.	16/-	28 x 2in.	17/-
26 x 2½in.	17/6	28 x 2½in.	18/-
26 x 2½in.	21/6	28 x 2½in.	22/-

MAUDE'S MOTOR MART,
Powell Street, HALIFAX.
National telephone 433.

MOTOR BICYCLES FOR SALE.

1907 3½ h.p. Triumph, magneto, lamp, horn, spares, new Goodrich, guaranteed; £29.—7, Dinsley Road, Shirehampton, Bristol.

£15.—Fafnir, 3½ h.p., Chater-Lea, new Michelin, splendid condition, climb anything.—F. Batt, Draper, Totton, Hants.

FAIRY Motor Cycle, nearly new, not been ridden 150 miles; price £20.—Apply, Douglas Bros., Engineers, Kingswood, Bristol.

LIGHT Road Racer, as new; 6 guineas, or exchange for motor cycle wanting repairs.—Advertiser, 70, High Street, Aylesbury.

2 h.p. De Dion, new Palmer cord tyre, new Watawata belt, everything in perfect condition; £9 15s.—Pitcher, College Court, Gloucester.

1¼ h.p. Motosacoche, scarcely soiled, only ridden 50 miles, two accumulators; £21.—Seagrim, 4, Highbury Villas, Cotham, Bristol.

3½ h.p. Minerva-Ariel Motor Cycle, handle-bar control, Brown and Barlow carburetter, Palmer tyres; £14.—201, Cheltenham Road, Bristol.

3 h.p. Quadrant Motor Cycle, inclined engine, in perfect condition.—Further particulars, apply, T. Dibben and Sons, West Street, Wimborne.

3 h.p. Quadrant, surface, fine goer and hill-climber, two new accumulators, new belt and spring forks; bargain, £6.—Wiggall, Witcombe, Gloucester.

7-9 h.p. Leader Peugeot, will do over 70; also 2 h.p. Quadrant, spring forks, carrier, £8; must be sold.—Kiekham, 46, Cleeve Road, Knowle, Bristol.

3½ h.p. Minerva, accumulator ignition, non-skid tyre, Mabon free engine clutch, all accessories; £23.—Pearson, Wickham Street, Portsmouth.

2½ h.p. Automotor, girder spring forks, Dunlop tyres, perfect condition throughout; £9, or reasonable offer.—114, Hankinson Road, Bournemouth.

3 h.p. Brown Midget, two accumulators, new tyre, Lincona leather belt, Fafnir engine, horn, good condition; £15.—Palmer, Mandora Barracks, Aldershot.

2½ h.p. Motor Cycle, bright parts plated, condition new, back tyre slightly worn, all accessories, cylinder and accumulator, new; £9 10s.—H. Sale, Aylesbury.

FOUR-CYLINDER F.N., 4½ h.p., guaranteed perfect, almost new; expert examination; low position, long bars, Bowden lift; £32.—Brown, 10a, Thames Street, Windsor.

3½ h.p. Rex, perfect order, just overhauled, 3½ re-bushed, and new Pullman back, cost £4; ride to purchaser; £11 cash; buying twin.—Samuel, Wilts Bank, Trowbridge.

2 h.p. Werner, in excellent condition, trembler coil, M.B. switch, Clinchers, 26in. by 2in., 15 amp. accumulator; cheap, £5 5s.—W.S.S., 4, Sunny Bank, King's Road, Newbury.

TWIN Vindec Special, 5 h.p., magneto, late 1907, very little used, in excellent condition, Whittle belt, non-skid tyre, new lamp, switch, spares; £32.—Brooke, Hatchett, Beaulieu, Hants.

FAIRY Lightweight, 2½ h.p., twin, practically new, perfect condition, unpunctured Clinchers, with accessories; £15, or offers; particulars, stamp.—Hall, 373, Fishponds Road, Bristol.

1908 3½ h.p. Triumph, ridden 400 miles, 2½ Michelin studded tyres, Rich's tubes, spring seat-pillar, large headlight, spare belt, full kit tools, spares, unscratched; £45.—Fedden, Henbury, Gloucestershire.

1907 4½ h.p. Four-cylinder F.N., same tyres at present in use as when new, non-skid back, with butted tube, extra strong Continental front, has been very little used, and is in perfect condition throughout; a bargain, £32.—Garaged at Heybourn and Co., Maidenhead.

1907 3½ h.p. Minerva, magneto, spring forks, Wright's drop footrests, special large saddle, spare pulley, butt-ender, etc., not run 1,000 miles, condition as new, guaranteed perfect; any expert examination; £21, genuine bargain.—Rowland Moody, Nightingale Grove, Shirley Road, Southampton.

MOTOR BICYCLES FOR SALE.**SECTION VIII.**

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

19⁰⁷ Roc 4 h.p. Military Model, magneto, free clutch, like new; £22 10s.—Below.

BAT, 3½ h.p., M.M.C. engine, beautiful condition; £15 15s.—Whittle, 41, Skelbrook Street, Wandsworth.

2³ h.p. Phoenix-Minerva, inclined; £8; after 7.—145, Church Road, Islington, N.

2 h.p. Minerva, perfect running order; write appointment; £7 10s.—59, Balham Hill.

2³ h.p. Westfield, grand condition; £11, offers.—13, Dermody Road, Lewisham, S.E.

4 h.p. Antoine, Chater, Dunlops, low built, fast; £10 10s., offers.—27, Tredegar Road, Bow, E.

6 h.p. Twin Bat, spring frame and forks; £22 10s.—142, Lewisham High Road, New Cross, S.E.

3¹ h.p. Excelsior, going order, good tyres; £11; evenings.—15, Marlborough Road, Holloway.

3³ h.p. Werner, new back tyre, footboards, very fast; £12.—234, Belsize Road, Kilburn, N.W.

3¹ h.p. Centaur, resilient forks, free engine; £18.—8, Ashenden Road, Clapham, N.E.

DE DION Motor, 2½ h.p., with water-cooled head; £6.—Hicks, 67a, High Street, Maldon, Essex.

19⁰⁸ 3½ h.p. Triumph, in perfect condition; £39.—N. Dodd, Denewood, Woldingham, Surrey.

3 h.p. Quadrant, 1906, spring forks, splendid condition; bargain.—25, Tamworth Park, Mitcham.

FOR Sale, 3½ h.p. Triumph, accumulator ignition; £11 10s.—Matthews, Hairdresser, Merton.

4 h.p. Roc, August, 1908, two speeds, handle control, tools; £44, or offer.—8, Sandmere Road, Clapham.

GODFREY and Applebee.—3½ h.p. Riley, Clincher tyres, Chater-Lea frame, very low; £7 15s., bargain.

GODFREY and Applebee.—3½ h.p. 1906 Rex, spring forks, grand condition; £13.

GODFREY and Applebee.—5 h.p. Rex, lady's machine, two speeds, just been thoroughly overhauled; £33 10s.

GODFREY and Applebee.—1908 Rex models on cash, gradual, or exchange terms; also agents for well-known makes.

GODFREY and Applebee.—3½ h.p. Minerva, Kent two-speeds, 2½ in. tyres, going order; £10 10s.

GODFREY and Applebee.—Rex Tricar, grand condition, just been rebushed and re-enamelled, new tyres, good coil and accumulator; £20, worth double.

GODFREY and Applebee.—Our exchange quotations cannot be equalled. Let us have particulars of your present mount; we will quote exchange on any new machine.—9, Church Hill, Walthamstow.

DE DION-DENNIS, 8 h.p., guaranteed; trial; £50; appointment.—Stevens, 22, Mitcham Lane, Streatham.

3 h.p. Auto Crownfield, low frame; bargain; spares; £15.—Fairhead, builder, Melville Road, Walthamstow.

3¹ h.p. Brown, guaranteed, perfect condition, all accessories; £17.—Milner, 3, Monkton Street, Kennington.

5 h.p. Twin Kerry, long and low, machine in perfect condition; £17 10s.—26, Lansdowne Hill, West Norwood.

5 h.p. Twin Sarolea, Chater frame, torpedo tank, 26 in. wheels, very fast; £18.—224, Wood Street, Walthamstow.

4¹ h.p. Twin Minerva, spring forks, Price's stand, perfect order; £24.—Hicks, 67a, High Street, Maldon, Essex.

2³ h.p. Werner, good running order, all spares, etc.; what offers?—P., 79, Sunderland Road, Forest Hill.

HOLIDAY PRICES.

Cash, Exchange, or Extended Payments.

TRICARS.

4½ h.p. W.C. BRADBURY £37 10

5½ h.p. QUADRANT Carette 35 0

5½ h.p. REXETTE W.C. two speeds 35 0

REX-Mills-Fulford 13 0

Twin REXETTE, W.C., two speeds 47 10

"PERFECTION" Leather V Belting—
1 in. 9d., 1½ in. 10½d., 2 in. 1/-, 2½ in. 1/1.

"SERRATRIX" Rubber Canvas Belting.
Best on test—1 in. 9d., 1½ in. 1/-, 2 in. 1/4,
2½ in. 1/8 per foot.

Special 2½ Calmon Covers, fit 26 x 2 rims,
17/9; other sizes, 14/6; 28 x 2 tubes, new,
4/9; new Peter Union tubes, 24 x 2½, 5/6.

TWINS—OFFERS WANTED.

6 h.p. Twin Rex, £17 17s. or £4 and '07
Single Rex, or £8 and '05 Single Rex, or
level exchange with Single Magneto Rex.

SPECIFICATION.—Low frame, long bars, low saddle,
Rex patent spring forks and foot brake,
trembler coil, good tyres, and guaranteed in running
order. Any machine taken in part payment.

6 h.p. ANTOINE, No. 6 frame.. £23 10

5½ h.p. N.S.U., magneto (new) 1908 52 0

5 h.p. Twin VINDEC, magneto.. 35 0

5½ h.p. REX DE LUXE (soiled) .. 35 0

6 h.p. Twin REX, blue lines .. 17 17

5½ h.p. Twin REX, spring forks.. 17 17

5½ h.p. REX DE LUXE, magneto 27 10

Twin REX, blue lines, new tyres 18 18

6 h.p. Twin REX, non-skids 18 18

5½ h.p. Twin REX, magneto, 1907 23 10

4-5 h.p. Twin ALCYON, two speeds 20 0

4 h.p. Twin WERNER, fine machine 19 19

5 h.p. Twin SAROLEA, long frame 18 18

6 h.p. Twin ANTOINE, R.O.M... 22 0

Twin CLEMENT, spring forks.... 14 0

5 h.p. Twin ONAWAY, very low 19 0

6 h.p. Twin ANTOINE, spg. fks. 22 0

SINGLES—OFFERS WANTED.

3½ h.p. N.S.U., magneto (new) 1908 £42 0

3 h.p. SINGER, H.T. magneto.. 20 0

3 h.p. TRIUMPH, magneto 24 10

3½ h.p. REX, 1907, 2½ tyres.... 17 17

3½ h.p. 1906 REX, spring forks 15 0

3½ h.p. Magneto REX, (soiled) .. 21 0

3½ h.p. 1906 REX, spring forks 15 0

3½ h.p. REX, spray, fine climber 11 10

2½ h.p. Magneto REX, 1908, soiled 22 0

3½ h.p. MINERVA, M.O.V. 16 10

3 h.p. GIVAUDAN, nearly new 16 0

3 h.p. QUADRANT, spray 13 0

3 h.p. LLOYD'S, 26 x 2½ Palmers 13 10

4 h.p. ANTOINE 16 0

2½ h.p. MINERVA, fine condition 13 10

2½ h.p. CLYDE, magneto..... 15 0

4 h.p. ANTOINE, 26 x 2½ tyres .. 16 10

3½ h.p. SIMMS, mag., 2½ Palmers 17 10

3½ h.p. QUADRANT, 1906 18 10

3½ h.p. CENTAUR, free engine .. 16 0

3 h.p. HUMBER, spray..... 10 10

3 h.p. FAFNIR, very low, spray 13 10

3½ h.p. REX, 22 frame 11 10

2½ h.p. MINERVA, 26 x 2, spray 11 10

3 h.p. BROWN 12 10

3 h.p. M.M.C., spray..... 10 0

3½ h.p. EXCELSIOR 12 10

2½ h.p. COVENTRY EAGLE 10 0

3½ h.p. Two-speed REX 13 10

2½ h.p. CLEMENT, very low 11 0

2½ h.p. KERRY, spray, low 10 10

2 h.p. RALEIGH, spray..... 8 0

2½ h.p. ROYAL, vertical, spray .. 7 15

2½ h.p. SINGER, magneto 8 10

1½ h.p. MINERVA 5 10

2½ h.p. EXCELSIOR 8 0

High-class machines wanted for spot cash.

THE HALIFAX MOTOR EXCHANGE,

16, WESTGATE, HALIFAX.

Telephone 766 Telegrams, "Perfection."

MOTOR BICYCLES FOR SALE.

HAMPSTEAD for Bargains, all machines guaranteed perfect; 1½ h.p. F.N. model; £19.

HAMPSTEAD.—1½ h.p. F.N., magneto spring forks, brand new; £30, bargain.

HAMPSTEAD.—4½ h.p. Four-cylinder 1908 model, almost new, with accessories; £28.

HAMPSTEAD.—Four-cylinder F.N., 1908 splendid condition; £20, cycle payment.

HAMPSTEAD.—Good Gent's cycle taken in part payment for any machine vertised.

HAMPSTEAD.—3½ h.p. Griffon, M.O.V. spring forks, splendid going order; bargain, £13.

HAMPSTEAD.—All machines guaranteed perfect; sent on approval, deposit "Motor Cycle," if necessary.

HAMPSTEAD.—5½ h.p. Twin Vindec, magneto, in splendid condition; bargain guaranteed; £24.

HAMPSTEAD.—1908 Triumph, 3½ h.p. handle-bar control, almost new, superior non-skid. Premier lamp, horn, bargain, £39.

HAMPSTEAD.—3½ h.p. Minerva, almost new 1907, complete with all accessories; £20 15s.

HAMPSTEAD.—3 h.p. Rover, M.O.V., type, new tyres, all accessories, guaranteed perfect; only £10.

HAMPSTEAD.—4½ h.p. twin Minerva, model, spring forks, grand condition; £20, bargain.

HAMPSTEAD.—3½ h.p. M.M.C., in Chater-Lea frame, splendid condition; bargain, £9 15s.

HAMPSTEAD.—3½ h.p. Minerva, late model, new condition, complete with accessories; bargain, £16.

HAMPSTEAD for 1908 Triumphs from £10. All mounts in part payment, or cycle.

HAMPSTEAD.—3½ h.p. N.S.U., magneto model, splendid condition; bargain price, £18.

HAMPSTEAD.—Sole agents for Griffon, Triumphs, F.N.'s, Minervas, Vindecs, changes entertained.—Rey, 5, Heath Street, Motor Works, Hampstead, close to Tube station. Tel. 2678, P.O.

VINDEC Twin, magneto, and rigid sidecar, almost new, unscratched.—8, Balaam Street, Manchester Square, W.

19⁰⁷ Triumph, just purchased, not ridden 100 miles; £35, or offers.—Dyson, Broxash Road, Clapham, S.W.

2½ h.p. Kerry, good condition, fast, hill-climber; £13, or near offer.—Ceres Road, Plumstead, Kent.

3½ h.p. Brown, Dunlops, Longuemare, order; any trial; £12, with sidecar; £14.—11, Esmond Road, Kilburn.

3½ h.p. Twin Kerry, good condition, belts, accumulators, brakes; £20.—W. Bird, 211, Hoxton Street, N.

PEUGEOT, twin-cylinder, 7 h.p., and sidecar, gomery sidecar; £28.—Wauchope, Shoe Lane, Fleet Street, London.

19⁰⁷ 3½ h.p. Minerva, thoroughly reliable, can be ridden away, best condition; £18.—96, Balaam Street, Plaistow.

MINERVA, 2 h.p., perfect, £9 10s.; also 1 h.p. water-cooled Humber tricar, Phillips, 86, South End, Croydon.

19⁰⁸ 2½ h.p. Magneto Featherweight, perfect; £18, no offers.—Draper, Langdale Road, Thornton Heath.

QUADRANT, 2 h.p., £7 10s.; Fafnir, 1 h.p., £13; both splendid condition.—W. Cedar Lawn, Knotts Green, Leyton.

1½ h.p. Minerva, new spray; £6; in use, good order; buying power.—27, Garden Road, Folkestone.

£8.—2½ h.p. Werner, in perfect condition, light and low, fast hill-climber, trial.—201, Kentish Town Road, N.W.

3 h.p. Roc, free engine, magneto, handle-bar control, Brooks B100, good condition; £15 10s.—Dean, 85, Finsbury Park, N.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TOR BICYCLES FOR SALE.

UST be Sold.—Twin Antoine, R.O.M., Mabou clutch, splendid machine, £30; a Kerry, long bars, Millford front, very t, and fast, R.O.M., grand goer, £28; 4½ h.p. Phoenix, Fittall two speeds, footboards, £25; 3½ h.p. Excelsior, two speed, starts car, £18 10s.; 4½ h.p. Kelecom, plain e, sound and fast machine, £17 10s.; offer, cash or exchange; trials, trials; st on trials.—128, High Road, Tottenham.

h.p. Fafnir, 26 by 2½ new Continentals, Simms magneto, two-speed gear, all new; £20.

h.p. Twin Rex, Cantilever seat, spring forks, fifty guinea model, as new, mid running order; £18 10s.

h.p. Twin Hamilton, fast, racy machine, suit passenger work; £15.

h.p. Werner Twin, very light and fast machine; £15.

h.p. Rex Light Motor Cycle, smart machine; £8.

h.p. Humber Lightweight, climb almost any hill, splendid condition; £8 10s.

h.p. Trent, in excellent condition; £11 cash, bargain.

h.p. Bradbury, fast, powerful machine; £10 15s.—128, High Road, Tottenham.

CEPTIONAL Bargain.—Bat, 2½ h.p. genuine De Dion engine, carburetter, and acer, Clincher tyres, with Smith's combed treads, guaranteed equal to new, perfect running order, splendid hill-climber, separate generator, carbide lamp; —Osborne Works, Forest Hill, London.

h.p. M.M.C., long, low, Chater No. 6 frame, Brooks B105, two toolbags, es, stand, separate generator, gas lamp, aer tyre back and Clincher front, Rich's chable tubes, excellent running order, y for long tour, extremely fast and good climber; £15.—Moore, 73, Foxberry Road, kley, S.E.

h.p. Fafnir Engine, Chater-Lea frame, long wheelbase, spring forks, and seat-ur, stand, and carrier, adjustable pul-two brakes, Stanley belt, spare valves, acts, plugs, etc., tyres unscratched, very good climber; any reasonable trial: 10s., lowest.—M. Callan, Section House, tham Dockyard.

BARGAIN.—3½ h.p. Minerva, Chater-Lea frame and fittings, Advance adjust-pulley, new Palmer cord back, extra k Continental front, just been thor-ly overhauled and new piston and rings d, a splendid hill-climber, in first-class ing order; sacrifice, as money wanted; 10s.—C. Altman, The Lodge, Watford.

h.p. Twin Peugeot, with Simms-Bosch high tension magneto, Rex frame, ng forks, engine nearly new, Longue-e, Clincher A Won and Bartlett, in- tinal, guaranteed in perfect running r, complete with new separate gener- lamp, horn, saddle bag, luggage car- ; cash £23 10s.—548, *The Motor Cycle* es, Coventry.

h.p. Lurquin-Coudert, new Dunlop tyres, ready for road, £10 10s., or exchange Peugeot or 1908 Sarolea engine, 1½ h.p. rva, F.N. carburetter, Morrow back l brake, wants slight repairs, 2½ h.p. ne, new, carburetter and silencer, 80 accumulator, V belt rim and belt, s.—Deacon, 124, High Street, West Nor-

h.p. (bargain, £14), fine machine, genu- ine Chater-Lea No. 6 frame; very engine 80 by 80 Imperi (same makers own engines). Mabou free engine clutch, le-bar control, very flexible, B. and B. uretter, Fuller trembler coil, tyres un- ched, enamel and plating perfect, whole ically new.—R. Vaughan, 4, Lymington , West Hampstead, N.W.

7-8 No. 6 Chater-Lea, 6 h.p. twin Advance engine (finest twin extant), torpedo footboards, saddle 30in. from ground, tyres, climbs anything with or without ar. The whole machine from top to m in absolutely perfect and practically d new condition, fastest machine in and (barring freaks), will fire walking extraordinary bargain, £29 10s.— "S." 86, Colvestone Crescent, Dalston, on.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., will allow £38 for 1908 Triumphs conditionally that the machines offered in part exchange are in good condition for the new 5-6 h.p. four-cylinder F.N.'s at 50 guineas, cash payment to secure £14 10s.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., allow £38 for 1908 Triumphs in exchange for latest model Vindec Specials, price £53, or with two-speed gear £63.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., allow £38 for 1908 Triumphs in part payment for the 7-8 h.p. Ardeness Minerva, £45.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., allow £28 for 1907 Triumphs in part payment for most of the leading makes.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., arrange level exchanges (subject to condition) in 1908 leading makes second-hand for new lightweights.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., allow £28 for sound second-hand magneto 1907 Triumphs in part payment for 1908 Triumphs, Vindec Specials, F.N.'s, N.S.U.'s, Bats, Rocs, Browns, etc.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., allow £23 for 1906 magneto Triumphs in part payment for most of the leading makes.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., are large contractors. Early delivery assured.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., will take any machines in good running order in part exchange for the latest models of any maker, and will allow good market value to secure patronage.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., have a large and varied assortment of second-hand machines to offer, prices varying from £6 10s. Every machine sent out is assured to be in good running order. Lists ready.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., allow for any machine in good running order, either motor cycle, light car, or tri- car; good market value allowed in part payment for 1908 Triumphs. Triumph agents should be consulted where represented, and their consent secured for direct transactions.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., is the best medium to arrange an exchange.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., pay carriage in one direction on all machines sent for valuation where they fail to come to terms on exchange transactions. Allowances for second-hand machines are quoted for in part payment for new models by post subject to their tallying at sight.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., have several tricar to offer at sacrifice prices.

Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C., have a large stock of beaded covers to clear, price 10s. 9d., mostly 26 by 2½, not guaranteed.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., LONDON, E.C.
Telephone—5777 Holborn. (Off Ludgate Circus.)
Telegrams—"Opifcer," London.

MOTOR BICYCLES FOR SALE.

31 h.p. Minerva, late 1907, Osborne four-
32 speed, free engine, non-skid back, Continental front, Whittle's belt, acetylene lamp, horn, tools, spare belt, tyre, etc., everything as new, not been run 50 miles; a bargain, £27 10s.—Sorrell, 55, Topsfield Parade, Crouch End, London, N.

1906 (late) 3 h.p. Triumph, spring forks, practically new throughout, starts walking pace, climbs mountains, one of the very best machines on the road, everything in pink of condition; reasonable cash offer accepted; cash badly needed.—Motor, 4, New Norfolk Street, Curtain Road, London, E.C.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

MODERN N.S.U., 3 h.p., magneto, free engine, good condition; £15, or nearest.—Trevorrow, jeweller, St. Ives, Cornwall.

ROC, military model, 1907 model, clutch and two-speed gear, good condition; £30.—Arden, Hawson Court, Buckfastleigh, Devon.

£12 10s.—3½ h.p. Adams, Clipper tyres, fast and reliable, take any hill in Devon.—G. E. Stephens, 7, St. Leonard's Road, Plymouth.

2½ h.p. Whitley Cycle, just overhauled and re-enamelled, tyres almost new; will take £9 9s.; owner must sell.—G., 1, Chatham Row, Bath.

3 h.p. Olympic, almost new, in splendid condition; any trial; £17, or good push bike taken in part and cash.—A. Baker, Bea-worthy, Devon.

TWIN-CYLINDER Lightweight Fairy, 2½-3 h.p., spring forks, numerous spares, ready for the road; any trial; £17.—McEwen, 9, Montrose Terrace, Plymouth.

h.p. Chater-Lea, Zedel engine, Longue-mare, Grose non-skid on rear, Fuller's battery and coil, spring saddle, in good condition; £11.—E. Lockyer, Garland Road, Longfleet, Poole, Dorset.

TRIUMPH, 1908, in perfect condition, little used, new at Whitsuntide, tools, spare valve, magneto parts, cover and tube, Triumph lamp and horn; price £45.—F. W. Parsons, South Petherton, Somerset.

31 h.p. Ariel, just overhauled, replated and 32 enamelled, perfect condition, compression takes 13½ stones, new Palmer cord back, good front, two new brakes, lamp, and everything; £18 10s.; photograph.—Wood, Photographer, Barnstaple.

SECTION X.

Scotland.

EDINBURGH.—Clement-Garrard Light-weight; £8.—Alexandra's Motor Exchange.

EDINBURGH.—3½ h.p. Rex, £9 10s.; 3 h.p. N.S.U., £13.

EDINBURGH.—3½ h.p. Kerry, £15 10s.; 3½ h.p. Ariel, £18 10s.

EDINBURGH.—3½ h.p. N.S.U., £16 10s.; 5 h.p. twin Antoine, £19 10s.

EDINBURGH.—5 h.p. Rex twin, £25; 3½ h.p. Griffon, 1908, spring forks, £28.

EDINBURGH.—Sidecar, Montgomery's latest, £7 10s.; trailer, £2 15s.

EDINBURGH.—3½ h.p. Quadrant, magneto, £25; 3½ h.p. N.S.U., two-speed gear, £28.

EDINBURGH.—4½ h.p. F.N., four cylinders, 1907, £35; 5 h.p. Vindec, £43.

EDINBURGH.—5-6 h.p. Rex Triette, three speeds, £30; 8-9 h.p. Riley tricar, £39.

EDINBURGH.—All the above guaranteed in good running order, ready for the road.—Alexander's Motor Exchange, 110, Lothian Road.

3 h.p. Fafnir, low Chater-Lea frame, Lloyds fittings, in splendid condition; a bargain, £16 10s.—Muirhead, 6, Viewmount Drive, Maryhill, Glasgow.

EDINBURGH.—If you want a new or second-hand motor cycle write us, or call. We are the largest dealers in Scotland in motor cycles.—Alexander's Motor Exchange, Lothian Road, Edinburgh.

3 h.p. Humber, free engine, 26 by 2½ Palmer cord, in splendid condition; trial; £15.—J. MacKervail, Cumnock.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

EDINBURGH Exhibition, Industrial Hall. Stands 126 and 127; finest exhibition of motor cycles ever shown on any one stand, from May till October.—Alexander's Motor Exchange, Lothian Road.

ANTOINE, 5 h.p., twin, very powerful; £19 10s.—At Alexander's Motor Exchange, 140, Lothian Road, Edinburgh.

31 h.p. Rover, almost new, scarcely used, 24 Palmers, stand, carrier, and all accessories, automatic carburetter, very fast; £16.—James Davidson, Springfield, Gretna.

EDINBURGH.—Vindecs, Quadrants, Rexes, Adlers, Moto Reyes, Ariels, Zeniths, Minervas, Griffons, Nortons, N.S.U., Advances, Rocs, etc., in stock, and to be seen at Alexander's Motor Exchange, Edinburgh.

EDINBURGH.—Scottish readers be sure not to miss our grand show of motor cycles, Stands 126 and 127, Industrial Hall, Scottish National Exhibition; 16 different makes shown by Alexander's Motor Exchange, 110, Lothian Road, Edinburgh.

SPECIALLY Built 7 h.p. Peugeot, magneto B. and B., new Roc gear, 2½ in. extra heavy Palmer cords, three Riches tubes, one Peter-Union ditto, spring forks and pillar lamp, generator, horn, tons of spares lots of other good points; full specification sent on request; cost £80; run 500 miles, faultless; take £65, or higher offer.—Apply, Box 552, *The Motor Cycle* Offices, Coventry.

SECTION XI.**Ireland and Isle of Man.**

PHENIX Motor Bicycle, not working; £3; carriage forward.—Rose, Caherconlish, Limerick.

BARGAIN.—F.N. Motor Cycle, 2 h.p., perfect condition, tyres good; expert examination; £9.—2, Richmond Avenue, Fairview, Dublin.

ROVER, 3½ h.p., Longuemare, Castle coil, geared pulley, spring forks, B100, perfect order; owner medically forbidden; must sell; what offers?—57, Lindsay Road, Dublin.

TRICARS FOR SALE.

10 h.p. Lagonda Tricar, in first-class condition; £60.—Manning, Ashford, Middlesex.

3½ h.p. Humber Tricar, basket seat; £17 10s., or offer.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

10-12 h.p., two-cylinder, Stevens engined tricar; what offers? Absolutely reliable.—Cartington, Slough.

REXETTE, coach-built, two speeds, wheel steering, water-cooled, perfect; £30.—Dagley, Kempston, Beds.

4½ h.p. Twin Hamilton, light and fast, not run 800 miles; offers wanted.—Seen at Wauchope's, 9, Shoe Lane, London.

4½ h.p. Rex Tricar, special carriage built, fan-cooled; cost £80, write appointment, £20.—59, Balham Hill.

REX, 3½ h.p., splendid order; expert trial; £24; particulars on application.—A., 32, Ledward Street, Winsford.

4½ h.p. Soncin Tricar, fast and reliable, Michelin tyres; cheap, 20 guineas.—Laughlin, 213, Rye Lane, London.

ROVER Tricar, 4½ h.p., two-speed, water-cooled, wide seat, perfect condition; £34.—Gore, Birchfield Road, Redditch.

DE DION Tricar, 4½ h.p., two speeds, water-cooled, bucket seats, lamps, etc.; £23.—14, Zernatt Street, Chapeltown, Leeds.

4 h.p. Minerva Tricar, complete, in good running condition; must sell; what offers?—Lyndhurst, Tuttle Hill, Nuneaton.

9 h.p. Riley Tricar, 1907, perfect condition throughout, lamps, spares, tools; trial given; £70.—34, Melville Road, Walthamstow.

31 h.p. Singer Tricar, open frame, two speeds, magneto, wants overhauling; £12 10s.—142, Lewisham High Road, New Cross.

4½ h.p. Humber Tricar, two-speed gear, water-cooled, coach-built front seat; £22 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.



Accumulators

UNSPILLABLE 1908 TYPE.

Read what a private rider says (*Motor Cycle*, July 15th, '08, letter No. 3414) when answering a letter from another reader of the *Motor Cycle*, who does not use "E.P.R." accumulators.

"If your correspondent will try 'a couple of 'E.P.R.' unspillable accumulators, I think his troubles 'will be at an end. If he cares to 'do so, he can put them in his 'tank upside down, but he will get 'no acid trouble. Unlike most of 'the unspillable type, they contain 'no jelly. I have had two in use 'for some considerable time, and 'find them excellent."

No. 20c. 4 x 2½ x 6in. "Acid type," 14/6.



No. 20c /08. 4 x 2½ x 6in. "Un-spillable," 17/6.

We make these unspillable accumulators in all sizes from 5 to 50 amp. capacity. All unspillable types are sent out fully charged and ready for use. No loose acid to shake out. Full instructions with every cell. All batteries, whether usual type or unspillable, fitted with "E.P.R." non-corrosive terminals.

A FEW SIZES ARE LISTED HERE.

		"Acid type."	"Un-spill."
The "Fleet"	4 volt 5 amp.	6/6	7/6
No. 19c	3½ x 1 x 4½		
" 16r	3½ x 2 x 6	10/6	13/6
" 20c	3½ x 2½ x 5½	13/6	16/-
" 30c	4 x 2½ x 6	14/6	17/6
" 40c	3½ x 2½ x 6	18/6	21/-
" 40c	4½ x 4½ x 6½	25/-	28/6

REPAIRS.—We make a speciality of treating old and damaged batteries. We can either repair and make them equal to new, or else allow their value in part exchange for new "E.P.R." cells. Send for new catalogue and terms.

NOTE.—All repair work guaranteed. Minerva accumulators cannot be repaired.

Richford and Co.,

ACCUMULATOR SPECIALISTS,
153, FLEET STREET, E.C.
Established 1876.

TRICARS FOR SALE.

£19 19s.—Fine 6½ h.p. Tricar.—Particulars H., 78, Upper Richmond Road, East Sheen.

GOOD 3 h.p. Motor Cycle and steerable sidecar; £18; tools, spares, photo.—3 Northolme Road, Highbury.

5½ h.p. Two-cylinder Quadrant Tricar, in good condition; £30, or near offer.—Simon, 42, Boundary Road, Wood Green, N.

5 h.p. Tricar, belt, Mabon clutch, carry lady and child of six, for motor bike and cash.—273, Shakespeare Road, Herne Hill, S.E.

BARGAIN.—6 h.p. Ariel, w.c., three speeds, open, coach, unpunctured Dunlops, new condition; £35, or near offer.—301, Edward Street, Nuneaton.

6½ h.p. Raleighette, in excellent condition, three speeds, 2½ in. car tyres, spares cost £105 last year, £52 10s.—J. Wilkin, Weholme Road, Grimsby.

CASH Wanted.—Humber Tricar, little used, perfect order, cane body, seating adult and juvenile; £10, or nearest offer. 13, Brewster Road, Leyton.

5½ h.p. N.S.U. Tricar, two speeds, magneto, all spares, and motor house; first reasonable offer; owner must sell.—14, Compton Terrace, Highbury, N.

A GENUINE Coventry Eagle Tricar, 4½ h.p., splendid hill-climber, equal to new £22; must be sold, private.—22, The Avenue near to Bruce Grove Station

PHENIX Trimo, perfect, new last April, illustrated this paper, lamps, cover tube, extras; exchange two-seaters, or offer.—321, Brownhill Road, Catford.

5 h.p. Tricar, perfect condition; price £35 would take modern lightweight motor cycle part exchange.—Coleman, 18, Dock View Road, Barry Dock, Glam.

3½ h.p. Triumph, two-speed gear, free engine, water-cooled, Fafnir engine pan front seat; £22 10s.—Wauchope's, Shoe Lane, Fleet Street, London.

LAGONDA Tricar, 10-12 h.p., water-cooled, in splendid running order, with spares and tyres as new; £55.—Zenith Motors, Ltd., 119, Stroud Green Road, London, N.

£15.—Humber, 3 h.p., Mills-Fulford forecar, tyres and engine excellent, fan-cooled B.M., Lithanode, reliable local reputation. Twigg, Ironmonger, Southend-on-Sea.

SINGER Tricar, 2½ h.p., direct drive, magneto, coach body, simple control by lever, perfect order; £20.—Seen running, Rodenhurst Road, Clapham Park, London.

PHENIX Trimo Tricar, new March, 1908 condition as new, very little used, tyre on back; cost, with extras, £95, low price, £55.—Oakden, Cheapside, Lancaster.

CHATER-LEA Light Tricar, 3½ h.p. Simple engine and magneto, tyres perfect; guineas; photo; ride 30 miles.—A. W. Hill, The Stores, Abbots Bromley, near Rugeley Staffs.

4½ h.p. Tricar, coach-built, water-cooled, two speeds, new tyres; £25; motor cycle or furniture in part exchange.—Hewbert, 62, New City Road, Barking Road, Plaistow, E.

FOR Sale, 5½ h.p. N.S.U. Tricar, twin, magneto, free engine, new Whittle belt, splendid condition; £40, or near offer.—W. Cruickshank, 129, Holburn Street, Aberdeen Scotland.

5½ h.p. Rexette, 1906, open frame, wheel steering, water-cooled, two speeds, neutral, splendid condition, car tyre behind; £35, or near offer.—16, Northcote Road, Southsea.

6 h.p. Riley, three-speed and reverse, splendid condition, Dunlop 700 by 80 from non-skid 700 by 90 back, just overhauled, any trial; exchange car.—Frank Pearce, Tavistock.

5-6 h.p. Twin Antoine, Chater-Lea, two speed, chain drive, in first-rate condition; only wants seeing; will ride reasonable distance; £32 10s.—G., 1, Westover Road, Wandsworth.

POWERFUL Tricar; best offer accepted, spares, tools, lamps, rug, etc.—Particulars and trials write, A., 104, Guildhall Street, Folkestone. Also tandem back attachment, £1.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

CARS FOR SALE.

p. De Dion Populaire, genuine license car; £65; any trial.—Below.

h.p. Libena, De Dion, two-seater two speeds, good condition; £19.—Below.

12 h.p. Gladiator, tonneau, two-cylinder Aster, three speeds, reverse, screen; —Below.

30 h.p. Hurst, side entrance, long chassis, four-cylinder, cardan drive; —Below.

28 h.p. Gladiator, side entrance, long chassis, four-cylinder late model; —Below.

h.p. Clarendon Motor Bicycle, M.O.V., vertical engine; £12 10s.—L. N. Pal-190, Mellison Road, Tooting. Telephone, Streatham.

3 6 h.p. Starling, painted green, very little used Dunlop tyres, sacrifice £95. ker, Printer, St. Ives, Hunts.

p. M.M.C., three-seater, very fine order; take motor bike and cash. £30.

6 h.p. Daimler, four-cylinder, tonneau, fast, silent, excellent condition; £85.

h.p. Mutel, four-cylinder, M.O.V., pressed steel frame, new condition; £100. Earlsfield Road, Wandsworth.

p. Humber, single-cylinder, tonneau body, perfect order; any trial; £30; —7, Broad Walk, Stratford-on-Avon.

2 h.p. Duryea Car, two seats, three cylinders, two and reverse; £25; part ange.—98, Potternewton Lane, Leeds.

32 h.p. Touring Car, five-seater; a bargain; accept tricar or cycle in part. cival Granville, 209a, Peckham Rye,

UINE De Dion-Sunbeam, Mabley, tip-top condition, all spares, two new tyres; or nearest offer.—8, Queen's Road, Don-

DION, two-seater, motor car, two speeds, heavy Dunlops, splendid work-der, suitable for doctor; £25.—L. Fearn, ton.

h.p. Twin Alldays, four-seater, swing seat side entrance, delivered new in 1907, in first-class order; £110.—Jones, eld.

p. Beaufort, four-seater, three speeds, reverse, Cape hood; £39 10s., tricar or bike part payment.—Farrar, Square Halifax.

h.p. Orleans Car, two-seater, good tyres, and good working order; £21; cycle part payment.—P. Riddelsdell rd, Suffolk.

p. Twin Fafnir Two-seated Car, two speeds and reverse, in new condition; rial by appointment.—S. Scoones, West, Sittingbourne.

h.p. Alldays Three-seated Voiturette, two speeds and reverse, water-cooled, running ord; trial here; £20.—Hart-egg, Motors, Burnley.

h.p. Baby Peugeot Light Car, two bucket seats, three speeds and reverse, ent order; £65.—Wauchope's, 9, Shoe Fleet Street, London.

p. Argyll Car, three speeds and reverse, artillery wheels, tonneau body, good ng order; trial, etc.; price £40; motor part payment.—P. Riddelsdell, Boxford, k.

2 h.p. Buchet, two cylinders, four-seater, side entrance, long wheelbase, hood, lamps, etc., in new condition; neas.—Wade, Queen's Road, Peckham, n.

p. Humberette, two-seater, Dunlop tyres, fitted with Cape hood, lamps, n good condition, and fine running 33 guineas.—82, Queen's Road, Peck-London.

RT Little Two-seater, in splendid con-ition, De Dion engine, three speeds everse, accessories, numbers, etc.; cash d; what offers?—Manager, 16, Bet-reen Road, London.

p. Humberette, red body, seats two, two speeds, reverse, two new Dunlop and tubes, engine, gears, etc., in ex-order; price £35, cheap.—W. S. Squire, ny Bank, King's Road, Newbury.

The "CELERIO."

A PERFECT BELT HOOK.

Only two pieces

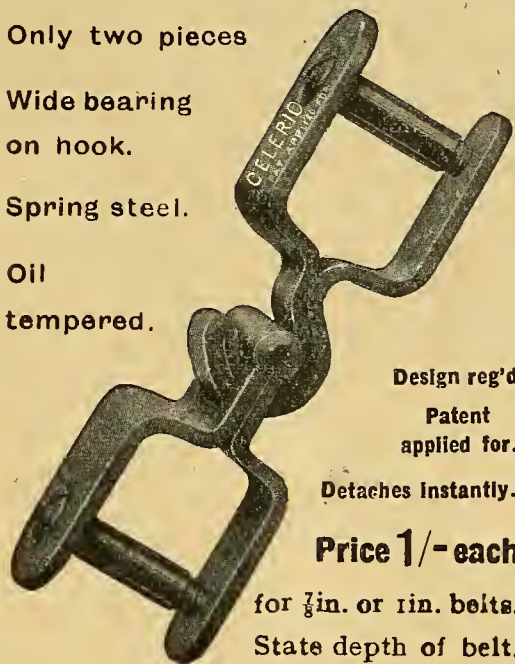
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Design reg'd.

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Detaches instantly.

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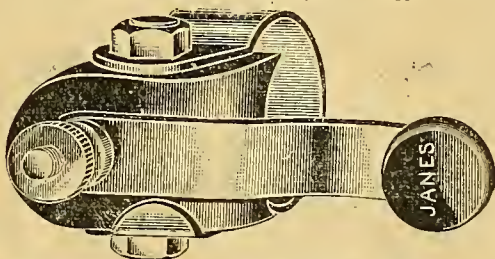
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Neatest, Cheapest, Simplest, most Effective,
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SPECIAL PURCHASE of
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BRAND NEW.

26 x 2... .. 17/6

26 x 2 1/4... .. 18/-

Also 26 x 2 extra heavy... .. 19/-

Nett cash with order. Sent on approval
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These are **GENUINE COVERS** with the
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ADVERTISERS — Please note
that Friday is the latest day we
can receive advertisement copy
for the following week's issue.

CARS FOR SALE.

14 h.p. Four-cylinder Beeston Humber, two-seater, four speeds and reverse; £85, accept small car in part.—142, Lewisham High Road, New Cross, S.E.

4 1/2 h.p. Renault Light Car, three speeds, De Lion engine, w.c., nice economical little two-seater, very good condition; £28 10s.; trial.—128, High Road, Tottenham.

DE DION Car, smart two-seater, new coach-built body, three speeds, reverse, Dunlops, spares, new large lamps, and horn, just overhauled, perfect; £60, or near offer.—Edwards, Garage, Spennymoor.

6 h.p. Rover, late 1907, special body, Cape hood, Lucas lamps; cost £175, would sell for £100, or accept a second-hand 1907 Triumph and £70 cash.—Motorist, Strathmore, Wellington Road, Worcester Park.

10 h.p. Armadale, Stevens engine, two-cylinder, three speeds and reverse, wheel steering and control, side levers, door to driver's bucket seat; £65, or lower power and cash, or small car.—Cartington, Slough.

8-10 h.p. Four-cylinder Humber, one of the best, swing seat side entrance, Cape hood, folding glass screen, electric side lamps, gas headlights, everything in A Won order; £140, bargain.—28, Woodbridge Road, Ipswich.

LOTTORETTE, genuine 6 h.p. De Dion engine, two bucket seats, sloping back, three speeds and reverse, complete with all lamps, tools, guaranteed good order throughout; bargain, £55; letters only.—Jones, 260, Dalston Lane, London.

FINE Opportunity.—Pope Tribune, side entrance, 14 h.p., splendid hill-climber, seats four or five, showroom soiled only; cash, exchange tricar or cycle, or extended payments arranged; also new chassis same make.—The Service Co., 292, High Holborn.

31 h.p. Auto Phaeton (bike and two-wheel sidecar), Fafnir engine, H.T. magneto, two-speed gear, 2 1/2 by 26 new Continental tyres, coach-built body, enamelled green, gold lines, splendid passenger turn-out, good as new; £28 10s.—128, High Road, Tottenham.

LIGHT Two-seated Voiturette, 6 h.p. Aster engine, just been rebored and fitted with new piston and rings, repainted and lined, two new tyres on back, two speeds; bargain, £40, or exchange motor cycle and cash, or two motor cycles.—Hucke, Bowyer Road, Birmingham.

BENZ. — Exceptional opportunity. A grand little 4 1/2 h.p. belt-driven Victoria, with hood, three speeds, including Crypto, solid tyres, car is in practically new condition, having been used only at intervals, very reliable and economical; cash wanted, £12 10s.—54, Croham Road, Croydon.

ROVER Cars. — The 6 h.p. single-cylinder two-seated Rover is the best low-priced car on the market. It is fast, silent, exceptionally reliable, and far more comfortable to ride and drive than tricars or motor cycles. We will take these in part exchange, or supply on deferred payments. — Louis Davis and Son, Moseley, Birmingham.

6 h.p. Peugeot Miniature Racer, low, bucket seats, circular tank behind, raked steering, wire wheels, very fast, nearly everywhere on top, 45 to gallon, condition equal to new, two headlights, and brass Salisbury oil lamp, also electric tail, spare tyre, two tubes, tools, etc.; trial given; £90; consider good motor cycle or tricar part payment.—Lamonby, Longford, Uddingston.

9 h.p. Riley, two-seater, in perfect running order, accumulator ignition, Cape cart hood, underscreen and inside mudguard, extension to all-wheels, large head lamp and horn, 700 by 90 grooved Dunlop, one outer two inner spare tyres, Imperial odometer (trip), double radiator, tools; trial and any examination allowed; price £130; no offers.—Apply, Box L3,027, The Motor Cycle Offices, 20, Tudor Street, E.C.

INSURANCE.

PLEASE Send for full covering Motor Cycle Policy, from 19s. per annum.—Bass, Insurance Broker, Ongar.

INSURANCE Policies of every description for motor cycles are issued by Hugh J. Boswell, insurance broker, Norwich, at exceptionally low rates; fire or self-ignition, 2s. 6d.; third party, 7s. 6d.; accident to cycle 15s.—Write for full particulars.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

GARAGES.

BRIGHTON.—Black Lion Garage, back of Sea View Hotel, Black Lion Street, fifth turning from Aquarium, on right, along front; specially for motor cyclists; repairs on Sundays.

LOST AND FOUND.

LOST, between Colchester and Shoeburyness, on 8th inst., a spare rubber belt. Will finder communicate with Mr. Allen, Newcastle Road, Norwich.

LOST, between Winchester and Salisbury, on Friday, 7th inst., two inner tubes, Smith's patents, wrapped separately in black mackintosh rolls.—Will finder kindly communicate with Rees, "Inglewood," Highbury Quadrant, Highbury, N.

BUSINESSES FOR SALE.

FOR SALE, one of the oldest established motor businesses in Hove, as a going concern, having a good connection, well equipped power shop (three lathes, etc.), good stock, including motor delivery van; satisfactory reason for disposal.—Apply, No. 496, *The Motor Cycle* Offices, Coventry.

ACCUMULATORS.

ACCUMULATORS, celluloid; speciality: 22 amp. hours, 10s.—Works, 17, Landcroft Road, E. Dulwich.

CELLULOID Accumulator Repair Outfits, useful for all celluloid repairs; full directions; post free, 1s.—Osborne Works, Forest Hill, London.

THE Famous Ajax Accumulator, absolutely the finest it is possible to make (see advertisement in Spring No. "Motor Cycle"); specially protected terminals; 20 amp. size will run 2,000 miles with Voltco coil.

ACCUMULATORS Repaired promptly, any make; reasonable charges, best work; estimates given; full value for your old accumulator in exchange for our new "Mayfair" accumulators; special 15 amp., 10s. 6d.; 20 amp., 15s.; guaranteed one year.—Fellows, 49, Hertford Street, Mayfair.

NON-SPILLING Accumulators, with jelly electrolyte; sent charged and carriage paid; 6 amp., 7s. 2d.; 10 amp., 10s. 4d.; 12 amp., 10s. 7d.; 20 amp., 13s. 9d. Accumulators repaired; special sizes made to order; write for ignition list.—Archibald J. Wright, Ltd., manufacturing electricians, Leyton Green Road, London, N.E.

CONTACTS.

IRIDIUM "Champion" Contacts, any parts fitted; returned same day; 1s. 3d. each.

IRIDIUM "Champion" Contacts, warranted pure; trimmers for polishing iridium, 9d.; no filing required.

IRIDIUM "Champion" Contacts. — Williams, 16, Wellington Street, Woolwich. Pure platinum fitted to order, from 1s. 9d.

PURE Platinum Contacts fitted from 1s. 6d. to 3s.—Richardson, Church Street, Burton-on-Trent.

JEERON Contacts, registered 291-289, vastly superior to platinum; cures misfiring, is reliability and efficiency.

JEERON, best contact obtainable for blades, screws, cranks, rockers, plungers, magnetos, coils.

JEERON, prices 2s. 6d. each rivet fitted; special trimmers, for polishing Jeeron, 9d.; remittance with order ensures prompt attention; write for particulars and testimonials; too numerous to publish.

JEERON Magneto Screws, complete, for Bosch magneto, DA2, will fit contact breakers 5A, 5B, 5C, 5s. 9d. pair; old screws fitted with Jeeron, 2s. 6d. each; everlasting wear, requiring no attention.

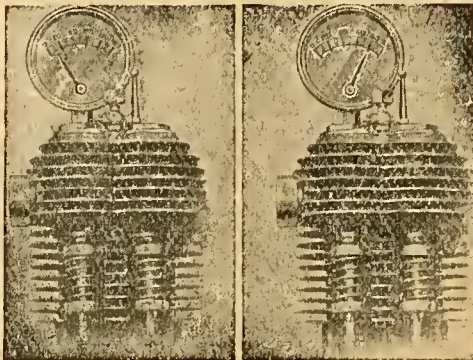
JEERON, the King of Contacts, fitted per return post; no delay; post free home or abroad; liberal trade terms.

JEERON.—From the Inventor, J. Edwards Brown, 38, Herbert Road, Plumstead, Kent.

COMPRESSION MEANS POWER.

Before reboring.

After reboring.



We rebores your cylinder and fit new piston complete with rings and gudgeon pin. Please send for our new repairs booklet, giving prices for this work.

The LAYSTALL MOTOR ENGINEERING WORKS, Ltd.
AUTOMOBILE REPAIRERS,
27 & 29, Laystall St., Rosebery Av., LONDON, E.C.
Established 1900. Tel. 12301 Central.

SHAMROCK OR . . GOODRICH BANDS

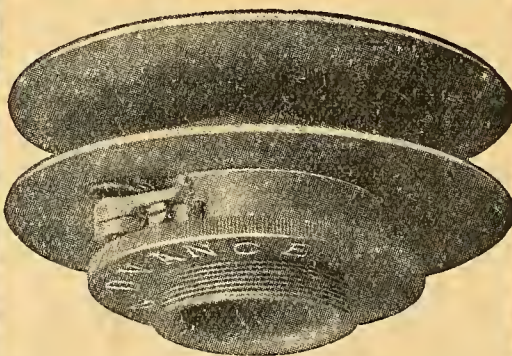
fitted to
your
own
cover
21/-

(Special trade
terms on
application.)

Kindly note we are special agents for Shamrock, Goodrich and Palmer Covers, and can give prompt delivery from stock.

(See OUR advert. in last week's "Motor Cycle.")

The Continental Motor Co.,
32, Rosebery Avenue, London, E.C.
Phone—1513 Holborn Tele.—"Bromitch, London."

Touring Necessities
The
ADVANCE ADJUSTABLE PULLEY

and the
ADVANCE ADJUSTABLE BELT FASTENER.



Both adjustable without removing the belt.
ADVANCE MOTOR MFG. Co., Ltd.
NORTHAMPTON.

COUPLINGS.

ARIEL Coupler (new), half-price, electric buzzer (new), 3s. 6d.—3, Beaumont Street, Hexham.

BRAND New Unito Coupling, never before used; 15s.—Lester, 18, Trafalgar Terrace, Long Eaton.

ENGINES.

31 h.p. 1908 Genuine Quadrant engine, quite new; £6 19s.—Farrar, Square Road, Halifax.

2½ h.p. Minerva, inclined, £3; 3½ h.p. Star, vertical, £3 10s.; 3 h.p. Quadrant, £3 10s.; 1½ h.p. Minerva, 25s.; 3 h.p. Miner pattern, M.O.V., £3 10s.; 2 h.p. Quadrant, 35s.; 2½ h.p. De Dion pattern, 45s.—Farrar, Square Road, Halifax.

3 h.p. Quadrant Engine, £3 10s.; also 3 h.p., £2 15s.; perfect order.—2, Upper Kennington Lane, London.

F.N. Water-cooled Engine, 75 by 75, in excellent condition; what offers?—Motor Accessories, Broad Street, Coventry.

3½ h.p. Garrard, w.c.; £3, exchange for carburetter, type L, twin trembler coil, and cash.—Pensel, Apsley End.

5-6 h.p. Twin Decauville a.c. engine, splendid order, suitable for open car; sacrifice £6.—15, Station Road, Chifford.

7 h.p. Peugeot Engine, twin, air-cooled, two accumulators, two coils, complete; for nearest offer.—M. MacLucas, 56, Cranbrook Road, Redland.

3 h.p. Kelecom Engine, with Longuemare carburetter, removed tricar, fitted larger, perfect condition; £4 10s.; even—14, Glencoe Avenue, Seven Kings, Ilford.

HALIFAX.—6 h.p. w.c. engine and carburetter, £6 10s.; 9 h.p. Fainir, carburetter and clutch, £12; 6½ h.p. Aster, carburetter and silencer, £10; all running order.—Motor Exchange, Westgate, Halifax.

TYRES.

BOOTH.—200 genuine 26 by 2½ Clinch A Won covers, 17s. 6d. each; approved.

BOOTH.—Large stock of Continental rubber studded, Shamrocks, Goodrich Palmers; list free.

BOOTH.—Before buying tyres send for our bargain list; we specialise in tyres.

BOOTH.—28 by 2 Calmons, 13s. 6d.; Royal covers, 26 by 2, 12s. 6d.; 2½, 13s. 6d. beaded or wired.—Booth's Motor Exchange, Wade Street, Halifax.

BATES Tyre, 26 by 2½, heavy tricar, new, 37s. 6d.—41, Morrill Street, Hull.

MAUDE'S.—Fully guaranteed tubes, 26 by 2in., 6s.; 2½in., 7s.; 2½in., 8s.; 28 by 7s.; 2½, 7s. 6d.; 2½in., 8s.; approval willing.

MAUDE'S.—Covers, 26 by 2in., 16s.; 2½, 6d.; 28 by 2in., 17s.; 2½in., 18s.—Maud Powell Street, Halifax.

MAUDE'S Butt-ended Tubes.—Why not one on approval? Note especially low prices: 26in. and 28in. by 2in., 7s. 6d.; 26in. and 28in. by 2½in., 7s. 9d.; 26in. and 28 by 2½in., 8s. 3d.—Maude's, Powell Street, Halifax.

MICHELIN, 26 by 2½, beaded edge, new, unused; 22s.—K., 47, Falcon Avenue, Edinburgh.

PAIR Genuine Continental Covers, 26in. 2in., beaded; 13s. 9d. each.—14, Southgate Street, Bishop Auckland.

HALIFAX.—Special 2½ Calmon tyres, fitted by 2 rims, 17s. 9d. each; other sizes 14s. 6d. each; new 28 by 2 tubes, 4s. 9d. each; 24 by 2½ Peter-Union tubes, 5s. 6d.—Motor change, Westgate, Halifax.

26 IN. by 2½in. and 28in. by 2in. heavy Calmon beaded covers, 16s.; 26in. 2½in. beaded Dunlop, 9s.—6, Poulton Road, Southport.

PAIR New Shrewsbury Chaloner Covers, 26 by 2½, fit 2in. rims, 30s.; pair good tubes, same size, 7s. 6d.—Wake, 195, Plas Road, Upton Park.

MODELE de Course Continental, ex-Stark, 2½ outer covers, brand new, used, cost £2 8s. 9d., accept 36s. 6d.; ditto, lighter, take 30s.—H. Barrett, photographer, Southwell.

MISCELLANEOUS.

AUDE'S. — B. and B. carburetter, brand new, latest model, handle-bar control; Longuemare, 15s.; B. and B., 15s.

AUDE'S.—Rubber goggles, 2s. 3d. per pair; low tension wire, 3½d. yard; high, per yard.

AUDE'S. — Mabon free engine, new, fits Triumph, £2 2s.; two-cylinder coil, 6d.

AUDE'S. — Trailer, with tradesman's wicker box, lined and painted, very rt; 30s.

AUDE'S.—28 by 2½ new cover, perfect, 9s. 6d.; gear box, two speeds and reverse, 6d.

AUDE'S.—Bowden free engine and wheel, 28in., 12s. 6d.

AUDE'S.—Rip spring frames, new and guaranteed, £2 19s. 6d.; toolbags, 2s.; n coil, perfect, 6s. 6d.; petrol taps, all ss, for tanks, good stuff, 2s. 6d., worth ble.

AUDE'S.—Acetylene lamp, 2s. 6d.; acetylene lamp, brass, suit tricar, 7s. 6d.; a plugs, 1s. 3d. each.

AUDE'S.—Voltmeter, for switchboard, reads to 15, 8s.; ammeter, to 10, 7s.; a perfect.

AUDE'S, Powell Street, Halifax, for all accessories relating to motors. Try tip tube box on approval.

EVERYTHING Made in Tanks and Radiators except a fortune. — Write for es, A. Phillips, 2, Strathnairn Street, nondsey.

R. Rapid Belt Adjustment use the Instanta (patent) belt fastener: price 1s. postage 1d.—Instanta Co., 251, Oxhill d, Handsworth, Birmingham.

OWDEN Valve Lifters, 6s. 9d., usual price 10s.; Vim stands (starts like free en-), 6s. 3d., usual price 17s. 6d.—Slack's age, Stockport.

CKET Seat, new, strong, light, well sprung, 25s.; 'Powell and Hanmer light, bracket and number plate, 7s. 6d. son, jun., Leominster.

EARANCE Sale.—Millennium stands, 7s. 6d., usual price 20s.; Vim flexible cable brakes, 5s. 6d., usual price 12s. 6d.—k's Garage, Stockport.

h.p. Peugeot Engine, 80 by 98, fitted with Simms-Bosch magneto, excellent con- n; £10 10s. cash.—Wauchope's, 9, Shoe , Fleet Street, London.

OK!—Bankrupt stock 4,000 splendid rubber motoring jackets, lined with blue e; 10s. 6d.; carriage paid.—B. Dept., Gas-Government, Rye, Sussex.

DFREY and Applebee.—A.G. adjustable pulleys, 15s.; leather magneto covers, d.; watch and handle-bar slip, 5s. 6d.—urch Hill, Walthamstow.

h.p. Water-cooled N.S.U. Engine, with two-speed gear, carburetter and cer, complete; £6 15s.—Wauchope's, 9, Lane, Fleet Street, London.

ATER-LEA No. 6 Frame, girder forks, long bars, etc., £3 17s. 6d.; twin en- £8 15s., £11 the lot, brand new.—A. r, 313, Coldharbour Lane, S.W.

SOLETE Engines.—Parts made to sketch or pattern; Rusel valves; cast-iron e, any engine, 3s. 6d.; postage 3d.—dhurst, 13, Stafford Street, Leicester.

R Brass Mirror Searchlight Lamps, practically new, £1 1s.; Chapman's fan, 15s. 6d., cost £2 10s.; Brooks new bucket seat, 35s.—Lord, Moundfield, wich.

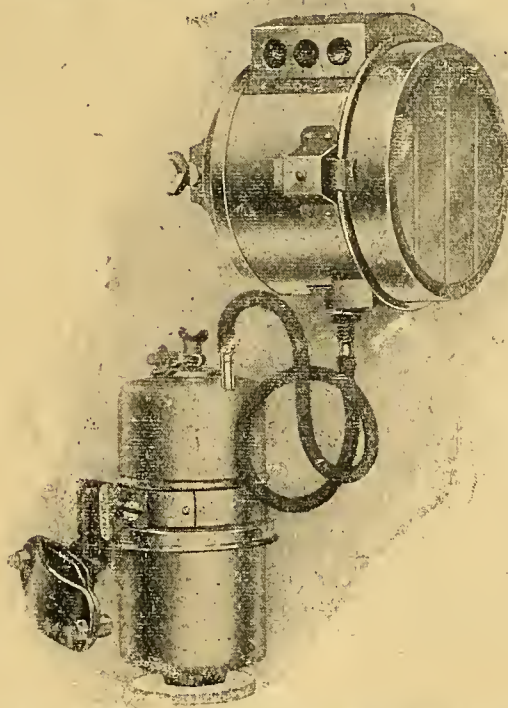
RGAIN.—Lightweight Attachment, 2 h.p. engine, carburetter, 25s.; tank, 5s. belt, 2s. 6d.; Jockey, 3s. 6d.; coil, 5s.; 40s., or separate.—Smith, Greenfield, ey, Chester.

OK!—Car Horn, with long tubing, terrific noise, absolutely new; cost 27s. except 17s. 6d., or near offer; no use to Box L3,046, The Motor Cycle Offices, 20, r Street, E.C.

OR Cell Charging Battery, as new, £1; leather coat, cost 5 guineas, as new; Bleriot headlight, brass, 10s. 6d.; ds tricar chain, new, £1; exchange.—ey, Kempston, Beds.

WE NEVER KNEW

how thoroughly unsatisfactory the ordinary Acetylene lamp had proved until we began to offer to take them in exchange for THE PREMIER SEARCHLIGHT.



We have been inundated with lamps—many of them practically new—whose owners have realised that there is nothing like the Premier. The offer is still open. Send your old lamp, labelled with your name and address, and we will quite a liberal allowance. Not one of our quotations has been declined yet. Price of Searchlight only, 24/-, or with Generator, as illustrated, 30/-.

Fuller details from **PREMIER MOTOR CO., LTD.**, ASTON ROAD, BIRMINGHAM.

Wholesale London Agents—BROWN BROS., Ltd., Gt. Eastern Street, E.C.

G. T. RICHES & CO., LTD.,

19, STORE STREET, LONDON.

RICH DETACHABLE AIR TUBE.

24" x 2"

13/6

24" x 2½"

14/-

24" x 2½"

15/-

26" x 2"

14/-

26" x 2½"

14/6

26" x 2½"

15/6

26" x 3"

22/-

28" x 2"

14/6



Please write for Special List, with full prices and particulars of all sizes, together with instructions and hints. Your OWN TUBE CONVERTED. Write for prices

MISCELLANEOUS.

TORPEDO Tank, complete with all fittings, for oil and petrol; 15s.—Kendall, 235, Crystal Palace Road, S.E.

BOWDEN Front Brake, 9s.; electric lens lamp, 3s. 6d.; voltmeter, 5s. 6d.; Chater Trafalgar spring forks, 10s. 6d.; 7in. Stanley-Dermatine, 8ft. 6in., 6s. 6d.—Beeston, 111, Hallam Street, Portland Place.

COMPLETE, Wolff Featherweight motor set, all ready to attach to cycle; a bargain, £11, brand new, or would exchange two genuine B.S.A. gent's cycles, new. — Motor Co., 31, Newgate Street, London.

READERS Having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium, 3d. per word, minimum 9d.—Address "Photography and Focus" Offices, 20, Tudor Street, London, E.C.

ACCESSORIES, etc., for sale.—De Dion carburetter, 25s.; new Castle Acetyloid car headlight, £2 10s.; Castle two-cylinder trembler coil, 21s.; 650 by 65 new Dunlop tube, 8s. 6d.—142, Lewisham High Road, New Cross.

MISCELLANEOUS.

BOOTH for Montgomery sidecars, flexible joints; large stock kept for immediate delivery.

BOOTH. — Insist on a Montgomery, less power required to drive, no broken frames.

BOOTH takes your rigid, frame-breaking sidecar in exchange for a flexible Montgomery.

BOOTH. — Montgomery flexible sidecars; popular prices; cash, credit, or exchange. — Booth's Motor Exchange, Wade Street, Halifax.

BOOTH.—Glare electric lamps, newspaper readable at 100 feet; 10s. 6d.; carriage paid.

BOOTH.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

BOOTH.—Double twist horns, deep tone, 4s. 9d.; large leather toolbags, 5s. 6d.

BOOTH. — 500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget trembler coils, 17s. 6d.

BOOTH takes your old coil in part payment; part with troublesome coils.

BOOTH. — Fuller accumulators, 20 amp., 17s.; Rex type, 16s.; Minerva, 16s.; Midget, 16s.

BOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fuller's.

BOOTH.—Long motor handle-bars, 21in., 4s. 9d.; heavier gauge, 5s. 6d.; best plating.

BOOTH.—Silent silencers, for engines to 5 h.p., very efficient, no back pressure; 3s. 3d.

BOOTH. — 50 pairs XI'all spring forks, N.A.B. seat-pillar, 5s. 6d.; Ariel coupler, 20s.

BOOTH.—New Antoine frame, with wheels, belt rim fitted, two cable brakes, mudguards; £5 10s. set; low built.

BOOTH.—Six accumulators, require slight repair; 1s. 9d. each. — Booth's Motor Exchange, Coronet Works, Wade Street, Halifax.

R.O.M. Contact Breaker, synchronised, to suit 6 h.p. twin Jap, nearly new, with spares, 19s. 6d.; 26 by 2½ Palmer cord cover and tube, fresh, and new, £2 10s.—Barker, Oxford Road, Worthing.

PULLEYS for any motor, De Dion, M.M.C., 6s. 9d.; Antoine, N.S.U., Kelecom, Roc, F.N., 5s. 9d.; Peugeot, Brown, 5s. 6d.; Triumph, Fafnir, Sarolea, Minerva, 4s. 9d.; plated, guaranteed; carriage paid.—J. Perkins, High Road, Leyton, London.

SACRIFICE.—Noble Engine, 2½ h.p., with carburetter, etc., 42s., splendid running order; nearly new front wheel, 28 by 2, with cover and tube, 15s., or separate; De Dion coil, 8s. 6d.; live axle, 10s.; splendid saddle, 7s. 9d.—J. Kerry, Downham Market.

CLINCHER 28in. by 2½in. rim, 2s. 6d.; belt rim, 21in. by 1in., 2s.; Antoine pulley, 5½in. by 7in., new, 3s. 6d.; Fuller trembler coil, new, 15s.; two-way Ideal fan, 13s. 6d.; Sphinx hand, 2½in., 3s.; all perfect, used ones nearly new.—Outram, Baker, Southport.

WATAWATA Belt, 8ft. by 7in., practically new, 14s.; new pair Midland motor covers, 26 by 2½, wired, 25s.; butt-ended tube, perfect, 28 by 2½, 8s. 6d.; Brooks B100 saddle, new, 15s.; pair 26 by 2½ wheels, new belt rim for fixing, 25s.—132, Cross Lane, Salford.

TRICAR (less engine), 650 by 65 wheels and new tyres, non-skid on back, splay mudguards, five tanks, coach-built front seat, with tank and all fittings, only wants engine, no time to complete; £17, or nearest.—Clifford, 51, Weaste Road, Weaste, Manchester.

THE Old Firm, 11 years' experience, and moderate charges; new and second-hand engines, 2 to 8 h.p., from 40s.; power increased 2½ to 3½ h.p.; large stocks De Dion, M.M.C., Excelsior parts; repairs to all makes, prompt and reasonable.—The Record Motor Co., Coventry.

PAIR of Minerva spring forks, new, £2; L.A.C. spring forks, 15s.; pair Wright's footrests, 10s. 6d.; 13½ steering wheel, aluminium centres, 8s. 6d.; complete steering column for tricar, with levers and wheel, £1 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

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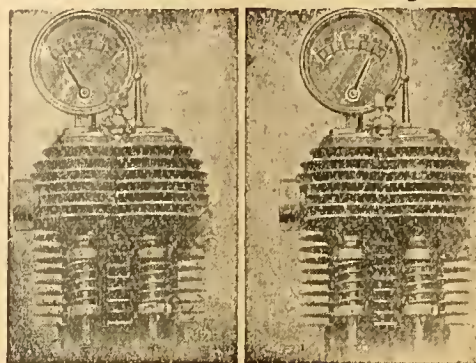
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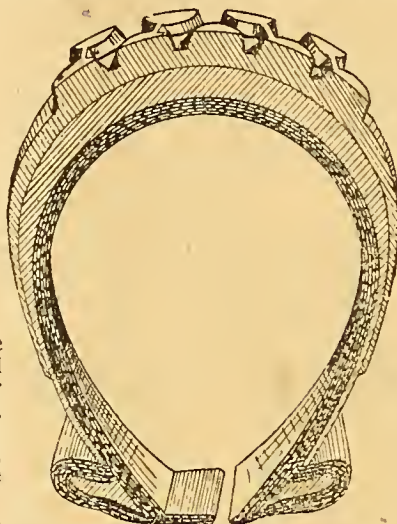


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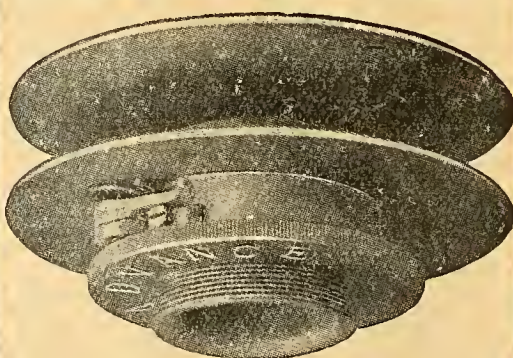
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21 h.p. Minerva, inclined, £3; **3½** h.p. Standard, vertical, £3 10s.; **3** h.p. Quadrant, £3 10s.; **1½** h.p. Minerva, 25s.; **3** h.p. Minerva pattern, M.O.V., £3 10s.; **2** h.p. Quadrant, 35s.; **2½** h.p. De Dion pattern, 45s.—Farrar, Square Road, Halifax.

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31 h.p. Garrard, w.c.; £3, exchange B.B. **32** carburetter, type I., twin trembler coil, and cash.—Pensel, Apsley End.

5-6 h.p. Twin Decauville a.c. engine, in splendid order, suitable for open tri-car; sacrifice £6.—15, Station Road, Chingford.

7 h.p. Peugeot Engine, twin, air-cooled, two accumulators, two coils, complete; £12, or nearest offer.—M. MacLucas, 56, Cranbrook Road, Redland.

3 h.p. Kelecom Engine, with Longuemare carburetter, removed tri-car, fitting larger, perfect condition; £4 10s.; evening.—14, Glencoe Avenue, Seven Kings, Ilford.

HALIFAX.—6 h.p. w.c. engine and carburetter, £6 10s.; 9 h.p. Fafuir, carburetter, and clutch, £12; 6½ h.p. Aster, carburetter, and silencer, £10; all running order.—Motor Exchange, Westgate, Halifax.

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BATES Tyre, 26 by 2½, heavy tri-car, new; 37s. 6d.—41, Morrill Street, Hull.

MAUDE'S.—Fully guaranteed tubes, 26 by 2 in., 6s.; 2½ in., 7s.; 2½ in., 8s.; 28 by 2, 7s.; 24, 7s. 6d.; 2½ in., 8s.; approval willingly.

MAUDE'S.—Covers, 26 by 2 in., 16s.; 24, 17s. 6d.; 28 by 2 in., 17s.; 2½ in., 18s.—Maude's, Powell Street, Halifax.

MAUDE'S Butt-ended Tubes.—Why not try one on approval? Note especially the low prices: 26 in. and 28 in. by 2 in., 7s. 6d.; 26 in. and 28 in. by 2½ in., 7s. 9d.; 26 in. and 28 in. by 2½ in., 8s. 3d.—Maude's, Powell Street, Halifax.

MICHELIN, 26 by 2½, beaded edge, new, and unused; 22s.—K., 47, Falcon Avenue, Edinburgh.

PAIR Genuine Continental Covers, 26 in. by 2 in., beaded; 13s. 9d. each.—14, Southgate Street, Bishop Auckland.

HALIFAX.—Special 2½ Calmon tyres, fit 26 by 2 rims, 17s. 9d. each; other sizes, 14s. 6d. each; new 28 by 2 tubes, 4s. 9d. each; 24 by 2½ Peter-Union tubes, 5s. 6d.—Motor Exchange, Westgate, Halifax.

26 IN. by 2½ in. and 28 in. by 2 in. heavy new Calmon beaded covers, 16s.; 26 in. by 2½ in. beaded Dunlop, 9s.—6, Poulton Road, Southport.

PAIR New Shrewsbury Chaloner Covers, 26 by 2½, fit 2 in. rims, 30s.; pair good tubes, same size, 7s. 6d.—Wake, 195, Plashet Road, Upton Park.

MODELE de Course Continental, extra Stark, 2½ outer covers, brand new, unused, cost £2 8s. 9d., accept 36s. 6d.; one ditto, lighter, take 30s.—H. Barrett, photographer, Southwell.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

MAUDE'S.—B. and B. carburetter, brand new, latest model, handle-bar control; 2s.; Longuemare, 15s.; B. and B., 15s.

MAUDE'S.—Rubber goggles, 2s. 3d. per pair; low tension wire, 3½d. yard; high, 1d. per yard.

MAUDE'S.—Mabon free engine, new, fits Triumph, £2 2s.; two-cylinder coil, 0s. 6d.

MAUDE'S.—Trailer, with tradesman's wicker box, lined and painted, very smart; 30s.

MAUDE'S.—28 by 2½ new cover, perfect, 9s. 6d.; gear box, two speeds and reverse, 0s.

MAUDE'S.—Bowden free engine and wheel, 28in., 12s. 6d.

MAUDE'S.—Rip spring frames, new and guaranteed, £2 19s. 6d.; toolbags, 2s.; chain coil, perfect, 6s. 6d.; petrol taps, all brass, for tanks, good stuff, 2s. 6d., worth double.

MAUDE'S.—Acetylene lamp, 2s. 6d.; acetylene lamp, brass, suit tricar, 7s. 6d.; mica plugs, 1s. 3d. each.

MAUDE'S.—Voltmeter, for switchboard, reads to 15. 8s.; ammeter, to 10, 7s.; both perfect.

MAUDE'S.—Powell Street, Halifax, for all accessories relating to motors. Try Rip tube box on approval.

EVERYTHING Made in Tanks and Radiators except a fortune. — Write for prices, A. Phillips, 2, Strathnairn Street, Bermondsey.

FOR Rapid Belt Adjustment use the Instanta (patent) belt fastener: price 1s. 1., postage 1d.—Instanta Co., 251, Oxhill Road, Handsworth, Birmingham.

BOWDEN Valve Lifters, 6s. 9d., usual price 10s.; Vim stands (starts like free engine), 6s. 3d., usual price 17s. 6d.—Slack's Garage, Stockport.

BUCKET Seat, new, strong, light, well sprung, 25s.; 'Powell and Hammer' headlight, bracket and number plate, 7s. 6d.—Tuson, jun., Leominster.

CLEARANCE Sale.—Millennium stands, 7s. 6d., usual price 20s.; Vim flexible cable rim brakes, 5s. 6d., usual price 12s. 6d.—Slack's Garage, Stockport.

1 h.p. Peugeot Engine, 80 by 98, fitted with 2 Simms-Bosch magneto, excellent condition; £10 10s. cash.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

BOOK!—Bankrupt stock 4,000 splendid rubber motor jackets, lined with blue serge; 10s. 6d.; carriage paid.—B. Dept., Gascon, Government, Rye, Sussex.

MODFREY and Applebee.—A.G. adjustable pulleys, 15s.; leather magneto covers, 9d.; watch and handle-bar slip, 5s. 6d.—Church Hill, Walthamstow.

1 h.p. Water-cooled N.S.U. Engine, with 2 two-speed gear, carburetter and blencer, complete; £6 15s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

HATER-LEA No. 6 Frame, girder forks, long bars, etc., £3 17s. 6d.; twin engine, £8 15s., £11 the lot, brand new.—A. Upper, 313, Coldharbour Lane, S.W.

BSOLETE Engines.—Parts made to sketch or pattern; Rusel valves; cast-iron heads, any engine, 3s. 6d.; postage 3d.—Roadhurst, 13, Stafford Street, Leicester.

DAIR Brass Mirror Searchlight Lamps, practically new, £1 1s.; Chapman's large fan, 15s. 6d., cost £2 10s.; Brooks new 3 3s. bucket seat, 35s.—Lord, Mountfield, Restwich.

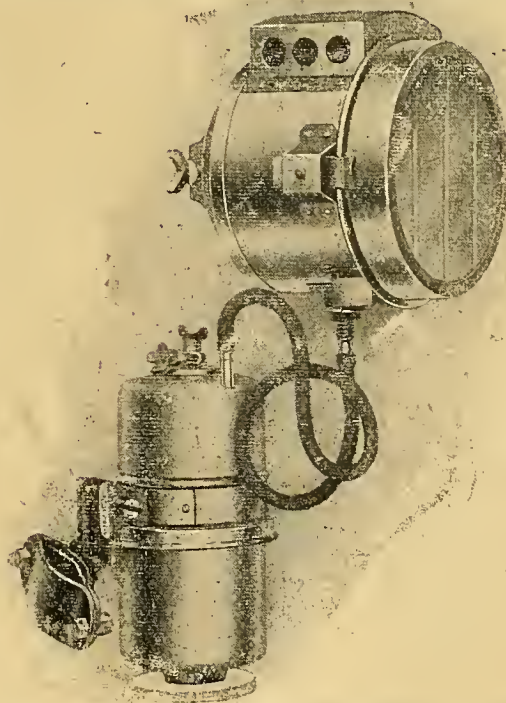
BARGAIN.—Lightweight Attachment, 2 h.p. engine, carburetter, 25s.; tank, 5s. 1.; belt, 2s. 6d.; Jockey, 3s. 6d.; coil, 5s.; 40s., or separate.—Smith, Greenfield, Muxley, Chester.

BOOK!—Car Horn, with long tubing, terrific noise, absolutely new; cost 27s. 1., accept 17s. 6d., or near offer; no use to e.—Box L3,046, The Motor Cycle Offices, 20, Tudor Street, E.C.

FOUR Cell Charging Battery, as new, £1; leather coat, cost 5 guineas, as new, 10s.; Bleriot headlight, brass, 10s. 6d.; enolds tricar chain, new, £1; exchange.—Magley, Kempston, Beds.

WE NEVER KNEW

how thoroughly unsatisfactory the ordinary Acetylene lamp had proved until we began to offer to take them in exchange for **THE PREMIER SEARCHLIGHT.**



We have been inundated with lamps—many of them practically new—whose owners have realised that there is nothing like the Premier. The offer is still open. Send your old lamp, labelled with your name and address, and we will quote a liberal allowance. Not one of our quotations has been declined yet. Price of Searchlight only, 24/-, or with Generator, as illustrated, 30/-.

Fuller details from **PREMIER MOTOR CO., LTD.**, ASTON ROAD, BIRMINGHAM.

Wholesale London Agents—**BROWN BROS., Ltd.**, Gt. Eastern Street, E.C.

G. T. RICHES & CO., LTD.

19, STORE STREET, LONDON.

RICH DETACHABLE AIR TUBE.

24" x 2"	13/6	26" x 2½"	14/6
24" x 2½"	14/-	26" x 2"	15/6
24" x 2"	15/-	26" x 3"	22/-
26" x 2"	14/-	28" x 2"	14/6



Please write for Special List, with full prices and particulars of all sizes, together with instructions and hints. Your OWN TUBE CONVERTED. Write for prices

MISCELLANEOUS.

TORPEDO Tank, complete with all fittings, for oil and petrol; 15s.—Kendall, 235, Crystal Palace Road, S.E.

BOWDEN Front Brake, 9s.; electric lens lamp, 3s. 6d.; voltmeter, 5s. 6d.; Chater Trafalgar spring forks, 10s. 6d.; ¾in. Stanley-Dermatine, 8ft. 6in., 6s. 6d.—Beeston, 111, Hallam Street, Portland Place.

COMPLETE, Wolff Featherweight motor set, all ready to attach to cycle; a bargain, £11, brand new, or would exchange two genuine B.S.A. gent's cycles, new.—Motor Co., 31, Newgate Street, London.

READERS Having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium, 3d. per word, minimum 9d.—Address "Photography and Focus" Offices, 20, Tudor Street, London, E.C.

ACCESSORIES, etc., for sale.—De Dion carburetter, 25s.; new Castle Acetyloid car headlight, £2 10s.; Castle two-cylinder trembler coil, 21s.; 650 by 65 new Dunlop tube, 8s. 6d.—142, Lewisham High Road, New Cross.

MISCELLANEOUS.

BOOTH for Montgomery sidecars, flexible joints; large stock kept for immediate delivery.

BOOTH.—Insist on a Montgomery, less power required to drive, no broken frames.

BOOTH takes your rigid, frame-breaking sidecar in exchange for a flexible Montgomery.

BOOTH.—Montgomery flexible sidecars; popular prices; cash, credit, or exchange.—Booth's Motor Exchange, Wade Street, Halifax.

BOOTH.—Glare electric lamps, newspaper readable at 100 feet; 10s. 6d.; carriage paid.

BOOTH.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

BOOTH.—Double twist horns, deep tone, 4s. 9d.; large leather toolbags, 5s. 6d.

BOOTH.—500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget trembler coils, 17s. 6d.

BOOTH takes your old coil in part payment; part with troublesome coils.

BOOTH.—Fuller accumulators, 20 amp., 17s.; Rex type, 16s.; Minerva, 16s.; Midget, 16s.

BOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fuller's.

BOOTH.—Long motor handle-bars, 21in., 4s. 9d.; heavier gauge, 5s. 6d.; best plating.

BOOTH.—Silent silencers, for engines to 5 h.p., very efficient, no back pressure; 3s. 3d.

BOOTH.—50 pairs XI'all spring forks, N.A.B. seat-pillar, 5s. 6d.; Ariel coupler, 20s.

BOOTH.—New Antoine frame, with wheels, belt rim fitted, two cable brakes, mudguards; £5 10s. set; low built.

BOOTH.—Six accumulators, require slight repair; 1s. 9d. each.—Booth's Motor Exchange, Coronet Works, Wade Street, Halifax.

R.O.M. Contact Breaker, synchronised, to suit 6 h.p. twin Jap; nearly new, with spares, 19s. 6d.; 26 by 2½ Palmer cord cover and tube, fresh, and new, £2 10s.—Barker, Oxford Road, Worthing.

PULLEYS for any motor, De Dion, M.M.C., 6s. 9d.; Antoine, N.S.U., Kelecom, Roc, F.N., 5s. 9d.; Peugeot, Brown, 5s. 6d.; Triumph, Fafnir, Parolea, Minerva, 4s. 9d.; plated, guaranteed; carriage paid.—J. Perkins, High Road, Leyton, London.

SACRIFICE.—Noble Engine, 2½ h.p., with carburetter, etc., 42s., splendid running order; nearly new front wheel, 28 by 2, with cover and tube, 15s., or separate; De Dion coil, 8s. 6d.; live axle, 10s.; splendid saddle, 7s. 9d.—J. Kerry, Downham Market.

CLINCHER 28in. by 2½in. rim, 2s. 6d.; belt rim, 21in. by 1in., 2s.; Antoine pulley, 5½in. by ¾in., new, 3s. 6d.; Fuller trembler coil, new, 15s.; two-way Ideal fan, 13s. 6d.; Sphinx band, 2½in., 3s.; all perfect, used ones nearly new.—Outram, Baker, Southport.

WATAWATA Belt, 8ft. by ¾in., practically new, 14s.; new pair Midland motor covers, 26 by 2½, wired, 25s.; butt-ended tube, perfect, 28 by 2½, 8s. 6d.; Brooks B100 saddle, new, 15s.; pair 26 by 2½ wheels, new belt rim for fixing, 25s.—132, Cross Lane, Salford.

TRICAR (less engine), 650 by 65 wheels and new tyres, non-skid on back, splay mudguards, five tanks, coach-built front seat, with tank and all fittings, only wants engine, no time to complete; £17, or nearest.—Clifford, 51, Weaste Road, Weaste, Manchester.

THE Old Firm, 11 years' experience, and moderate charges; new and second-hand engines, 2 to 8 h.p., from 40s.; power increased 2½ to 3½ h.p.; large stocks De Dion, M.M.C., Excelsior parts; repairs to all makes, prompt and reasonable.—The Record Motor Co., Coventry.

PAIR of Minerva spring forks, new, £2; L.A.C. spring forks, 15s.; pair Wright's footrests, 10s. 6d.; 13½ steering wheel, aluminium centres, 8s. 6d.; complete steering column for tricar, with levers and wheel, £1 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

TWO-SPEED Gear, for 3in. shaft, 54in. pulley; 30s.—31, Landor Road, Stockwell.

TWIN-CYLINDER Bosch Magneto, in new condition.—15, Wells Road, Sydenham, London.

"MOTOR Cycle," from No. 69, bound, value 32s.; what offer?—Manuel, Surgeons' Hall, Edinburgh.

ENGINES, Engines, Engines, air or water-cooled, 3, 6, or 9 h.p.; write for particulars.—Address below.

PATENT Leather Magneto Covers, 4s. 6d. each; Advance generator brackets, as recommended by "Ixion," 3s. 6d. each.—Advance Motor Manufacturing Co., Ltd., Northampton.

32 h.p. Quadrant Engine, brand new; too large for my frame; £3 15s. — 11, Brunswick Square, Gloucester.

STANLEY-DESMATINE 1in. Belt, length 8ft. 6in., brand new; 12s., bargain.—James, 74, Heathfield Road, Plaistow, Kent.

BARKER'S Iron Cement, for cracked cylinders, etc.; permanent repair; 1s. tin saves pounds.—Oxford Road, Worthing.

WHITTLE Belt, never been used, 8ft. by 3in., £1; new apron for tricar, 9s. 6d.—Huggett, 85, Bridge Street, Warrington.

AUTOGENOUS Welding.—Send that broken casting to the Alvaston Motors, Derby, to be welded by patent process; metal reunited.

AUTOGENOUS Welding. — Costly castings saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, and a thousand other things.

AUTOGENOUS Welding. — Wonderful results. Broken flanges, lugs brackets, etc., all amenable to our process; send part to-day; quotations on sight.

AUTOGENOUS Welding.—Alvaston Motors, Derby. Telephone, 1, Alvaston.

NO. 7 Chater-Lea Frame, complete with girder forks, mudguards, handle-bars; £4 5s.—L. Stevens, 91, Tantallon Road, Baltham.

BRAND New Chater-Lea Frame, very low, suit twin, or powerful engine, spring forks; £5, cost £8. — Riddelsdell, Boxford, Suffolk.

OPPERMANN'S Three-speed Gear, with 8in. clutch, also 12ft. 3in. Renold's roller chain, all as new; offers.—8, Barrett Street, Manchester Square, W.

5-7 h.p. Twin Sarolea Engine, and carburetter, condition perfect; sacrifice £8 10s., or with Chater-Lea clutch, £10.—Wm. Smart, 66, Hamilton Road, Wimbledon.

LIGHT Motor Frame, 22in., hubs, engine, carburetter, coil, accumulator, etc.; £3 15s. — C. Taylor, 91, Gladstone Avenue, Wood Green, London, N.

MOTOR Cycle Jacket, lined tan leather, rain-proof whipcord tweed, never worn; 40s., cost 75s.; length 31, chest 38.—Scarby, Craven Lodge, Leyspring Road, Leytonstone.

LUCAS Acetyphote Headlight, 8s.; 9ft. 3in. Rawido belting, 9s.; Fit-all two-speed gear, 80s.; all practically new.—6, Poulton Road, Southport.

LATHE, 4in. centre, 4ft. gap bed, back-geared, slide-rest, face plate, new, £7; pair 28 by 2 wired Dunlop covers, 10s.; accumulator, 5s.—35, Nelson Street, Norwich.

CHATER-LEA No. 6 Frame, with forks, mudguards, handle-bars, engine lugs and plates; £3 19s.—Sallows, 50, Vauxhall Bridge Road.

26 by 24 Riches Detachable Tube (new), 7s. 6d.; 26 by 2 beaded cover nearly new, 7s. 6d.; 8 feet leather and canvas belt, 5s. 6d.—Cross, 116, Archway Road, Highgate, N.

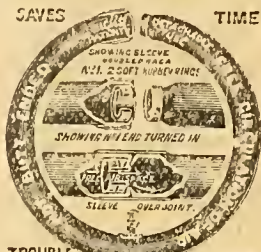
MOTOR Cycle Breeches, rain-proof whipcord tweed, lined flannel, never worn; 20s., cost 42s.; figure 5ft. 8in., waist 34.—Scarby, Craven Lodge, Leyspring Road, Leytonstone, N.E.

TO Motorists. Electricians, etc.—Direct from importer, non-magnetic Swiss lever watches, oxydised gilt rim and ring, second hands, protected works, guaranteed 12 months; 5s. 6d., post free.—Sankey, 57, Neville Street, Cardiff.

The RICH DETACHABLE

AGAIN IMPROVED IN MANUFACTURE.
THE 'ONLY' PERFECT DETACHABLE AIR TUBE.

SAVES TIME		Extra Thick	
26in.	28in.	26in.	28in.
1 8/6	9/-	2 20/-	22/-
2 14 -	14 6	2 25/-	27/-
2 14/6	15/6	3 35 -	38/-
2 15/6	16 6	3 38/-	40/-
3 22/-	28'-	24in 6d. less.	



TROUBLE EXPENSE
PATENTED AT HOME AND ABROAD.

Your own tubes converted.

The great success of this seasons reliability trials has been through the use of the Rich Detachable Air Tubes—as admitted by riders themselves—punctures causing only five minutes delay by replacing another tube.

Any defective joint replaced or repaired free of charge within 9 months of purchase.

Write for Booklet.

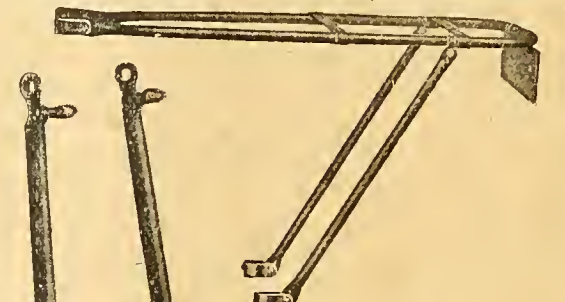
The Rich Detachable Air Tube Co.,

Patentees. CRAWLEY, Sussex.

Agent for India—F. B. STEWART & SON, Poona.

THEY FIT.

PREMIER Tubular Stands and Carriers fit all makes of motor cycles. Say what make your machine is and our Stand and carrier SHALL FIT IT. They are having an immense sale and all users are pleased with them



Sent on

3 Days' Approval

from Stock.

Black or Aluminium Finish. Perfectly made.

Stands, 7/6; Carriers 8/6.

Order through your Agent or direct from

PREMIER MOTOR CO., LTD.,
ASTON ROAD, BIRMINGHAM.

MISCELLANEOUS.

8FT. 6in. Lycett belt, 4s. 6d.; Minerva piston, complete with rings, gudgeon pin, and set screws, 6s. 6d.; pair long plated handle-bars, 6s.; 3in. pulleys (V), new, 3s.; 3in. pulley, 2s. 6d.; two pairs short handle-bars, 2s. 6d. each.—H., 8, Folkestone Road, Upper Edmonton.

LONDON Auto Co., Clapham, S.W., agents for Chater-Lea frames and fittings, and all makes of engines; No. 6 frames, £2 18s. 6d.; girder forks, 15s. 6d.; long handle-bars, 3s. 9d.; wheels, 30s. per pair; tanks from 12s.; low quotations for all other parts; illustrated frame and engine lists stamp.

SELLING Out.—Extra heavy cover, Clincher A Won, 26 by 24, only soiled, 16s. 6d.; inner tube, 26 by 24, 5s.; Stanley belt, 7ft. 6in. (new), 3in., accept 9s. 6d.; extra thick inner tube, 28 by 3in., sacrifice 10s. 6d.; magneto cover, new, 2s. 9d.; Acetyphote lamp, 10s. 6d.; all bargains.—45, Parade, Leamington.

THE Proprietors of the Patent No 14631, of 1904, for "Lubricating arrangement applicable to the motors of motor cycles," desire to sell the said patent, or to grant licences on reasonable terms for the manufacture in this country of such patented apparatus.—Address, Harris and Mills, 23, Southampton Buildings, London, W.C.

MISCELLANEOUS.

FREE Engine Clutch, adjustable pull fit 1907 Triumph, cost 57s. 6d., new, 35s.; exchange one new Oleo plug a one compound plug for 3 belt.—Horn Milnes Street, Wellington Road, Leeds.

GENUINE Three Speeds, Free Engine P leys, positive and reliable action, light, neat, durable, most simple to fit; £2 complete; patent applied for.—New Nonpar Motor Fittings, Ash Tree Road, Stirling, Birmingham.

MOTOR Frames, No. 6, latest pattern, Chater-Lea sidcar chassis, £3 10 wheels, 25s. pair; tanks, all pattern, from 5s.; quick delivery guaranteed; trade specially catered for.—Green Bros., 41, Avondale Road, Peckham, S.E.

BARGAINS.—Splendid wool-lined deerst coat, 12s., cost two guineas; Hercu belt punch, 1s. 9d., new; Lucas Aceta Maj 4s. 6d.; dust suit, 3s. 6d.; black leggings, 4 Fishback belt, 7it. 63in., 3s., offers.—Redma Monson Road, Redhill.

23 h.p. Givaudan Engine, silencer, carburetter, new, £4 15s.; large motor house, £23; Longuemare carburetter, Mod H., 14s.; Bassee-Michel trembler coil, 12 round plain coil, 8s.; Palmer cover, 26 by (new), 25s.; pair plated headlights, 24 lady-back tandem, £5.—1, Frome Road, W Green, London.

LUBRICATING Oil. — Butterworth's motor oil, B., the finest quality obtainable specially prepared for air-cooled engine supplied direct by the manufacturers entirely on approval; 5-gallon tin, 13s.; carriage paid, tin included free; cash with order.—Write for full particulars, Butterworths, Ltd., Motor Lubricant Specialists Liverpool.

SOLID Value for Hard Cash for motor cycles and accessories; lowest price in the trade; all latest novelties in lamp, swan-neck seat pins, long handle-bars, foot rests, free engine pulleys, spring fork belts, tyres, covers, etc.; write p.c. for full illustrated list.—Metropolitan Machine Co., Ltd., M.C. Dept., 75, Bishopsgate Street Without, London, E.C.

3 h.p. Minerva Carburetter, 8s. 6d.; automatic, extra air valve, 2s.; brass electric tail lamp, 8s. 6d.; two 700 by 85 head Dunlop tubes, 15s.; Vim back brake, inverted lever, new, 5s. 6d.; dozen Herzs detachable terminals, 6d.; brass electric tail lamp, 6s.; dashboard voltmeter, three-way in case, with push button, 12s.—46, Varde Road, Clapham Junction.

NO Agents for World-renowned Albany waterproof jackets for motor cycling in double texture fawn paramatta, wind and rainproof, stock lengths, 38in. and 40in. chest measures 36, 38, 40, and 42in., without storm cuffs, all have new collar and flap. We guarantee every jacket, price 15s. extra heavy, at 18s. 6d.; send lengths desired and chest measure. Overalls to match 7s. 6d. and 8s. 6d. We pay carriage.—G. Ra and Sons, Indiarubber Manufacturers, T Albany, Oldhall Street, Liverpool.

STAMFORD HILL.—Carburetters, Longuemare H., 18s. 6d.; 3 1/2 h.p. spray, 12 6d.; 2 h.p. ditto, 9s. 6d.; 3 1/2 h.p. Whitley 13s. 6d.; twin Kerry, 16s.; 3 h.p. Minerva 14s.; Midget plain coils, twins, 10s. 6d. single, 6s. 6d.; 2 1/2 h.p. Rex engine, £3 18s. 3 h.p. De Dion, £3; ditto pattern, 45s. Clincher inner tubes, 6s. 6d. each; late motor cycle searchlight, new, complete 25s.; 4in. steel mudguards, 1s. 9d. pair; car wing mudguards, 6s. 6d. pair; vel large, 9s. pair; long handle-bars, dropper ends, 7s. 6d.; over-back seat-pillars, be plating, 4s.; list just ready, free.—128, High Road, Tottenham.

21 h.p. Kerry, spring forks, footrests, new tyres and tubes, in splendid condition, and very fast, £14, bargain; 3 1/2 h.p. Kerry, new Palmer back, and new Midland front, just been overhauled, magnificer hill-climber, £15; 1 1/2 h.p. Phoenix-Minerva, thorough good condition, £8; 3 1/2 h.p. Auto motor engine, w.c. head, new, £5 5s.; 5 h.p. tricar, Chater-Lea fittings, Oppermann three speed gear, new, and new Sarolea engine £27 10s.; 5 1/2 h.p. Humberette, in splendid order, just had new cylinder fitted, and thorough overhaul, all spare, and Stepne wheel, £45.—Aberdeen Road Motor Works Clifton, Bristol.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."



MOTOR CYCLE



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Agents for the Colonies: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

Subscription Rates: Home, 6s. 6d.; Foreign, 10s. 10d.; Canada, 8s. 8d. per annum.

The Motor Cycle Tourist Trophy Race.

THE next great motor cycle event of the year will be the holding of the Tourist Trophy Race in the Isle of Man, the definite date for which is now officially announced as being September 22nd. Last year this, the first road race for motor cycles held in the British Isles, was a splendid success. It was a really sporting event, and it left its good effect on the later models of more than one make of machine. Those who entered for the competition also learnt a valuable lesson; they had no idea how economically a powerful motor bicycle could be run without seriously affecting its efficiency, with the result that some of those who last year complained that the petrol allowance was insufficient, demanded this year that the amount of fuel should be reduced. Now that the conditions have been rendered somewhat more difficult the race should be even more exciting, and there should be no great amount of fuel left in the tanks as was the case with more than one machine last year. The riders must bear in mind that the race is not a consumption test, and consequently the more petrol there is left the greater is the evidence of the misjudgment of the driver. The point to be aimed at is that the greatest possible speed is to be maintained and the least possible amount of fuel is to be left over. As the greatest speed possible with the amount of petrol allowed is the main factor of the competition, the latter's importance cannot be over-estimated. English riders have so few chances of travelling at a great pace under official observation for any length of time that

they hardly know what will happen under these conditions. Rattling round that course lap after lap at double legal speed, taking corners as fast as possible, climbing steep hills, and making up time on the level, all tend to find out the weak points of a machine, which would hardly be evident on a twenty miles an hour journey from Land's End to John-o'-Groat's. Hence leaving out the sporting side of the race, its utility cannot be denied.

The T.T. Prize Fund.

UP to the time of writing eleven entries have been received, while nine more are required to attain the requisite number, since unless twenty entries are received no race will be run. The competition is somewhat costly to organise and run, but to encourage motor cyclists and the industry to enter the prizes will be made worth winning. It is hardly surprising, therefore, to learn that the A.C.U. is instituting a special prize fund, to which it invites motor cyclists and motor car owners interested in motor cycling to subscribe. This fund deserves the heartiest support, and we sincerely hope that all who have the interests of the movement at heart will contribute. The shillings of the poor and the guineas of the rich are equally appreciated in matters of this kind, and we therefore appeal to all who can afford it to help render the race a real success by sending a small donation to Mr. F. Straight, secretary of the Auto Cycle Union, 18, Down Street, Piccadilly, W. Further particulars regarding the fund, and a list of the donors, will be found on the Current Chat pages.

Standard Machines in Hill-climbs.

By B. H. DAVIES.

DESIRE to take strong exception to some recent remarks by your contributor, "Ixion," about the absence of special machines from hill-climbs. I fancy he is not in the habit of regularly attending such functions, and while it was the exception to many special machines competing up to a short time ago, competition has now become so keen, and hill-climbing reputation so valuable an asset commercially, that several firms leave no stone unturned to sweep the boards. This abuse has always cropped up spasmodically. I was once an innocent culprit myself. My own machine needed a few repairs, and I took it to the makers with a request that it should be ready by the date of an approaching hill-climb. They replied that they could not get it ready, but that they would lend me one of their trial machines. They did so, and I rode it without discovering that it weighed 100 lbs. lighter than my own, and had about twice as much compression. (I am glad to say I failed to get any prize in spite of it.) That was years ago, and things have since improved, the trade riders using in most instances strictly standard machines, admirably tuned. For instance, at Fernhurst in 1905 I failed to coax my J.A.P. Triumph up the hill, and when Ayton and Herbert went up fast, they were accused of not using standard machines. Mr. Ayton promptly seized mine and drove it up quite as fast as he had previously depended on his own. This state of things continued for a time. Gradually competition among the various manufacturers grew keener and keener; each firm tried to snatch an advantage by engaging lightweight jockeys. On the day came when every firm had got a 9 st. or 10 st. expert at its disposal. Then the mischief began. One or two firms started manufacturing special engines and machines, and at last an evil era has dawned, in which practically every trade rider rides a machine incorporating vital departures from standard specifications, and in some cases amateur riders favoured by the trade are also supplied with the special engine or the special frame.

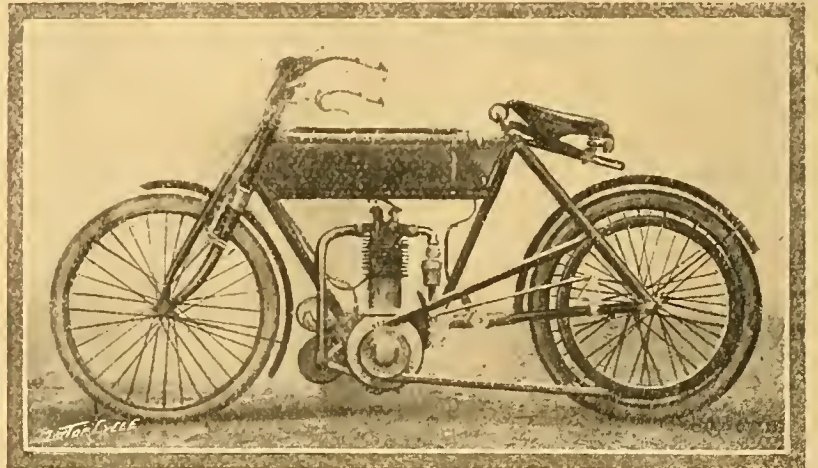
The Newnham Entries.

I was a clerk of the course at Newnham on August 1st, and I doubt if a single standard machine figured in the time results of any one class, excepting possibly that for variable gears. I saw there special machines, special tanks, special carburetters, special silencers, and special engines. There is no very great objection, I think, to a man fitting fakes to his carburetter. It is a matter of brains and a few pence, not facilities that only a factory can supply, and which would cost an amateur pounds to duplicate; and so I should take no exception to a variable jet and two or three clever little float attachments, such as I observed on one machine that figured fairly prominently, even though these fakements are not supplied to the average amateur. But here is an anecdote which will illustrate my main point. A maker was considering ball bearings for his 1909 engine. He went to a firm who make a speciality of ball bearings, and was shown various samples. "Messrs. So-and-so," quoth the tradesman, "have used these for two years, and find them absolutely satisfactory." I may add that Messrs. So-and-so sell a machine

with plain bearings, but that they win many hill-climbs. Or, again, every now and then we have seen hill-climbs won any time this last five years by a small engine that obviously had a racing and not a touring compression; at Newnham on August 15th the majority of the prominent machines had a far bigger ratio of compression than any standard tourist machine I ever owned. I noticed other points, about which I can only speak with less certainty, but the variation in the silencers was obvious to duffers and ladies. One or two machines ridden by private owners ascended the hill almost inaudibly; nominally identical machines in the hands of racing amateurs and trade riders had practically open exhausts.

Face to Face with Two Alternatives.

I am not competing in hill climbs this season, chiefly through pressure of work, but if I could get away on Saturdays, I should probably refrain. Why? Because in the past it was possible for me to beat the maker of my own machine, himself mounted on a sister machine,



The first illustration of a 1908 T.T. racer. Mr. C. B. Franklin has entered this machine for the Tourist Trophy Race. The engine is a J.A.P. 85 x 85 with J.A.P. carburetter and magneto ignition. It weighs 160 lbs.

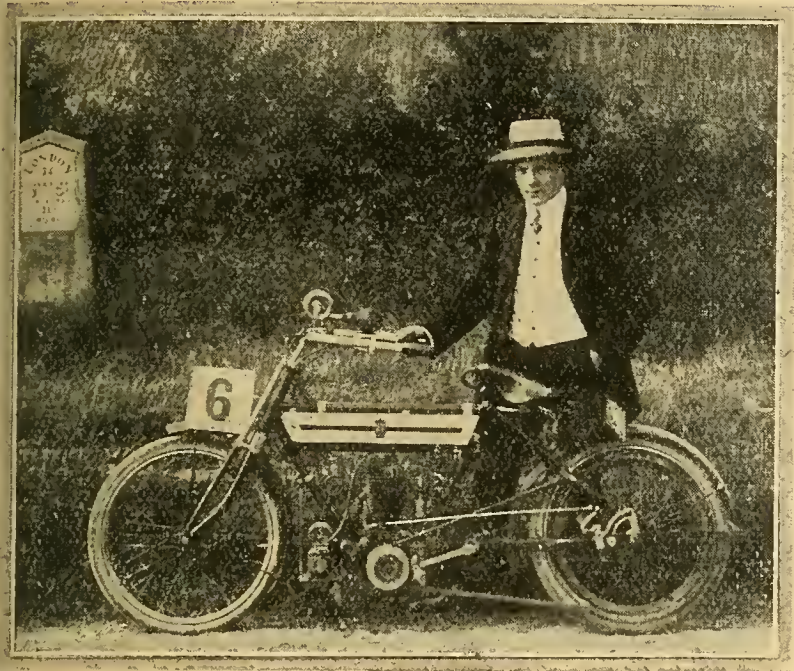
and I have actually done it. To-day I am face to face with two alternatives. Either I can enter for the climb on one of these special machines which as a privileged amateur I could probably obtain, and thus retain a chance of winning, and at any rate have the consolation of knowing I am beaten by a man who can get more out of the same engine and machine than I can; or else I must pay my 5s. or my 10s. for the privilege of crawling up the hill with a tailed off bunch of other amateurs amid the semi-derisive silence of the onlookers, and see myself beaten by machines having double as high a compression as my own, and so flimsily constructed that they are seldom used on the road except for climbs and special events. I refuse to adopt either alternative, and therefore I do not compete. Hundreds of other amateurs think as I do in the matter, and act similarly.

The Trade as a Whole are Guiltless.

I want to make it clear that we are neither to blame the trade as a whole, nor still less the trade rider, for this corruption of sport. The trade stuck to the standard machine until their hands were forced by one or two specially wideawake firms. I daresay the one or two firms who after holding their own for two years

Standard Machines in Hill-climbs.—

have been driven out of most prize lists in 1908, are planning special machines for 1909, and I cannot blame them. Still less do I desire to cast a slur on the trade rider. The trade riders ask nothing better than a fair



[Phil Baker (2½ h.p. Minerva with Chater-Lea frame). This local rider was first on time and on formula in Class I. at Newnham on the 15th inst.

field and no favour; I daresay they would jump at the idea of a climb in which 70 men rode identical machines of one make, just to see who was the best man; and after such a magnificent performance as that put up by Marshall in beating all the big twins on the 15th. it is obvious that if we amateurs were given the best special machines, we should almost always get licked just the same. The point is that at present if I buy a standard machine, I have no earthly chance of making a decent show—at least ten men will beat me; if I could or did buy a machine such as the trade rider bestrides. I should have a chance, and could only be beaten by the margin between my brains and experience, and their

brains and experience, instead of by the added margin between their machine and mine. But there should be no necessity for me to buy a special machine for competition; it is the special machine which should be confined to a special class.

Nothing is being Done.

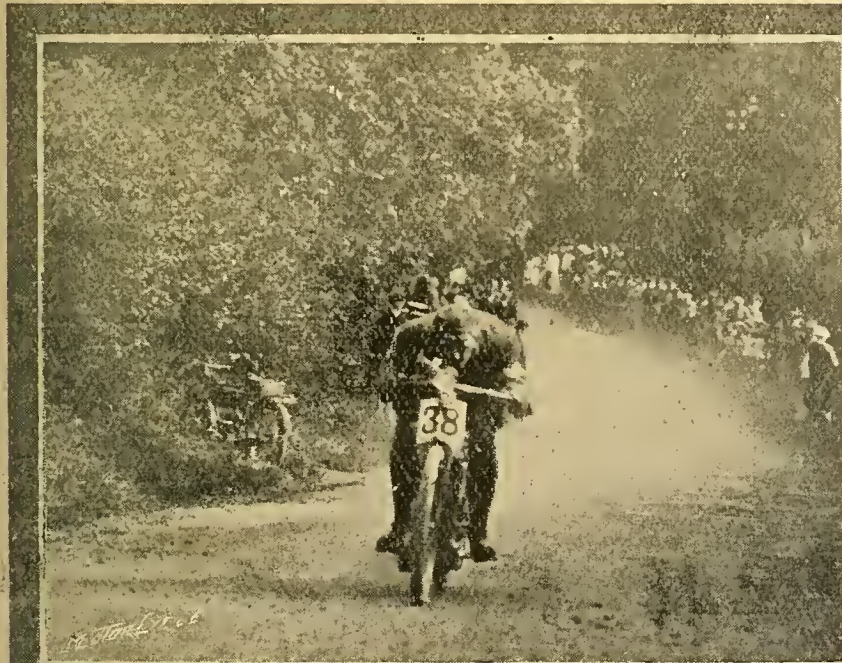
Nothing is being done by club officials because the trade entries are necessary alike for the prestige and the financial success of every hill climb. But official silence on the point is deluding the uninstructed amateur into thinking he is beaten on his merits, instead of on the merits of his machine. To put it nastily, he is being cheated into thinking he has an equal chance.

What Can be Done?

It is further extremely difficult to say what can be done. To distinguish between trade rider, makers amateur, and pure amateur would puzzle a Solon when reduced from theory to practice. Members' classes supplementing a championship class will not do, as the trade rider is deservedly a welcome member of any sporting club. Novice classes will not solve the difficulty either, as an unscrupulous firm can easily find an unscrupulous novice and lend him a special machine. can only suggest one alternative.

Disqualifying Engineers.

That is the employment of disqualifying engineers. This would first of all require two or three uncommonly good men, and secondly, a far more complicated entry form. The A.C.U. would have to procure information about the most secret details of every machine, and the winning machines would have to be dismantled, for testing the type of bearing, the ratio of compression, and so forth. I doubt if we can find two or three men who will make themselves absolutely conversant with every detail of every machine, and test the winner for its adherence to standard. A very superficial acquaintance with modern motor cycles would have sufficed to disqualify about half the entrants at Newnham, but increased official vigilance would bring increased competing ingenuity.



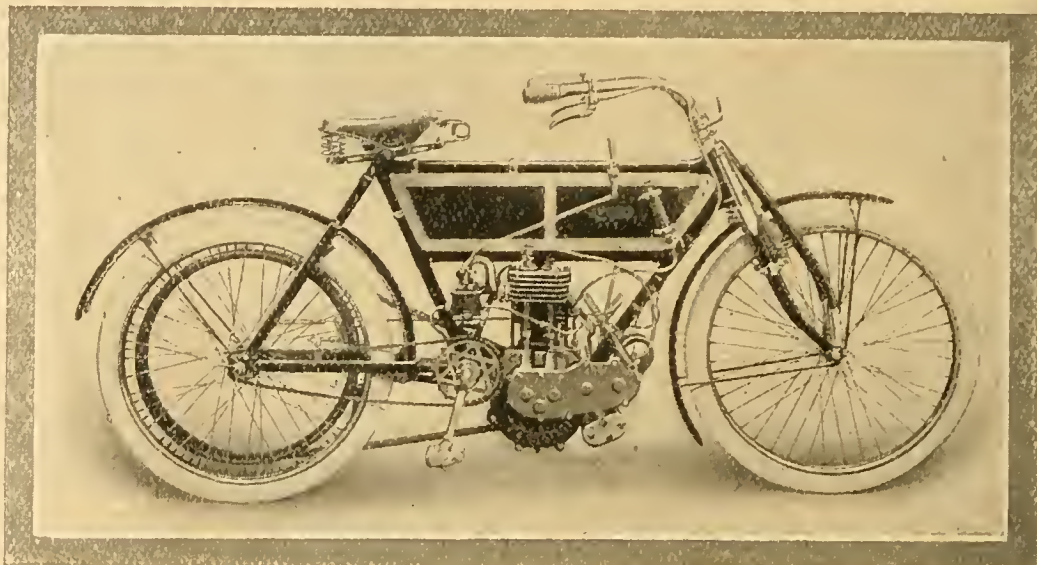
Scenes at the Coventry M.C. Hill Climbing Competition at Newnham, near Daventry, on the 15th inst. On the left, W. H. Wells, 5 h.p. T.T. twin Vindex, who was fourth in Class 3 on time and third on formula. On the right, W. G. McMinnies, 3½ h.p. T.T. Triumph; he was third in Class 3 on time and fifth on formula, and won the Silver Rose Bowl presented by *The Motor Cycle* for the best combined performance on time and on formula by a private owner.

THE BROWN MOTOR BICYCLE.

WE have lately had under test a $3\frac{1}{2}$ h.p. Brown motor bicycle fitted with high-tension Bosch magneto ignition and spring forks, which from the point of reliability and speed has proved all that could be desired. The engine was exceptionally clean running—that is to say, it did not dribble oil in all directions—and had plenty of "heart," but was handicapped by too high a gear, which was in the neighbourhood of $3\frac{7}{8}$ to 1. The consequence was that the machine required careful handling in traffic to keep the engine going.

The machine as a whole was well made and substantial without being unwieldy, but lacked a number of refinements which would go far towards making it an ideal mount. Handle-bar control, for instance, would give much smoother running, as the coarse cut quadrants and levers were very difficult to position when driving over bad roads, especially as one notch on either the ignition or throttle quadrant made all the difference between the engine racing away or stopping altogether. This was particularly noticeable on severe hills up which the machine required to be nursed. On the level the machine was quite fast enough for all ordinary requirements, and was very steady at high speeds, holding the road well without any bouncing. With regard to reliability, the only attention required in some 500 miles running was the detaching of the magneto transmission cover for the purpose of filling up with grease (after this attention

the machine ran a great deal quieter), the cleaning of the carburetter pipe, which had become choked, and the shortening of the exhaust valve lifter wire. This must be considered a good performance in view of the fact that the machine was brand new when we received it, and admittedly had not been tuned up by the makers. Being a new engine and having been



The latest Brown motor bicycle. This machine is fitted with an engine 82×90 mm., and gear-driven magneto ignition.

copiously lubricated, it was given a paraffin bath after about the 400th mile, and then charged with fresh, clean oil, with consequent marked improvement in the running. In conclusion, we found the Brown fairly economical with petrol for her size, and an easy running machine.

Important German Consumption Trial.

THE motor cycle contest, entitled "Round Berlin," organised by the German Cycling Federation last week, was not a race but a fuel consumption trial, awards being based on the weight propelled divided by the quantity of liquid fuel (petrol or benzol) consumed. The course, as the title indicates,



W. Thiede, 3 h.p. Goricke. Note the curious headgear.

was a circuitous one of about $144\frac{1}{2}$ miles in the neighbourhood of Berlin, starting and finishing near Potsdam. Thirty tricar and motor bicycles took part, divided into three classes—Class I. tricars, Class II. motor cycles over 2 h.p., and Class III. motor cycles under 2 h.p. Among the different makes which competed were F.N., Phänomobil, Magnet, Göricke, Durkopp, Laurin and Klement, N.S.U., Wanderer, Progress, Brennabor, Phänomen, and Motosacoche.

The winner of Class I (tricars) was the driver of a F.N. with forecarriage. He occupied 9h. 11m., the total weight carried was $288\frac{1}{4}$ kilogrammes, and the consumption 8 litres.

Class II. was won by W. Thiede on a 3 h.p. Göricke. Time occupied, 8h. 51m.; total weight carried, 198 kilogrammes; consumption, 5.9 litres. In the same class the highest consumption was $12\frac{1}{2}$ litres; time, 6h. 53m.; total weight, 162 kilogrammes. This competitor, who rode a Magnet, evidently was only out for speed, as he made the fastest time and consumed more spirit than anyone else, with the exception of one of the tricar entrants, whose petrol bill was 19 litres.

Class III.—With the exception of one F.N. and one privately built machine, Class III. was represented by five Motosacoche machines, one of them winning, and the others occupying third, fourth, fifth, and sixth positions. The winner's time was 9h. 21m., consumption $3\frac{3}{4}$ litres, weight 124 kilogrammes. This is equal to a total weight of 2 cwt. 2 qrs. 20 lbs. propelled $144\frac{1}{2}$ miles, with a consumption of $63\frac{3}{4}$ pints.

Questions & Replies.

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, must be accompanied with a stamped addressed envelope for reply.

Filings between the Platina.

?

I have ridden my $3\frac{1}{2}$ h.p. machine (which is fitted with a Bosch magneto) about 1,600 miles. I noticed that the platina were beginning to pit, so I placed a fine file between the two points to clean them, afterwards wiping the contact breaker with a rag. On replacing the cover the engine refused to fire at all, and on testing the magneto with the little spanner there was no spark. I again looked at the contacts—there was nothing amiss, but I inserted a piece of a visiting card between the points, and the engine afterwards fired perfectly. Can you suggest a reason for the engine refusing to fire at first?—W.D.F.

It is highly probable that some portions of dirt or filings remained between the platina, and thus prevented them from making a good contact. When you used a piece of card the foreign particles were probably removed and a proper contact was again made. After filing the points it is always best to use a rag or brush soaked in petrol to thoroughly clean the contact breaker.

Increasing the Air Supply.

?

My 6 h.p. Riley tricar is fitted with a B19 Longuemare carburetter. This does not supply enough air, especially when running on the magneto. With the throttle lever set half open I have to put the air lever to fully open. I am using a 20 mm. choke tube. This means that I cannot get full power out of the engine. I have fitted a Bowden extra air inlet on the induction pipe, and find this to a certain extent an improvement, but if I give a little too much air I have to close down the extra air and begin again to find the mixture. With our hilly roads and constantly varying gradients this is an impossible state of things. What would you suggest? Can I fit another pattern of carburetter? It would require to be operated in the same way as my present one, as I do not care to have new levers and fittings.—CEYLON.

You can increase the air supply by fitting the next size larger choke tube. Three sizes are or should be supplied with every Longuemare carburetter. If you have the largest one fitted already, try a smaller sized spray, which will have almost the same effect as increasing the air.

Buying a Tricar

?

I have taken in *The Motor Cycle* for some time, and owing to reading it I have become desirous of buying a tricar should the answers to my queries, which I shall be obliged if you will answer, prove satisfactory. (1.) Are they really reliable? (2.) What h.p. would you advise for touring purposes? (3.) What mileage to the gallon ought one to get out of them? (4.) How many speeds would be advisable, and should they be fitted with reverse?—F. B. F.

(1.) Perfectly reliable. (2.) Depends on weight to be carried and district in which you propose touring. Also type of machine you fancy. If you want a machine with bucket seats back and front, coach built, and with water-cooled engine, we should not advise less than 5 to 6 h.p., either single or twin. Properly geared and properly driven they give excellent results. (3.) This type of machine will run about sixty miles to the gallon with careful handling. (4.) Legally it should be fitted with a reverse if it weighs over 3 cwt. in weight, but this is not necessary otherwise.

Grinding-in Needle Valve Alters Petrol Level.

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The carburetter of my $1\frac{3}{4}$ h.p. F.N. having lately taken to flooding, I examined the needle and found it to have a ridge near the point. I therefore pared it down with emery paper until the shoulder was quite gone and then ground it in, but it floods worse than ever now, and in addition has a tendency to misfire at the beginning of a hill, and is not such a good starter as it was. I find that when the petrol is welling out of the float chamber the needle is still not bedded down in its seating. Would it be a good thing to lighten the float, or should I upset the level of the petrol by this? If I don't do that I suppose a new needle is the only thing to cure it.—H.H., Hants.

In paring down the shoulder and then grinding in the needle, you have shortened the distance between the needle valve point and the weight. Consequently the petrol is shut off later now than formerly, and the level is higher. You can remedy matters and stop the flooding by raising the weight on the needle slightly, or if you will fit a small light washer over the counter weight on the needle it might

stop the flooding. In other words, the counterweight on the needle itself should be slightly weighted in order to cut off the petrol earlier.

Engine Knocking.

?

My engine knocks slightly after I have run a mile or two and I am at a loss to account for it. The machine is a 190 pattern, and has run 400 miles since the cylinder was removed, so the noise I suppose cannot be due to carbon deposits. I have a magneto fitted and two-speed gear with chain drive. The engine does not overheat and stop, and everything is quite satisfactory excepting the noise referred to. I live in a very hilly district.—H.W.D.

We suggest two things likely to be causing the knocking in your engine. Either the gear is too high for your weight or the magneto is timed too fast. Check the timing yourself and consult the makers of your machine with regard to the gear. You, of course, know that an engine will knock if the air lever is too far open.

Removing and Replacing the Cylinder.

?

My 3 h.p. Fafnir engine having taken to knocking badly when the spark advanced, and also of failing on hills which it used to climb

I have been wondering whether could remedy the fault by scraping the inside of the cylinder, but being a novice I would deem it a favour you would let me know whether it is a difficult job to replace the cylinder after it has been taken off?—J.W.F. Mon.

Yes, if you clean out the cylinder head and piston most probably the knocking will cease. It is not a very difficult matter to remove and replace the cylinder, but perhaps it would be better to get an experienced friend to assist you on the first occasion. If you have need to remove the piston rings be careful to insert a thin piece of whalebone or tin between the ring and the cylinder. You had better slip three pieces in at regular intervals when the ring will slip over. Great care must be taken not to break the rings. By this means you can clean any carbon deposits out of the grooves. The deposit may be scraped off with an old screwdriver or a mallet may be used if the deposit is very hard set. Tap the screwdriver gently to avoid damaging the piston.

OCCASIONAL COMMENTS.

By "IXION."

An American Motor Cycling Function.

An American motor cycling paper reached me by last mail, and apparently our Yankee confrères are rather sprightly when they let themselves go. Their official organisation has been holding what it calls a "bing bang fest," in process of which they passed through a dark, low tunnel, on emerging from which each member received a hearty smack from a harlequin's wand containing a blank cartridge, which caused damage to trousers in some instances. The next excitement consisted of stepping on a metal plate coupled up to an ignition coil, which dealt out some juicy shocks. At the conclusion of the proceedings one individual was discovered trying to find his way to bed armed with head and tail lights and a road map, while another was discharging a revolver until 3 a.m., when his supply of blank cartridges mercifully expired. It would be amusing to see the staid officials of our own A.C.U. indulging in such antics. Motor cycling is altogether a livelier affair in the States than here. They have been holding track races on a spot known as the Clifton Saucer—a wooden track of *six* laps to the mile, on which one intrepid rider covered a flying mile in fifty-four seconds!

Elimination in Motor Cycle Trials.

Several long-distance motor cycle trials have been utterly spoilt from a pleasurable point of view by the methods adopted to find an absolute winner. A case in point is furnished by the Schulte Cup competition. It may be a great testimony to the reliability of a machine for it to travel eight hundred miles, and as near as can be ascertained to cover twenty miles, neither more nor less, in every separate hour. But it is simply a monotonous grind for the rider, while the absence of milestones over portions of the route, and the fact that about two hundred miles out of the total are ridden in darkness, import a considerable element of luck. A better scheme for finding an out-and-out winner was included in the regulations for a recent long-distance event, which was not burdened with too many controls, but included a thirty-mile stretch, over which only three minutes of variation in time was allowed—a plan that permitted the major portion of the run to be done in go-as-you-please fashion. Even this scheme has its drawbacks. It is quite possible for a dozen men to emerge from it with records equally meritorious. An element of unfairness is also permitted to find entrance, since the man who knows the road best obviously has the better chance of doing his thirty miles dead to time. It has been suggested to me that such trials should be run much as they were formerly in the days when no absolute winner was required, and that the chief award should go to the man completing the distance with a clean sheet, and with his machine in the best condition. For instance, had this eliminating dodge been applied to the End-to-end, supposing some enthusiast had offered a valuable trophy for the best performance, elimination would have been limited to some half a dozen machines, thanks to the copious notes taken by the travelling marshals. If these six machines had been mustered before the judges and thoroughly overhauled, it would have been quite a simple matter to ascertain which machine was in the best condition. A few points to be taken into account

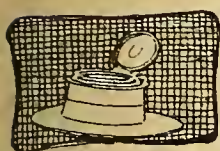
would be: Cleanliness from external oil; cleanliness of plugs; fit of valve faces; brake efficiency; loose nuts and bearings; leaky taps; compression; state of magneto, etc. Thus there would be entire certainty of giving the premier award to the machine which had really earned it, the conditions would not take horsepower into account, there would be no loophole for luck, and, above all, the run would not be injured from the point of view of pleasure, and the riders would not be continually haunted by niggling considerations of time and milestones and secret checks. I should especially like to see these conditions tested next year in one of the long distance events.

Lightweights in Trials.

The lightweight undoubtedly has so great a future that I may perhaps be permitted to state what the motor cycling public will demand from the manufacturers before they invest in such numbers that a "boom" can begin. They will want to see the lightweights they are going to buy come through the A.C.U. Trials practically without loss of marks. They will want to see not a single isolated machine of each make successful, but a whole fleet. Witness the history of the Triumph machine. I can remember when only a handful of *cognoscenti* were riding this make, and now the roads are thick with them. Their boom dates from the time when a small fleet of them began to go through every trial with the regularity of clockwork. Had but one Triumph competed in each trial, they would not have sold more than one machine for every fifty they are selling to-day. And, above all, the public want to know the weights of the men who ride these machines in trials. I, of course, am in a position to know that one or two of the trade lightweight riders are men I should be very loth to take on at catch-as-catch-can, and yet I am no chicken. I also know that one or two of them are bantam weight midgets. The public believe that all of them are pigmies, and since the average motor cyclist weighs at least eleven stones, he hesitates to seriously consider the lightweight. I think it rather negligent of the A.C.U. not to have given real prominence to the personal weight of the lightweight riders in the End-to-end, as some of the hill-climbing done by these machines was really remarkable, and will not be fully credited to them unless weights are published. Is it too late for Mr. Straight to send these to the Editor for publication? Many riders saw these machines on various bad hills, but it is impossible to guess a man's weight when he flies past you dressed in a loose flapping suit of overalls.

H.T. Distributers for Motor Cycles.

I find I was in error in a recent article when I said there were no machines fitted with single coil and contact-breaker plus a high-tension distributor. The Leader and Fairy machines are so fitted, as I am now informed by several correspondents. The Leader Motor Co. make a speciality of supplying this distributor to fit any standard engine, and it is undoubtedly a very desirable form of ignition, being, as most readers will know, no small factor in the speed proclivities of Napier cars, which are alleged to give five hundred revolutions per minute with this type of ignition above any with the magneto type.



LETTERS TO THE EDITOR



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Hill-climbing and Other Matters.

[3497].—Every motor cyclist must feel grateful for Mr. Wm. Wilson's letter [No. 3464], and should congratulate him on his perseverance in trying to obtain the pleasure there is in the sport of motor cycling.

It may interest one or two of your readers to know that I have seen Whitedowns (mentioned by Mr. William Percy) climbed by a two-speed Triumph, a single geared Triumph, and a twin Antoine. The last machine was geared $3\frac{3}{4}$ to 1.

A. R. HUNTER.

Cast-iron Headed Valves.

[3498].—With reference to "Ixion's comments in a recent issue on the breakage of cast-iron headed valves, I should like to point out that the screwed on head reduces the strength of the stem to that of the diameter at the bottom of the thread.

The correct method in my opinion is to shrink the head on, thus leaving the spindle same strength throughout. Several of my friends have had valves of this type running for over a year, and so far they have had no breakages with this method of attachment.

G. GRAY.

Formula in Hill Climbs.

[3499].—With regard to the formula used in the Coventry Hill-climb, I would like to point out that, although this is excellent for the ordinary motor cycle, it does not answer satisfactorily in the case of a machine such as the Scott.

This engine being two-cylinder and two-stroke is nearly equivalent to a four-cylinder engine.

The cylinder capacity as given in the programme is only taken as if the machine were a simple twin, no allowance being given for the double stroke. In addition to this, the engine, being water-cooled, received a consideration in the formula for the necessarily added weight, but no deduction from the result is made for the increased efficiency in hill-climbing on this account.

W. G. BOWER.

A Problem to be Solved.

[3500].—Some months ago I wrote you on the subject of to me a mysterious acceleration of engine revolutions when running with an infinitesimal lift of exhaust valve during the complete cycle of revolutions operated by the exhaust valve lifter (Bowden). The matter has lately been most emphatically proved to me that I venture to re-open it.

(1.) My twin Antoine 77 mm. x 80 mm. A.V. responds to this small lift when well warmed up. (Longuemare plain coils.)

(2.) My 6 h.p. A.V. single-cylinder flat belt drive (Longuemare Bassée-Michel trembler) accelerates distinctly on lifting valve whilst running under double load.

(3.) A friend's 3 h.p. Givaudan M.O.V. trembler F.N. carburetter causes him (a beginner) consternation on account of this same behaviour.

Some of your four-cylinder F.N. correspondents speak of an "abnormal condition" of running at present not accounted for. I offer the suggestion that perhaps some connection exists between their phenomenon and mine, inasmuch as the valves may rebound slightly or chatter after closing.

In view of my experiences of this curious phenomenon, I am sure there must be other riders who have shared them; in fact, one of your very early numbers had a letter from a novice on the subject, but I do not remember having seen any information or explanations offered, although I have never missed a copy of your most excellent paper.

AN 164.

[The explanation in this case is, we think, simple. The engines in question do not get sufficient air supply at critical speeds, and the slight raising of exhaust valve enables the piston to induce more air *via* the exhaust port.—Ed.]

[3501].—I notice in your issue of August 5th that the subject introduced by Mr. Ovington of America is still under discussion as a problem yet to be solved, but which I regard as being no problem at all.

Five years ago I had a machine fitted with a $2\frac{1}{4}$ h.p. engine and a surface carburetter, and when going for a run of forty or fifty miles it was common for me to remark that I would drive for the first ten miles or so; after that *the engine could drive itself*. It would positively roar away in this so-called abnormal state, always absolutely noiselessly, until the mixture was upset either by road shock or by lever manipulation. I have experienced this same state with a De Dion tricycle, surface carburetter.

If I failed to obtain this condition, I had not to seek far for the cause, *i.e.*, the tappet or exhaust stem worn slightly. To remedy this I heated the end of exhaust stem, and drew it out a little with a hammer on an anvil.

As I have not experienced the same with other machines I have had since, and which have been fitted with spray carburetters, I attribute its actual occurrence, and its rare occurrence, to two points. First, its actual occurrence, which I prefer to describe not as an abnormal state, but as the natural state and working conditions of a petrol engine with perfect carburation and a perfect timing of ignition, which is in advance of spark lever range. As for the lubricating part of the question, I always obtained the best results with gas engine oil. Secondly, its rare occurrence, imperfection of timing, referring only to lift of exhaust valve, and imperfect carburation, bad roads and police regulations included, which makes driving artificial, and not in accordance with the natural requirements of a petrol engine, until, as your correspondent says, it takes the bit between its teeth and tears away.

Now, in connection with this subject, and to further demonstrate the so-called phenomena, and one or two more undiscovered eye-openers, I would suggest that we have a Marathon motor cycle race—in boxers' terms, a fight to a finish. This race could be run on the Brooklands Track, against which the End-to-end runs, etc., would be only as a gentle and a steady tour. Competitors to carry not less than one gallon of petrol, "or more," for many riders say that their engine would run all day if it was fed. In this race we should see what they will do on top speed, and see the day's running considerably lessened. It would also be an opportunity for the F.N. 4 to develop the abnormal state and maintain it, for which the conditions are perfect. It would have a great advantage in the gear drive, but belt-driven machines could be fitted with a jockey pulley, to be brought into requisition when required to tighten the belt.

In any case, I think it would be a very interesting race if it were run as an international race against time and consumption of petrol, stoppages on any account to disqualify for further part in the race.

RALPH P. ORMESHER.

[There is the Tourist Trophy Race in the Isle of Man, which will be run under practically similar conditions.—Ed.]

Motor Cycle Finish.

[3502].—I was greatly interested in the letter 3474, "Motor Cycle Finish." I have tried every kind of enamel, claiming all sorts of things, but the petrol, oil, and acids soon played havoc with the surface; in fact, in enamelling an old machine the cure is generally worse than the malady, because the machine soon gets the appearance of a faked up "jigger" looked upon with suspicion by everybody.

Some time ago I saw and admired a grey Westinghouse car, and was informed it was painted some nine months ago with a new enamel compound impervious to grease, acid, oil, and petrol. I obtained some and employed a practical painter to give two coats to my tricar. The whole cost was—painting, 6s.; enamel, 4s. 6d. The effect and wear in all weathers surprised everyone, and when I sold it it was taken

for a new machine (a 1906 Riley). The enamel is called Robbialac, and is made in this country by Jenson and Nicholson, of Warton Road, Stratford. One pint, at a cost of 3s., will cover about three motor cycles. I selected grey, which is a splendid colour to hide the dust and dirt.

FIRST AID.

Running on Naphtha.

[3503.]—I notice in your esteemed paper that a Mr. Cyril V. Abrecht recommends coal tar naphtha as a motor fuel.

May I be allowed to warn fellow motorists that crude coal tar naphtha, although it will drive a motor engine, is very unsuitable for this purpose on account of the large percentage of impurities, high boiling compounds, and creosote. Coke oven naphtha (a rather purer naphtha) even when redistilled has been tried and found wanting owing to the incomplete vaporisation of the fuel, and the consequent sooting, etc.

Motorists need have no fear, however, in using refined benzol (a water white liquid specific gravity .880) such as is marketed in some districts, but it must be refined.

I have used nothing else these two last seasons, and all I do is weight the float till the engine starts easily, when a little more air may be given when running.

My mileage is 130 miles per gallon, $3\frac{1}{2}$ h.p. Minerva, 1907. My mileage was 150-160 miles per gallon. 2 h.p. Minerva, 1903.

The engines when taken down after 1,000 miles were reported by the shop people to be in a normal condition.

As this is an English production, mainly extracted from coal gas, perhaps other cyclists have had experiences with it. May I invite them to relate them either good or bad, because I feel sure that all the bad times that may be related will be through using too much.

J. BELLERBY.

P.S.—The specific gravity of coal tar naphtha is .930 not .730, evidently a mistake of Mr. Abrecht's.

Bore v. Cubical Capacity.

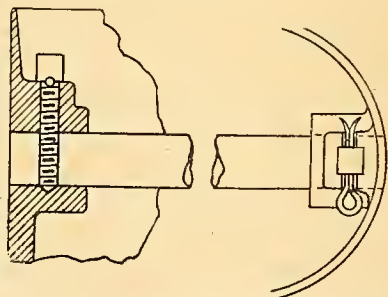
[3504.]—Like Mr. A. W. Smith [letter 3472], I have for some time been interested in the relation of power to stroke, and in the main hold his opinion on the matter. But I remember reading in *The Autocar* some months back an article explaining why a long stroke engine gives more power than one with a shorter stroke, but same bore. It seems to me that the formula used by the Midland A.C. at the Shelsley Walsh hill-climb is on the right track, in assuming that the power varies as some fractional index of the stroke—in this case $(S)^{\frac{1}{2}}$, or \sqrt{S} .

It would be very interesting to hear the results of properly conducted experiments to determine some simple formula for rating the power of engines with various strokes.

To compare two quite distinct performances by motor cycle engines, let us take as one example the flying half-mile of McMinnies, on the Triumph, on Brooklands, February 25th last. Stroke, 86 mm.; gear, $3\frac{1}{4}$ to 1; speed, 59.8 miles per hour. The piston speed works out at 1,420ft. per minute, with average engine revolutions of 2,512 per minute.

Again, from *The Motor Cycle*, of August 12th, page 635, we find a good performance by R. O. Clark, on the four-cylinder F.N., the stroke of which is I fancy 57 mm. In a ten miles race the average speed is approximately forty-six miles per hour, which, with a gear of 5.93 to 1 and 26in. wheels gives the number of engine revolutions as no less than 3,540 per minute, and a piston speed of 1,322ft. per minute. This seems to show that variation of stroke does not greatly affect piston speed under load.

The following method of securing gudgeon pin set-screws may be appreciated by some of your readers. In the boss into which the set-pin is screwed a slot is cut $\frac{3}{32}$ in. deep, corresponding with a hole drilled through the head of the pin. The latter is screwed right home and a cotter put into place and split, as per above sketch. The arrangement has acted very well on a 1906 twin, which had given much trouble through the screws falling out.



PRENTICE.

Carburettor Control.

[3505.]—A few months ago I purchased a $5\frac{1}{2}$ h.p. twin Griffon motor cycle, and had reason to find the carburettor fitted unsatisfactory. In looking round for another I chanced to be shown by the Service Co., of High Holborn, a new carburettor called the "Service Amac." It did not seem to differ very materially from the ordinary float feed spray type, except in the gas and air throttles, which were operated by a rack and worm system. I found the carburettor eminently satisfactory, with the exception of a jamming tendency in the throttles, caused by admission of dust.

This defect having been pointed out to the manufacturers, they very promptly discarded the design for the control, and made for me a new carburettor, similar in all respects to the discarded pattern, but the supply of gas and air is controlled by a device similar to the action of an inlet valve with a variable lift. There are two valves, the lower one being a cone but hollow in its centre, and which, when home on its seating, closes the holes for admission of extra air. This cone is hollow to allow the vapour from the jet to rise through the carburettor. The other valve has an ordinary coned seating, and admits the mixture to the induction pipe. The valves are kept closed by coiled springs acting against the pull of the Bowden lift. I have now given this carburettor a test over 500 miles at all speeds, and am so delighted with it that I feel more or less bound to bring it to the notice of fellow motor cyclists who are looking for a good and inexpensive carburettor. This carburettor was illustrated in *The Motor Cycle* recently. I should mention it is made in two types—one as described, with handle-bar control, and the other for ordinary rod and lever control. I have tried both, and prefer the handle-bar control.

To sum up, the good points are as follows:

1. Ease of starting (the throttle can be nearly closed, and prevents a hurried scramble for the saddle).
2. Increased speed on level and uphill.
3. Ability to crawl without tap fiddling or lifting exhaust.
4. Ability to climb a stiff hill slowly as well as fast.
5. Coolness of engine.
6. Low petrol consumption.
7. Silence of exhaust.
8. Sensitiveness of control.
9. Accessibility.

I trust the length of this letter will be atoned for by the benefit its insertion may confer on motor cyclists who are troubled with a twin that will not crawl when wanted.

RICHARD CREAK DAVIS.

P.S.—It should hardly be necessary to state that I am in no way whatever interested in the sale of this carburettor, nor have I got it from the makers or selling agents at anything less than the ordinary retail price.

Sidecars, Tyres, and Belts.

[3506.]—A few months back I purchased a 5 h.p. twin Vindec Special motor bicycle, and, after having the machine some weeks, attached a sidecar made for the right-hand side and fitted with flexible connections. I experienced considerable difficulty in steering the combination, and on grease the dangers of side-slip were, to my mind, greatly increased. Further, with the car attached to the right-hand side, there was a good deal of risk in overtaking large vehicles, on account of the fact that before I, as the driver, could obtain a clear view of the road ahead, I had the passenger out in the danger zone, and it would have been a difficult matter to get back if anything had made it necessary to do so. I took the sidecar to a cycle and motor agent in this district (Finchley), and he very quickly and cleverly converted it into a rigid car for the left-hand side, and I found the alteration in every sense a satisfactory one so far as steering and control are concerned.

With a 5 h.p. engine and rigid sidecar, however, I find that the life of the tyre on the rear bicycle wheel is very short. Already the tyre fitted to the machine when I bought it in early June has worn through to the canvas, with a mileage of only about 350 miles to its credit, in spite of the fact that it bears the name of one of the best known foreign brands and is of the "extra heavy" persuasion. The cover is now undergoing the process of retreading the while a second cover, this time a rubber-studded one, is looking decidedly the worse for wear after but 200 to 250 miles. I should be greatly obliged if any reader would kindly give me the advantage of his experience, who has met with good

results with rear wheel tyres fitted to a machine of high horse-power and with rigid sidecar.

I have been no more fortunate with belts than with tyres. I use a lin. rubber and canvas belt, and take great care that it is properly adjusted and in true alignment, avoiding running it too tight, and always removing it from the pulleys when the machine is standing and out of use. Yet one belt after another has gone, and the expense of running the combination is getting to be considerable, all on account of the belts and tyres, for neither the engine nor the machine have cost me a penny piece, and the former makes light work of the load with 19 or 20 stones up and the extra vehicle. The alignment of the sidecar and bicycle wheels has been given extra special attention, and more than one expert has said that the car is properly attached.

I have been thinking of making a tour on the machine with the car attached, but unless I can first learn where it is possible to obtain a belt and tyre that will give reasonable reliability, I shall feel compelled either to abandon the project or else carry a number of spare belts and outer covers with me.

H 4220.

Vexatious Delays.

[3507].—Having been a devotee to the pastime of motor cycling for five years, during which time I have been a regular reader of your excellent paper, I have read with much interest the letters published recently on the treatment received by motor cyclists at the hands of the manufacturers. I was specially interested in Mr. Wm. Wilson's letter of August 5th headed "fair treatment," because I met with an accident identical with his of breaking the head off an inlet valve which knocked a hole through the piston head. I shall not apply his simile of "a penny in the slot," which I thought most appropriate in his case, because with me it was a case of 15s. out of my slot into the slot of the makers. Apparently, they do not consider that the same sauce is suitable for both goose and gander. It is now six weeks since I was astride my machine. The first three weeks were occupied in getting a new piston rod, and the last three in obtaining some small parts of my valve lifting gear, which through wear needed renewing. I still live in hopes of getting another ride before the summer is out.

After sending these parts to the makers I wrote and asked them if they considered the wear to be legitimate considering the mileage I had done, and in reply received a letter saying the parts had to be specially made, and would be forwarded as soon as finished. This letter cost me 2d., as it was unstamped. I would not have objected to paying 2d. for an answer to my question, but thought it rather dear for such information. I think this matter of promptitude in the despatch of small parts is a most important one, and one that should be taken up very seriously by motor cyclists as

a body. There is nothing more likely to undermine the popularity of motor cycling as a pastime than these awaits for small parts and the great lack of ordinary business methods in dealing with correspondence as shown by many firms I have dealt with. The firms who make a point of remedying these defects are the firms of the future, and the ones to whom I shall look to when purchasing a new mount.

MOCLIST.

Belts and their Fasteners.

[3508].—My experience with a rubber belt may be of some help to your correspondent No. 3477, who has had trouble through the pin of the fastener tearing out of his belt. I had a Shamrock Gloria lin. belt from Messrs. Gamage, and they sent me a fastener with a bend to fit into the groove on the under side of the belt. I have used this belt on my $4\frac{1}{2}$ Minerva with sidecar for about 1,000 miles, have had no trouble whatever with it nor does the belt show hardly any sign of wear.

B. G. BARNARD-SMITH.

SUMMARY OF CORRESPONDENCE.

Messrs. Phelon and Moore, Ltd., write, with reference to the article, "The Judges' Report on the End-to-end," in last week's issue: "It may interest your readers to know that on both the P. and M. machines in the End-to-end trials the chains had run nearly 1,000 miles before the start. In neither case were the chains from the engine to the gear adjusted, but the chain from the gear to back wheel was adjusted once on each machine. At the conclusion of the trials, the chains on each machine were examined by the judges, and found to be in perfect condition; in fact, the chains are to-day in as good condition as when they were first put on, and have probably several thousand miles of life before them. We are sending for your inspection a chain off one of our machines, which our customer informs us has run no less than 13,000 miles." [We find the elongation to be 1.025 of an inch in a length of 59.75 inches.—Ed.]

EXPERIENCES WANTED.

"M. J.," Ealing, would like to have readers' experience of the Lincoln Elk lightweight motor bicycles. Are they reliable and well built?

"Doctor" would like readers' experiences with the Roc two speed gear: (1.) Is it reliable? (2.) Is handle starting practicable? (3.) Has weight of gear and clutch any appreciable effect on wear of back tyre with or without sidecar?

"G.H." would like readers' experiences with regard to accommodation in Douglas, Isle of Man, during the Tourist Trophy Race.

Readers who send paragraphs for insertion under the heading of "Experiences Wanted" should enclose a stamped addressed envelope for forwarding replies.



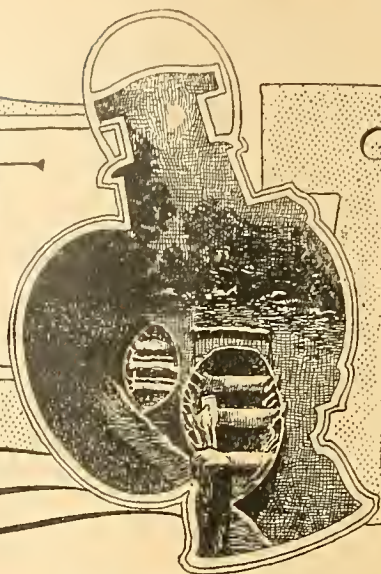
The Hull and East Riding A.C.C. organised a 150 Miles Reliability Trial on the 13th inst. The above is a group of some of the competitors photographed at Newlands prior to the start of the competition.

CURRENT CHAT

SPECIAL FEATURES

STANDARD MACHINES IN
HILL CLIMBS.

HOW TO CAMP WITH A
MOTOR CYCLE
(Illustrated).



S.R. Jones 85

The T.T. Motor Cycle Race.

Mr. W. H. Bashall, who is competing in the Tourist Trophy Race for motor cycles in the Isle of Man on the 2nd prox., will ride his 6 h.p. twin at J.A.P., not his 3½ h.p. T.T. triumph as stated last week in the list of entries printed on page 653.

Case for Appeal.

We have pleasure in informing our readers that the secretaries of the A.C.U. and M.U. are in communication with the solicitor who defended Mr. Robert Sewell in the County Court case at Hexham on the 7th inst., and which is reported on page 677. The legal Committees of both organisations will consider the case in due course.

Police Scouts on Motor Cycles.

The Toronto police have recently purchased some British-made motor cycles, with the Brown, and equipped them with speedometers. In a recent police court case at Toronto the driver of a car swore that he was only travelling eight to ten miles an hour, but the motor cycle mounted officer stated that he had "paced" the motor car, and the speedometer on the motor cycle registered twenty-five miles an hour. A motor cyclist was also convicted on the same testimony, both defendants being fined £2 and costs.

Good Lightweight Performance.

We understand that the Douglas machine which completed the A.C.U. London-Plymouth-London twenty-four hours' run is the identical one that competed in the End-to-end Trials ridden by Mr. Eli Clark, no adjustment having been made to the engine. It is interesting to note that Mr. Clark's weight is thirteen stones; the performance is, therefore, a very good one for a lightweight machine.

Guippone's Record in Danger.

German racing motor cyclists are turning their attention to Guippone's one hour track record, which has stood at 102.3 kilometres since 1906. The track at Milbersthofer, near Munich, will be the scene of the attempt, as this is a fine surface, and is banked for very high speeds. Eugen Wienziers, for instance, has already ridden laps at the rate of seventy-five miles an hour. It was on this track that the French race follower Paul Guingard, paced by Bertin, set up a world's record of nearly 100 kilometres in the hour.

Routes for the Holidays.

During the late summer we are constantly asked to give routes between various towns, and as our road experience is considerable we are always glad to help people in this manner. Our readers can in return be of considerable assistance to us in sending on a postcard any details which may strike them concerning the roads we have suggested, both as regards surface and gradients.

Tyres in the End-to-end.

Mr. T. K. Hastings, who competed in the A.C.U. End-to-end Trials, informs us that it was the general opinion of most of the competitors and observers that he used Goodrich tyres as stated in *The Motor Cycle* of August 5th. Mr. Hastings asks us to point out that each time he was credited with riding Goodrich tyres he contradicted the statement. The tyres fitted to Mr. Hastings's Indian motor bicycle were G. and J. tyres.

Jaffa to Jerusalem by Motor Cycle.

The interesting photograph which has been sent us by Lieut. Edward Noel depicts that gentleman outside the Hotel du Parc at Jaffa just before his departure for Jerusalem. Our readers will doubtless remember that Lieut. Noel originally intended to ride his Triumph motor cycle overland from India, but had to abandon the attempt at Jerusalem on account of the impracticability of riding over the extremely hilly country minus a change-speed gear. Referring to the picture, the basket in front is filled with spares, spare air tubes are strapped to the handle-bar, behind the seat tube is a spare oil tank, and on the carrier is a tank containing four gallons of petrol, with a toolbag at the rear. The rider's extra clothes, including a blanket, are contained in the long roll which is fastened round the carrier. Heavy voiturette tyres are fitted to both wheels.

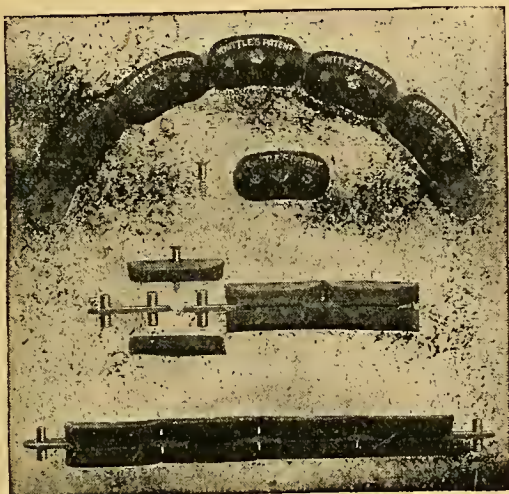


Lieut. Edward Noel ready to start from the Hotel du Parc (Jaffa) for Jerusalem. Lieut. Noel intended to ride overland from India to England on his Triumph motor cycle, but when within a few miles of Jerusalem he was compelled to abandon the attempt. The equipment of the machine is described in a paragraph on this page.

WHITTLES' (PATENT) LINK-GRIP

Non-slip Endless Leather Belts for
MOTOR CYCLES, FANS, Etc.

No
fastening
link
required.
Shorten-
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Great
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Less
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required.
Not
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by wet.
Will
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Trebles the life of the Pulleys.

WHAT MANY OF OUR CUSTOMERS SAY:

"Have had belt in use for over three years."

"Done upwards of 20,000 miles."

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"Five times cheaper than any other."

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"No sign of slip."

"The 'no trouble' belt."

"Have not taken belt off pulleys for two years"

"The best belt on the market."

Send for new Booklet with full directions and copies of recent testimonials.

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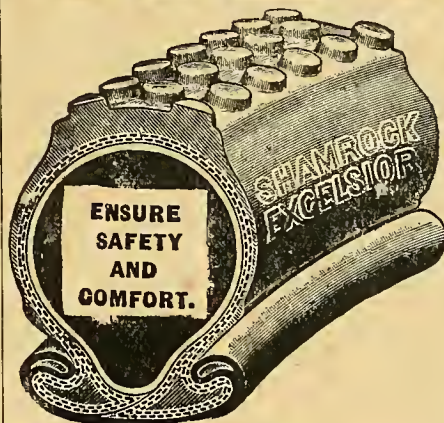
Telegrams—"Belt," Warrington.

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

"THE MOTORIST'S
MECCA."

GAMAGES

**SPECIAL
TYRE
OFFER.**



To enable motor-
cyclists to test the
merits of the new

"Shamrock Excelsior" Rubber-Studded
Non-Skid Tyre, we will, until further
notice, allow purchasers of same a very
liberal allowance for their discarded
covers.

Made in all sizes of 26 and 24 inch (not 28).

An example; **26in x 2¼in. COVER, 50/-**
(Other Sizes and Prices on application)

Less our very liberal allowance for your old covers.

Your Opportunity, Seize it Now!

These tyres are made from the very finest rubber, they
afford complete immunity from sideslip.

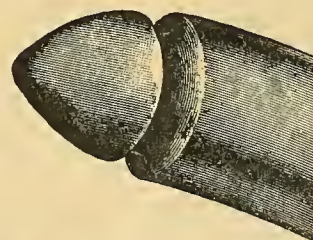
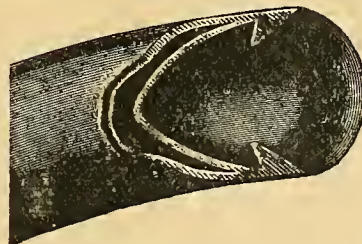
The Studs are a considerable addition to the thickness of
the tread, which means greater durability and protection
from punctures.

The Studs form one part with the Tyre; they cannot
pull out, and on account of their great resiliency will not
slow the machine.

The well-known disadvantages of Metal Studded Tyres
are non-existent.

NO MORE LEAKY JOINTS.

The NEW "SHAMROCK-
EXCELSIOR" BUTT-ENDED
INNER TUBES (WITH THE
PERFECT JOINT).



NOTHING BETTER MADE.

Our price, 26 x 2¼in, 10/6.

Other sizes and prices on application

HAVE YOU HAD OUR MOTOR BOOK?



The "GRADUA" (Infinitely Variable) Gear for Belt-driven Machines.

**NO END THRUST! NO JOCKEY PULLEY!! NO SLACK BELT!!!
SAVES PETROL. SAVES OVERHEATING. SAVES TYRES.
HANDLE STARTING—FREE ENGINE.**

. . DIRECT DRIVE ON ALL SPEEDS. . .

This gear gives infinite variation from zero to $3\frac{1}{2}$ to 1. It is absolutely fool-proof.

No sudden jamming in of gear and wear and tear to the machine. A simple turn of a small wheel is all that is necessary.

The rider gets full power of his engine by never overloading, and by keeping up the number of its revolutions.

Hills have no terror with a "Gradua" gear!

A perfect free-engine position is assured; the engine can be started with a handle and the rider take his seat while the machine is at rest.

All who have seen and tried it are enthusiastic about its many merits.

Nothing like it in the world! It will revolutionise the present system of variable gears.

To prevent disappointment, we would point out that it cannot be fitted to existing machines.

When ordering your new mount, **insist** on its being built with a "Gradua" gear. We are prepared to grant licences to other makers for building this gear under royalty.

The famous "Zenette" Spring-frame Motor Bicycle-de-Luxe will in future be built with "Gradua" gear, the price inclusive being 50 guineas nett cash.

Further orders for "Zenettes" with the "Gradua" must be placed **at once** if required for Summer delivery; we can accept a limited number only, as our present works are of limited capacity.

A "Zenette" fitted with a "Gradua" variable gear may be tried (by appointment **only**) at

ZENITH MOTORS, LTD. Showrooms: 119, Stroud Green Road LONDON, N.
(Nearest Station, Finsbury Park).

Makers of the celebrated "Zenith" Bicar, price 43 guineas nett cash; and of the "Zenith" Tricar, price (with 6 h.p. J.A.P. twin-cylinder engine, chain drive, two-speed gear), 72 guineas nett.

The action of the "GRADUA" Gear is Simplicity itself. **NO COMPLICATIONS.**

SIEMENS BROS. & CO., LTD.,

Electrical Engineers,

12, QUEEN ANNE'S GATE, WESTMINSTER, LONDON, S.W.

DRY BATTERY IGNITION.

SIEMENS-OBACH DRY CELLS.

"SIEBACH."

Registered Trade Mark.

Made in upwards of 20 stock sizes for Engines
of high and low power.

**SPECIALLY ADAPTED FOR
MOTOR CYCLES, TRI-CARS, BOATS,
&c.**

CAT. No. C 37 ON APPLICATION.



**REQUIRE NO ATTENTION.
NOT DAMAGED BY VIBRATION.
NO CORROSIVE ACTION.
CLEAN.
RELIABLE.
NO RECHARGING.**

Police Traps

We have received information concerning the following measured distances in Richmond, Surrey, over which the police occasionally time motorists: Sheen Road, from the Fire Station to Thompson's Nursery; Queen's Road, from Park Road to Spring Grove House; Kew Road, from the Fountain to Lichfield Road, Kew. Also from Sandy Lane, Petersham, to the beginning of the tram-lines *via* Ham Common.

The Worthing Carnival.

In Class 2 in the Worthing Carnival and Regatta to be held on Wednesday, September 2nd, tricars and motor bicycles with sidecars and trailers will be eligible to take part in the competition for the best decorated machines.

An Autumn Open Hill-climb.

A large number of enquiries are being received regarding the South Eastern Association's autumn open hill-climb, for which a fresh hill has been selected. We hear that the plan adopted at the Catford Cycling Club's pedal hill-climbs will be followed, and a certificate awarded to every competitor who climbs the hill. This will be an innovation as regards motor cycle hill-climbing competitions.

Motor Union Provincial Meeting.

Motor cyclists will be made very welcome at the forthcoming provincial meeting of the Motor Union at Oxford on Sept. 19th. Arrangements are being made for parties of members to be conducted over the colleges by members of the University.

A.C.U. Council Meeting.

The next council meeting of the Auto Cycle Union will be held at Leamington Spa on Saturday, October 10th, an invitation having been received from the Town Council to hold the meeting there. Leamington is a most interesting place, and it is hoped that those affiliated clubs which can do so will make it their fixture for that day, and so help to make the meeting a great success. All propositions to be placed on the agenda of that meeting must be in the hands of the secretary by Friday, 18th September.

Six Qualify for One Prize.

A reliability run through the Erzgebirge, arranged by the Breslau branch of the German Motor Cyclists' Association, proved rather awkwardly successful for the organisers, no less than six getting through without a single bad mark, and thus qualifying for the first prize.

The Thoughtful Thunderer.

A morning journal publishes a paragraph suggesting the abandonment of the races in the Isle of Man. How thoughtful! Will some rival daily newspaper kindly suggest the suppression of fanatical paragraph writers? The Isle of Man course is guarded.

trophy, which was given by the well-known F.N. Co., of Herstell, was competed for among the members of the Liege Motor Cycle Club, who had to ride a touring motor cycle not exceeding a third of a litre capacity. Twelve competitors started. The results were: 1, Fagard, Sarolea, 2h. 18m. 36s., 251 points; 2, Marechal, four-cylinder F.N., 2h. 27m. 13s., 248; 3, Michel, four-cylinder F.N., 2h. 19m. 2s., 219; 4, F. Bertrand, Sarolea, 2h. 43m. 2s., 216. The next four riders to finish all rode F.N. four-cylinder machines.

The T.T. Motor Cycle Race.

The following additional entries have been received for the Tourist Trophy Race in the Isle of Man on September 22nd next: Mr. C. B. Franklin, 3½ h.p. Chater-Lea J.A.P.; Mr. S. C. Perryman, 5 h.p. twin Norton; and Mr. F. Applebee, 5 h.p. twin Rex. Intending entrants are reminded that entries for this race close on Tuesday, September 1st, and should be sent in at once to the secretary, Auto Cycle Union, 18, Down Street, Piccadilly, W.

International T.T. Prize Fund.

The following contributions have been received towards the Fund which has been established to provide prizes, and if possible help defray the expenses, necessarily very heavy, of holding the Tourist Trophy motor cycle race: *The Motor Cycle*, £5 5s.; Mr. A. J. Wilson, £5 5s.; Miss Muriel Hind, £5; Mr. J. W. Orde, £5; Mr. E. M. P. Boileau, 10s.; Mr. J. W. F. Tranmer, 5s. 3d.; Capt. Sir R. K. Arbuthnot, Bart., £1 1s. Further donations will be greatly appreciated, and should be sent to the secretary, Auto Cycle Union, 18, Down Street, W., as early as possible.

German Military Motor Cyclists.

The German War Office is learning to appreciate the volunteer motor cyclist. Last year it found employment for twenty riders, and having noted their services it now calls for more. In the Imperial manoeuvres and other military exercises in various German districts it is proposed to employ 148 motor cyclists. The organisation of a motor cycle corps will probably soon be an accomplished fact.

FUTURE EVENTS.

- Aug. 26—Uxbridge C.C. Three Miles Motor Cycle Handicap.
- „ 29—Essex M.C. London to York and back ride, for members only.
- Sept. 1—Entries close for the Motor Cycle Tourist Trophy Race.
- „ 5—R.A.C. General Committee Meeting at Norwich. Members of the A.C.U. are invited to attend the various functions at Norwich.
- „ 12—Motor Cycling Club Petrol Consumption Tests.
- „ 12—Brooklands R.A.C. Meeting.
- „ 18—Motor Union Provincial Meeting at Oxford.
- „ 22—The International Auto Cycle Tourist Trophy Race in the Isle of Man.
- „ —Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.
- Oct. 10—A.C.U. Council Meeting at Leamington Spa.
- Nov. 20-28—Thirty-second Annual Stanley Show, at the Agricultural Hall, Islington.
- Nov. 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories

and accidents, if they occur, will not cause injury to the public, but the racers themselves. It would be just as logical to suggest the abandonment of the Grand National because it is the most dangerous steeplechase course in England. What say the islanders?

Belgian Motor Cycle Competition.

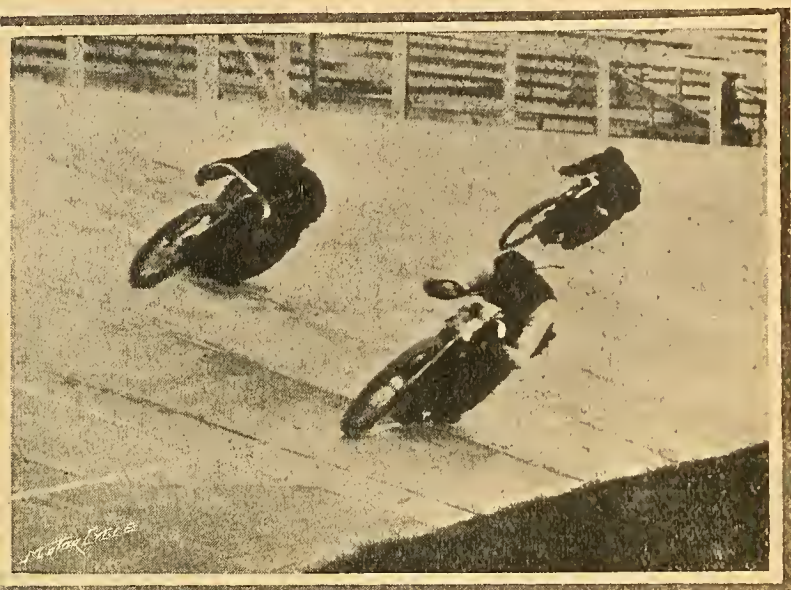
On the 9th inst. the Liege Motor Cycle Club organised a race over a distance of 125 kilometres in the neighbourhood of Bastogne. The competition was a closed one, and the



The start for the One Hour Scratch Race for *The Motor Cycle Challenge Cup*. Holder, H. V. Colver (2½ h.p. Matchless, 76×76 mm.) who repeated his last year's performance by coming in an easy first. Colver rode 52 miles 1,650 yards in the hour this year against his 51 miles 146 yards of last year. The previous best was C. R. Collier's 51 miles 540 yards at Canning Town, July 13th, 1907.

The A.C.U. Annual Race Meeting.

THE annual race meeting, which has been held regularly by the A.C.U. since 1902, when the races were actually held by the motor cycling committee of the A.C.G.B.I., now developed into the Auto Cycle Union, was held at the Stadium on Saturday last. The meeting was due to begin at 3 o'clock, but from 2.15 onwards it rained in torrents, so much so that R. O. Clark, who had ridden 130 miles to compete in the first heat of the second event, thought it was useless to turn up punctually and arrived too late. At 3 p.m. the rain ceased, and about half an hour



An exciting tussle took place between C. E. Bennett and C. R. Collier in the One Hour Race for *The Motor Cycle Challenge Cup*. In our picture Collier has the inside position, and Bennett is on the outside trying to pass. H. V. Colver, the ultimate winner of the race is lying third.

After it cleared up properly, and after the track had been queuegeed the first event took place, namely, the one mile time trials flying start for the *Automotor Challenge Cup*. The present holder of the record was C. R. Collier, time 1m. 2s., and the fastest time for the flying mile on the Stadium track was made by Colver on August 8th this year, time 1m. $3\frac{4}{5}$ s. The trial is open to motor bicycles fitted with engines where the diameter in mm. squared \times the stroke does not exceed 440,000. The times on Saturday were marred by the wetness of the track. The best performance was made by D. R. Clarke ($2\frac{3}{4}$ h.p. Century), time 1m. $5\frac{1}{5}$ s.; 2, C. E. Bennett ($2\frac{3}{4}$ h.p. Mansfield), time 1m. $6\frac{2}{5}$ s.; 3, H. V. Colver, 1m. $11\frac{3}{5}$ s. (second attempt; he was impeded by a competitor in the St. Martin's Harriers' Sports walking across the track during his first attempt); 4, C. R. Collier ($2\frac{3}{4}$ h.p. Matchless), 1m. 13s.; 5, R. G. Bell ($2\frac{3}{4}$ h.p. N.S.U.), 1m. $19\frac{1}{5}$ s.; 6, C. W. Standing ($2\frac{3}{4}$ h.p. Ioner), 1m. $38\frac{3}{5}$ s.

Next followed the Five Miles Tourist Handicap, open to machines conforming to the Auto Cycle Union definition of a touring mount, having engine dimensions not exceeding 90 mm. \times 90 mm., and a gear of not more than 4 to 1, with 26in. wheels.

Heat 1, J. C. Smyth ($2\frac{3}{4}$ h.p. Rex, 82 mm. \times 65 mm.), 30s. start; E. M. McPherson (4 h.p. Brooklands, 5 mm. \times 85 mm.), 30s.; F. Toman ($2\frac{1}{2}$ h.p. Laurin and Klement, 74 mm. \times 78 mm.), 35s.; G. L. Fletcher ($2\frac{1}{2}$ h.p. two-cylinder Moto-Rêve, 50 mm. \times 70 mm.), 90s. An exciting race took place between Smyth and Toman. The latter amused the spectators by jockeying his machine forward by swaying his body. The heat

resulted in a win for the little Moto-Rêve, with Toman second, and Smyth third, time 8m. $38\frac{2}{5}$ s.

Heat 2.—C. R. Collier ($3\frac{1}{2}$ h.p. 85 mm. \times 76 mm. T.T. Matchless-J.A.P.), scratch; W. Genn ($2\frac{1}{2}$ h.p. Eland-Minerva, 76 mm. \times 76 mm.), 20s.; H. W. Boulton ($3\frac{1}{2}$ h.p. Triumph, 82 mm. \times 86 mm.), 25s.; F. W. Applebee ($3\frac{1}{2}$ h.p. Rex, 82 mm. \times 89 mm.), 25s.; G. Aldington ($3\frac{1}{2}$ h.p. two-cylinder Kerry, 66 mm. \times 72 mm.), 30s.; W. Smith (2 h.p. Moto-Rêve, 50 mm. \times 70 mm.), 90s. The stand on Boulton's machine became detached, and he careered round the track with it trailing on the ground. Applebee, who was travelling well, shed his belt twice and retired. Result: W. W. Genn 1, C. R. Collier 2, W. Smith 3. Time, 8m. $3\frac{1}{5}$ s.

Heat 3.—H. A. Collier ($3\frac{1}{2}$ h.p. Matchless-J.A.P., 85 mm. \times 76 mm.), 10s.; G. Gibson ($3\frac{1}{2}$ h.p. Triumph, 84 mm. \times 86 mm.), 20s.; S. A. Denman ($4\frac{1}{2}$ h.p. Brooklands, 85 mm. \times 95 mm.), 30s.; R. G. Dendy ($3\frac{1}{2}$ h.p. Brown, 82 mm. \times 90 mm.), 35s.; C. W. Standing ($2\frac{3}{4}$ h.p. Ioner, 75 mm. \times 75 mm.), 40s. In this heat the late arrival, R. O. Clarke (5 h.p. four-cylinder F.N.), was allowed to start, but after travelling well for a few laps he retired. Gibson's performance was the *pièce de résistance* of the heat. He sped round the track, lapping competitors two at a time, and won amid the cheers of the onlookers. Result: Gibson 1, H. A. Collier 2, R. G. Dendy 3. Time, 7m. $45\frac{3}{5}$ s.

Then followed the event of the afternoon, the One Hour Scratch Race for *The Motor Cycle Challenge Cup* (limited to 76 mm. \times 76 mm. engines or the equivalent); holder, H. V. Colver, 51 miles 146 yards; best previous performance on the Stadium, Colver, 49 miles 220 yards. The starters were: H. V. Colver ($2\frac{3}{4}$ h.p. Matchless, 76 mm. \times 76 mm.); C. E. Bennett ($2\frac{3}{4}$ h.p. Mansfield, 76 mm. \times 73 mm.); C. R. Collier ($2\frac{3}{4}$ h.p. Matchless, 85 mm. \times 60 mm.); R. G. Bell ($2\frac{3}{4}$ h.p. N.S.U., 75 mm. \times 75 mm.); G. H. Gerhard ($2\frac{3}{4}$ h.p. Brooklands, 76 mm. \times 73 mm.); F. Toman ($2\frac{1}{2}$ h.p. Laurin and Klement, 74 mm. \times 78 mm.). Immediately after the start, Colver, Collier, and Bennett shone conspicuously above the others, the former rapidly drawing ahead, and a tremendous struggle ensuing between Collier and Bennett. It was a walk over for Colver, and a ding-dong struggle between the other two, first one and then the other maintaining the lead. The enthusiasm of the large concourse of spectators warmed to fever heat, and when Colver lapped Collier for the second time the Stadium resounded with ringing cheers. After about a quarter of an hour Bennett stopped with a broken contact breaker blade. He got going again, but broke a second one and retired. Throughout the whole hour the excitement never waned, and the race resulted in a glorious win for Colver, who easily broke his previous record, thus adding another win to the many successes of the Matchless machine. At the end of the ninth mile he was $2\frac{3}{5}$ s. inside record, at twelve miles $8\frac{4}{5}$ s., at eighteen miles 15s., at twenty-four miles $52\frac{4}{5}$ s., at thirty-three 1m. $40\frac{3}{5}$ s., and at forty-two miles 1m. 57s. inside record. The results stand as follows: 1, H. V. Colver, 52 miles 1,650 yards, beating record 1v 1 mile 1,110 yards; 2, C. R. Collier, 50 miles 380 yards; R. G. Bell, 44 miles 1,100 yards; G. H. Ger-

The A.C.U. Annual Race Meeting.—

hard, 40 miles 920 yards; and F. Toman, 40 miles 260 yards.

Next followed the Five Miles Open Motor Bicycle Handicap for the *Motor Car Journal* Challenge Cup; holder, C. E. Bennett; open to machines with engines where the diameter in mm. squared \times the stroke does not exceed 440,000, or 76 mm. \times 76 mm.

Heat 1.—There were only two starters, D. R. Clarke ($2\frac{3}{4}$ h.p. New Century, 76 mm. \times 76 mm.), 10s. start, and E. W. Caswell ($2\frac{1}{2}$ h.p. Caswell, 70 mm. \times 76 mm.), 50s. Result: Clarke 1, Caswell 2. Time, 7m. $36\frac{4}{5}$ s.

Heat 2.—C. E. Bennett ($2\frac{3}{4}$ h.p. Mansfield, 76 mm. \times 73 mm.), scratch; H. V. Colver ($2\frac{3}{4}$ h.p. Matchless, 76 mm. \times 76 mm.), 5s.; G. H. Gerhard ($2\frac{3}{4}$ h.p. Brooklands, 76 mm. \times 73 mm.), 45s. Result: Colver 1, Bennett 2. Time, 6m. 24s.

Heat 3.—C. R. Collier ($2\frac{3}{4}$ h.p. Matchless, 85 mm. \times 60 mm.), scratch; R. G. Bell ($2\frac{3}{4}$ h.p. N.S.U., 75 mm. \times 75 mm.), 40s. Result: Bell 1, Collier 2. Time, 6m. 18s. Collier failed to catch up Bell, who travelled in excellent form.

The final of the Five Miles Tourist Handicap: Starters, G. L. Fletcher, W. Genn, C. Collier fastest loser, and Gordon Gibson. Collier unfortunately failed to start. Gibson proved an easy winner, time 7m. $30\frac{2}{5}$ s. Genn was second, 8m. 40s., and Fletcher third, 8m. $49\frac{1}{5}$ s.

The last event of the day was the final of the Five Miles Open Handicap. It was quite dusk, and the flames from the exhaust and the explosions in the bored cylinders were quite visible.

The starters were: D. R. Clarke, H. V. Colver, H. G. Bell, and C. R. Collier fastest loser. Colver's good fortune forsook him, and he retired early with a broken belt; it was, however, an excellent race. Result: Clarke (1), time 6m. 16s.; 2, R. G. Bell, 6m. $32\frac{1}{5}$ s.; 3, Collier, 6m. $37\frac{4}{5}$ s.

Thus ended a most successful meeting. Although the St. Martin's Harriers held their sports at the same time, the spectators never lost for a moment their interest in the A.C.U. meeting, and the result of their intense enthusiasm serves to prove that motor cycle racing is, without the faintest suspicion of exaggeration, one of the most popular forms of sport in existence.

MURATTI TROPHY RELIABILITY TRIALS.

THE annual two days' reliability trials for the Muratti Trophy, presented to the Ulster Centre, M.C.U.I. by Messrs. B. Muratti, Sons, and Co., Ltd., Manchester, commenced on the 21st inst., the first day's ride being to Dublin from Belfast and back—a distance of 200 miles. The trial consists purely of reliability, and is judged by the ability to run to schedule. Each day's ride is divided into two sections, each section being divided into four sub-sections, and a time schedule is arranged showing when the competitors should pass through each station if travelling at the rate of twenty miles an hour. Ten marks are allowed for each sub-section, one mark being deducted

other riders kept forging ahead. At Dublin, Stewart, Murphy, Kennedy, O'Rawe, Blake, Moles, and McCann had secured full marks, notwithstanding that it rained throughout the journey. After a two hours stop for lunch the return ride was commenced at two o'clock, the rain having ceased by this time. O'Rawe, McCann, and Moles lost marks on the way, and when Balmoral was reached Stewart, Murphy, and Kennedy were the only riders having full marks at the end of the first day's ride, though all except Carlisle reached the finishing point. The machines were locked up over night in the Rover Co.'s garage, no adjustments or repairs of any kind being permitted.



The
Muratti Trophy
Competition.
A group of the
competitors
photographed on
the morning of
the second day's
ride.

for each minute or part of a minute over or under schedule time. Ten minutes' grace was allowed either under or over, but beyond that riders could not qualify for an award. The following started: J. Stewart (holder), ($3\frac{1}{2}$ h.p. Triumph); C. E. Murphy and J. J. Kennedy ($3\frac{1}{2}$ h.p. Triumphs), J. S. Garrett ($3\frac{1}{2}$ h.p. Rex), R. Sharpe ($3\frac{1}{2}$ h.p. N.S.U.), J. J. O'Rawe ($3\frac{1}{2}$ h.p. Rex), A. V. Blake ($3\frac{1}{2}$ h.p. Triumph), F. A. Carlisle ($3\frac{1}{2}$ h.p. Minerva), T. Moles and John McCann, Manchester ($3\frac{1}{2}$ h.p. Triumphs), J. Newell (3 h.p. Triumph), and W. J. Andrews ($3\frac{1}{2}$ h.p. Rex). Rain fell heavily at the start, and the roads were in a very bad condition. Checking stations were arranged at Bambridge, Dundalk, Drogheda, and at the turning point Tolka Bridge, Drumcondra. In addition to these, there were secret controls at various places on the route.

Before the first control was reached J. Newell retired, being troubled with leaky valves, and at Newry J. S. Garrett broke a petrol tube, which caused his retirement also. The

The weather conditions were very much better when the riders reached the starting point for the second day's journey. The roads had dried considerably, and in bright sunshine the following were despatched: J. Stewart, C. E. Murphy, J. J. Kennedy, R. Sharpe, J. J. O'Rawe, A. V. Blake, T. Moles, J. McCann, and W. J. Andrews. Checking stations were arranged at Larne, Cushendall, Bushmills, Limavady, Londonderry, Downhill, and Ballymena. The luncheon interval took place at Limavady, and at this point all the riders, except Moles, had secured full marks. At the next control Blake lost marks, but the other riders continued to ride exactly to schedule, and reached the finishing point promptly to time. We hope to give the result next week.

The address of Messrs. G. T. Riches and Co., appearing in the paragraph on page 643 last week, is an error. The proper address is 19, Store Street, W.C., where applications for the No. 8 catalogue should be sent.

Inter-club Meet of Midland Motor Cyclists.

THE first annual meet of Midland motor cycle clubs was successfully held at Stratford-on-Avon on Saturday last. Unfortunately, the weather was somewhat unpromising, and of the ten clubs which finally expressed an intention to be present, only six were represented. About sixty motor cyclists sat down to tea at the White Swan, several ladies being present.

At a meeting of club secretaries held in the evening it was resolved that the meet be made an annual event, that Stratford-on-Avon be the rendezvous, and that next year's meet be held on Whit-Monday. Further particulars of what transpired at the meeting will be published next week. There is every indication that next year's meet will be three times as large as the one just held.



The inter-club Meet of Midland Motor Cyclists at Stratford-on-Avon on Saturday last. Six clubs were represented, viz., the Birmingham, Burton-on-Trent, Coventry, Oxford Bocardo, Sutton Coldfield, and Worcester Motor Cycle Clubs.

Speed Trials at Portmarnock.

THE speed trials of the Dublin Centre of the Motor Cycle Union of Ireland at Portmarnock on Saturday last were remarkable for the fine performance of Mr. C. B. Franklin. Always a consistent performer in these events, he quite excelled himself on Saturday last by winning three out of four events. He was mounted on a new $3\frac{1}{2}$ h.p. Jap racer. An illustration of this machine will be found on page 660,

which he proposes to use in the Tourist Trophy Race. The speed he was able to get out of this comparatively small engined machine was wonderful. In the twenty miles handicap he covered the distance in 28m. 52 $\frac{1}{2}$ s., and the merit of the performance will be appreciated when it is mentioned that the course was an out and home one of a mile, necessitating a turn round a flag at each end of the course. The fourth race was won by R. Walshe.

CLUB NEWS.

Essex M.C.

Members are reminded that the twenty-four hours run from Woodford to York and back takes place on Saturday next, the 29th inst., starting from the Castle Hotel, at 7 p.m.

Manchester M.C.

The above club's petrol consumption test for motor cycles and cars held on Saturday last resulted as follows: A. J. Moorhouse ($3\frac{1}{2}$ h.p. Triumph), 148 miles per gallon; Harry Reed (4 h.p. Dot), second. This rider failed to wait for an official to check his distance, and other competitors made the same mistake, so the second prize was awarded to C. E. Kettle ($3\frac{1}{2}$ h.p. Triumph).

Sunderland and District M.C.C.

This club held a speed-judging contest on Wednesday evening August 19th, over a course of seven and a half miles. There were eleven entrants, who were despatched at intervals of five minutes each. The speed set was eighteen miles per hour for all, the winner being J. Kirton ($3\frac{1}{2}$ h.p. Minerva), who finished $\frac{1}{4}$ s. late.

Bolton and District M.C.C.

The Bolton and District Motor Cycle Club held its hill-climbing competition on the 15th inst., divided into two classes for single and twin-cylinder motor bicycles. A. J. Moorhouse (5 h.p. Twin Rex) won the medal for fastest time in the twin class, and also the gold medal for best placing on formula; R. L. Clegg (N.S.U.) the bronze medal for second fastest time. In the single-cylinder class J. Entwistle ($3\frac{1}{2}$ h.p. Triumph) won the medal for fastest time, also the bronze medal for second position on formula. The winner of the gold medal for best placing on formula in the single class was H. T. Batten (3 h.p. Sarolea).

Newcastle and District M.C.C.

On Saturday next the above club will hold a non-stop competition starting at 10 a.m. from the second milestone on the Barrack Road, Newcastle-on-Tyne, to Jedburgh and back to Newcastle. Three prizes will be awarded, and bronze medals to all who fulfil the conditions of the trial.

Crewe and District M.C.

This club will hold a members' hill-climbing competition on Saturday next, the 29th inst. A gold medal will be presented to the member accomplishing the best performance on formula, and a silver medal to the member making the slowest timed ascent.

Hull and East Riding A.C.C.

The meet and hill-climb at Elsham, announced for Saturday, August 22nd, had to be postponed. The decision of the judges re the non-stop run held on August 13th has not as yet been received. The machines in the hill-climb on Saturday next at Spout Hill, Brantingham, will be weighed at Mr. G. A. Brown's farm, Brantingham (by kind permission), and a standing start will be made.

Richmond and District M.C.C.

On August 15th and 16th the members of the Richmond and District Motor Cycle Club competed for the trophy kindly presented to the club by the Marquis de St. Mars. The competition consisted of a run to Hastings and back, in which one mark was deducted for every minute spent in making any repair or adjustment. As neither Mr. Lankester nor Mr. Blois lost any marks a further speed judging run was held on the Wednesday. The trophy was won by Mr. K. Lankester, who was only 1m. 5s. too fast. Medals were awarded to all who made a non-stop run.

Club News.—

Hartlepoons and District M.C.

Will hon. secretaries of motor cycle clubs kindly note that the address of the hon. sec. of the Hartlepoons and District M.C., Mr. Walton, jun., has been changed to Weardale, Station Lane, Seaton Carew.

Yarmouth and District M.C.C.

The Yarmouth and District Motor Cycling Club are holding a gymkhana on the Recreation Ground, Great Yarmouth, on the 10th prox. Motor cyclists belonging to any recognised club will be eligible to take part in the competition, and should they desire to do so they are requested to communicate with the secretary, Mr. Valentine H. Blake, Park View, Great Yarmouth.

Edinburgh M.C.C.

On the 1st inst., the Edinburgh Motor Cycle Club held a fifty miles reliability trial, in which was included a fast and a slow hill-climb. The start was from Fairmilehead to Biggar by West Linton, and back by Skirling and Leadburn to Fairmilehead. The slow hill-climb was on Hillend Hill,

and the fast on Flotterstone Hill. The competitors were required to keep up a speed of twenty miles per hour, and in order to prevent that speed being exceeded two secret controls were made, one at Blyth Bridge and one on Seafeld Road, at both of which marks were deducted from anyone exceeding the limit. Of the ten starters, all arrived home in time to gain the full 500 marks for reliability. The result, after adding marks gained in hill-climbs, and deducting marks lost at controls, was as follows:

James R. Alexander (twin Vindec) ...	656 marks
P. E. Tolfree (twin Roc) ...	535 "
R. A. Macmillan (four-cylinder F.N.) ...	530 "
Alfred Alexander (twin Rex) ...	525 "
E. L. Matthew (four-cylinder F.N.) ...	517 "
J. A. Forrest (single-cylinder Triumph) ...	511 "
T. Durie (single-cylinder Triumph) ...	508 "
C. H. Macmillan (four-cylinder F.N.) ...	494 "
Dr. Clark (single-cylinder Triumph) ...	493 "
E. Lenthardt (single-cylinder N.S.U.) ...	493 "

The fastest in the fast hill-climb was E. L. Matthew, and the slowest in the slow hill-climb was P. E. Tolfree.



View of the hill, near Northop, on which the Liverpool M.C. had arranged to hold a hill-climbing competition on the 15th inst. At the last moment the police intervened and prohibited the contest. It will be noticed that there is not a single habitation in sight, or any traffic on the hill.

HINTS AND TIPS FOR MOTOR CYCLISTS. By Road Rider.

(Concluded from page 610.)

SQUEAKS ON TRICARS.

255. Squeaks on tricars often arise from the springs. If slots are provided, work grease in between leaves with a knife blade, first taking load off springs by means of screwjack.

TESTING HIGH TENSION CIRCUIT.

256. Never remove a sparking plug unless there is grave reason to suspect it. The high tension circuit may be tested by laying a screwdriver with its blade touching plug terminal, and just not touching engine while contact is made or broken, but this is no guarantee of the plug being in order.

SPROCKET FASTENINGS.

257. The rear wheel chain sprockets on all but the smallest tricars are bolted to a disc of the rear hub. It will be found that in time these bolts and nuts shake loose; many of them may be dropped on the road before notice is taken, and the hub will then be spoilt if the machine is driven further; or if the looseness is discovered in time, they are highly inaccessible, and much time will be wasted in tightening them properly. I find the best method is immediately on receipt of a new tricar to take off the nuts and bolts and put a soft leather washer on each bolt close to its head. Then thread the bolt through the disc and sprocket, and place another washer on it before replacing the nut. Screw nut

up as tight as it will go with a tube spanner, and cut off superfluous length of bolt, leaving only a thread or two projecting outside the nut. Then take a snub-nosed punch and a hammer, and rivet or burr over end of bolt. The nut will then never come loose, and if at any time a new sprocket is required, very little force is needed to get the nut off the bolt.

TIGHT BOLTS.

258. A bolt that fits tightly in its bed must never be knocked out direct or the thread will be spoilt. The best plan is to take a copper or brass punch of smaller diameter than the bolt, hold it carefully in centre of bolt end, and give it a very smart tap. Failing this, a piece of tough wood, sheet lead, or copper may be laid over bolt end before hammering, or the nut may be half unscrewed, and the nut itself hammered, but in this last case the thread is in danger if the bolt be really tight.

TIGHT NUTS.

259. If a nut cannot be loosened, tapping is the first expedient. Screw a long-handled wrench firmly on to nut, and tap its far end smartly with a hammer or weight. If this fails, run paraffin round nut and try again. A pair of red hot tongs held around the nut are then the best resource, but failing these, a cold chisel and hammer may be used to start the nut.

TREMBLER BLADE LOST SPRING.

260. In time any trembler blade may lose its temper or acquire a set, and so cause very sluggish running of the engine. If no spare is available, a piece of whalebone or clock spring, rather less in length than the erring blade, may be drilled to slip over holding screw, and put behind blade to stiffen it.

WHEEL BEARINGS.

261. Every now and then raise wheels off ground, seize by the rim, and shake. If there is any side play tighten cone till wheel is absolutely stiff, slack back a quarter of a revolution, and lubricate. A tight wheel bearing or a dry wheel bearing is a common source of bad running.

Lubricate hubs every 250 miles.

WIRING.

262. Novices should procure from the makers of their machine a sketch of the wiring, and always carry it with them. This is especially advisable with twin-cylinder machines. Where there is possibility of doubt between two wires, as at coil, accumulator, contact breaker, or sparking plugs, one wire and one terminal should be marked for each other with red paint.

The above "HINTS AND TIPS" will shortly be reprinted in book form.

HOW TO CAMP WITH A MOTOR CYCLE.

By ALEX. P. MOELLER and J. ROBERTSON BRIDGES.

THE great interest taken in the light camping kit exhibited at Mr. A. Candler's lecture before the members of the Auto Cycle Union in the early part of this year leads us to believe that a little guidance and advice will be welcomed by readers of *The Motor Cycle*.

The steady growth of the camping movement and the increasing popularity of motor cycling should result in a very large addition to the ranks of motor cycle campers.

There is no need to prove the practicability of the thing; it has been, and is being, done with marked success. Apparently one of the chief obstacles in the minds of motor cyclists is the limited space available on a motor cycle when compared with the pedal machine.

Having been a camper for the last six years, and having owned during that time eleven different makes of motor cycles, one of us has no hesitation in saying that there is no difficulty whatever in carrying the most luxurious kit. A complete outfit for two people, with the exception of the second man's (or lady's) sleeping gear, is packed away in the baskets shown in the illustrations.

In the right-hand pannier are the stove, toaster, spirit stove for boiling shaving water, methylated spirit flask, pots, pans, cups, cutlery, shaving tackle, all packed carefully between the dish cloth, dish towel, and spare socks to prevent rattle. The left pannier contains down quilt and sleeping bag. In the large basket are cottage tent, ground sheet, ground blanket, flysheet, pegs, bucket, eight plates, one quart milk bottle, rubber shoes, candelabra, candles, towel, soap, tablecloth, collars, vest, handkerchiefs, down pillow, repair outfit for stove, salt, sugar, pepper, mustard, six kippers, quarter of a pound of butter, box of

cheese, bread, coffee, etc. On the handle-bars the poles and a rabbit rifle are lodged. In addition to the above array, the toolbag on the handle-bar and one on the carrier contain every possible tool and spare that could be required by the most exacting motor cyclist.

It is most important that the packing should be done very carefully, the soft articles forming a padding for the hard. Every little corner and crevice should be taken advantage of, and when packed the baskets or bags should be practically solid right through. Two web straps hold the handle-bar articles, two others the pannier bags, and one long strap the large basket, which, resting on the top edge of the panniers, prevents them from flapping sideways. This method of strapping to the machine renders the luggage absolutely rigid, and yet enables the complete kit to be detached in three minutes and replaced in five.

We will now turn our attention to details of the

kit, which has been much lightened of late and rendered yet more compact. Many of the articles have been evolved from the continual and practical experiments of members of the Association of Cycle Campers.

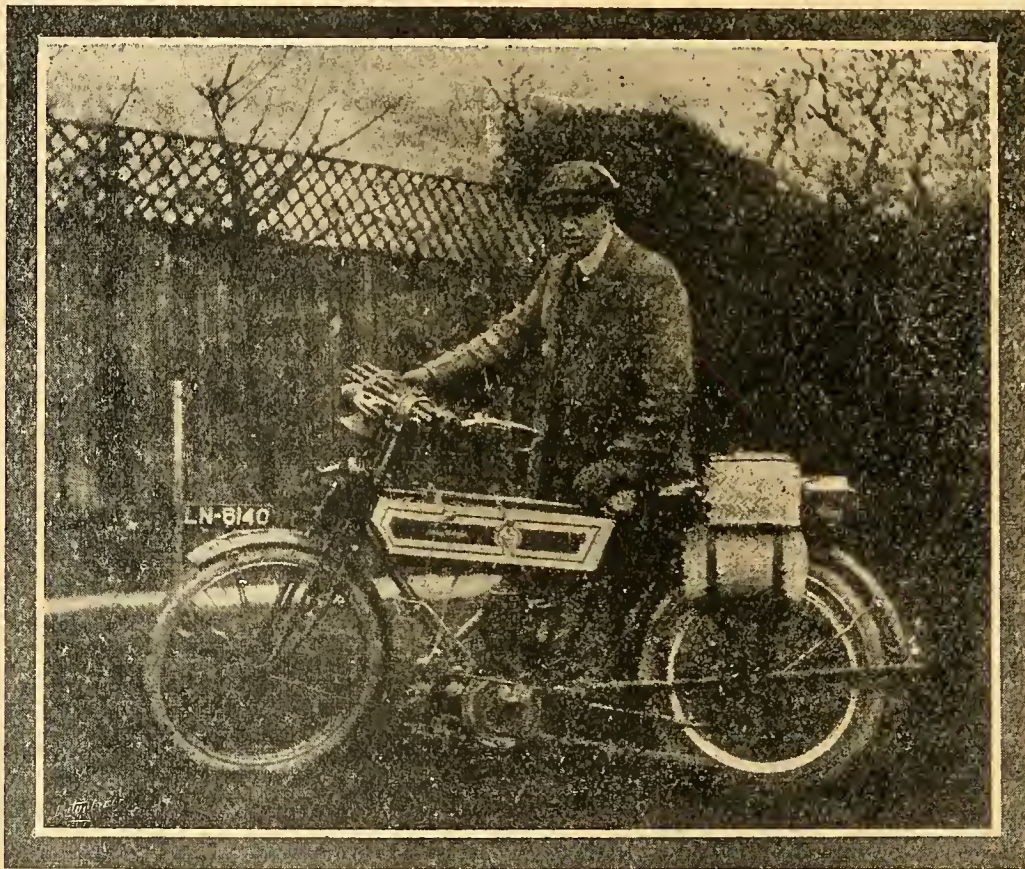
The Tents.

These are many and various, but fall generally under three heads: The "A" (original), Cottage (two sizes), and the Gipsy (three sizes). The Cottage and Gipsy are the most used, especially the latter, which is an excellent touring tent, as it can be pitched in less time, has only two guys, and requires much

less ground space. With the Cottage a flysheet or double roof is essential. The poles are of bamboo, made on the fishing rod jointed principle, and are of wonderful lightness and strength. The rubber ground sheet effectually prevents any damp from penetrating, however wet the ground may be. Over the sheet is spread a thin woollen blanket.

Meals.

There is nothing in the way of stoves to beat the Primus. Spirit stoves are slow, and, whereas paraffin



One of the writers of the article, and his motor cycle, fully equipped with the camping outfit.

How to Camp with a Motor Cycle.—

s almost every-
where obtainable,
spirit, at least of
the methylated
order, is often at a
ad discount. The
Association of
Cycle Campers has
designed a canteen
of five nesting pots
with fry-pan lid
and detachable
handles, and
members can there-
fore choose accord-
ing to their require-
ments. Wind

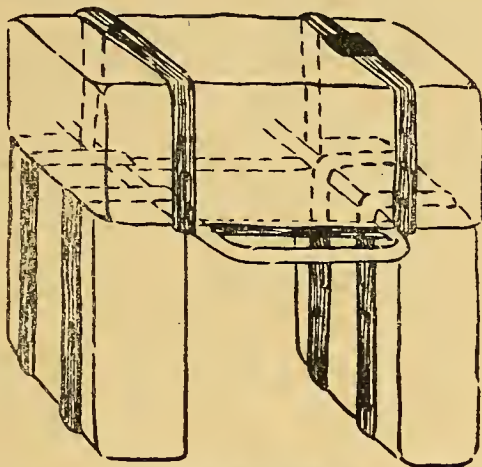
screen, bucket, wash basin, toaster and pot ring for
toves have all been specially designed with a view to
the utmost reduction of weight and bulk. Spoons,
orks, milk bottle, and condiment box are all of
luminium, but enamelled mugs and plates of the
lightest make are preferable to those made of this
metal.

Sleeping Gear.

This depends somewhat on the time of the year
and the nature of the season; some campers require
far more covering than others. Generally a sleeping
bag, slightly bifurcated, is carried and a down quilt
with a special valance.

Weights and Dimensions.

Single Gipsy, 6ft. by 4ft. by 3ft. 9in., complete (tent,



Sketch showing the method employed for
strapping the pannier bags securely to the
motor cycle rear carrier.

poles, pegs, ground sheet, and ground blanket)
4½ lbs.; this will sleep two at a pinch. Large
Gipsy, 6ft. 6in. by 5ft. 9in. by 5ft. 3in., complete 8½
lbs.; will sleep two or three. Large Cottage, 6ft. 6in. by
6ft. 6in. by 5ft., complete with flysheet, 12½ lbs.; will
sleep three or four. For nearly seven years now these
tents have been put to every possible test in all
weathers at all seasons of the year.

Camping Sites.

Practically every farm in the country is a camping
site, provided there is some slight shelter to be had,
preferably a hedge. A hospitable and kindly wel-
come is invariably the rule. An armful of straw
early in the year or during a particularly wet season
adds to the comfort of the tent, but scores of campers
never use it.

A barn or outhouse is generally available as protec-
tion for the "steed," but if not, the cycle can be
left out with a covering of oiled lawn, and will come
to no harm.

The Advantages of the Camp.

Independence, whether of inns, hotels, or—break-
downs. No need to push the machine for miles in
search of a resting place. One can pitch camp and
repair any damage at one's leisure. A sojourn
amidst the beauty spots of your native land, not to
be surpassed, or indeed approached by any "command
of the sea" or "view of the hills" from the windows
of a fashionable hotel. Economy and increased
pleasure and health.

We shall be pleased to answer any enquiries that
readers may care to address to us, c/o the Editor, and
give further advice.

A CASE FOR APPEAL.

THE decision of Judge Greenwell in the county
court case quoted below will come as a great
surprise to all motor cyclists. The decision
is contrary to anything we have previously read
or heard of, and such a miscarriage of justice that it
is likely to have far-reaching effects on the pastime
unless prompt action is taken to appeal against it. We
print the newspaper report of the case, extracted from
the *Newcastle Daily Journal* of August 8th:

"A MOTOR CYCLE DECLARED A NUISANCE."

"At Hexham County Court on August 7th, his
Honour (Judge Greenwell) had before him a case in
which Andrew English, Acomb, claimed £50 damages
from Robert Sewell, Hexham, for injury to himself and
his trap by the negligent riding of a motor cycle by the
defendant on the road between Acomb and Hexham on
the 1st February, or in the alternative for damages for
injury by the defendant placing a nuisance on the high-
way. After hearing the evidence, his Honour held that
there was no negligence, but under the circumstances
of the case he was satisfied that this machine was a
nuisance, and therefore the defendant must be held
liable. If the parties could not agree as to damages
that would have to go to the registrar for settlement.
Mr. B. D. Gibson, solicitor, Hexham, was for the
plaintiff, and Mr. J. A. Baty, solicitor, Hexham, for
the defendant."

We have communicated the decision in this case to
the secretaries of the Auto Cycle Union and Motor
Union, who have the matter in hand, and in addition

we have submitted the paragraph to our legal adviser,
who has replied as follows:

"The judgment of the Hexham County Court will
no doubt be disregarded, and is not binding on other
judges, as county courts are only inferior courts. It
may be possible for any particular motor cycle to be a
nuisance, but a motor cycle as such is not a legal
nuisance, and a claim for damages on the ground that
a motor cyclist is placing a nuisance on the road ought
not to be upheld. It will be remembered that the Loco-
motives on Highways Act, 1896, provided that the
enactments referred to in the schedule to such Act
should not apply to light locomotives (including, of
course, motor cycles). Amongst such enactments is the
Locomotives Act, 1861, Section 13, which provides that
anyone using on a highway a locomotive so constructed
or used as to cause a public or private nuisance shall
be liable to an indictment or action. This does not
now apply to motor cars and motor cycles. If the
judge held that a motor cycle was in itself a nuisance
his decision should be appealed against."

In the interests of motor cyclists this is obviously a
case which should receive very prompt attention at the
hands of one or both of the organisations above men-
tioned. We hope to be able to announce elsewhere
that an appeal will be lodged.

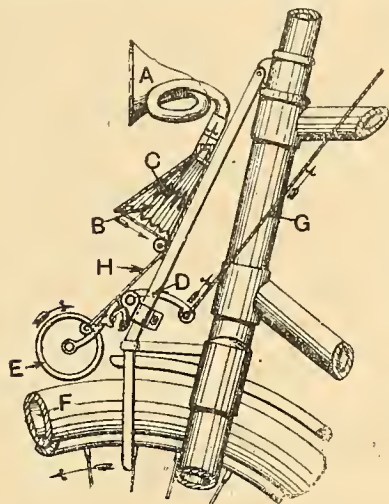
H. P. Rose, Ltd., have opened a branch establish-
ment at Bedford Place, Brighton, where they are acting
as agents for Douglas and N.S.U. motor cycles.

RECENT PATENTS.

By ERIC W. WALFORD, F.C.I.P.A.

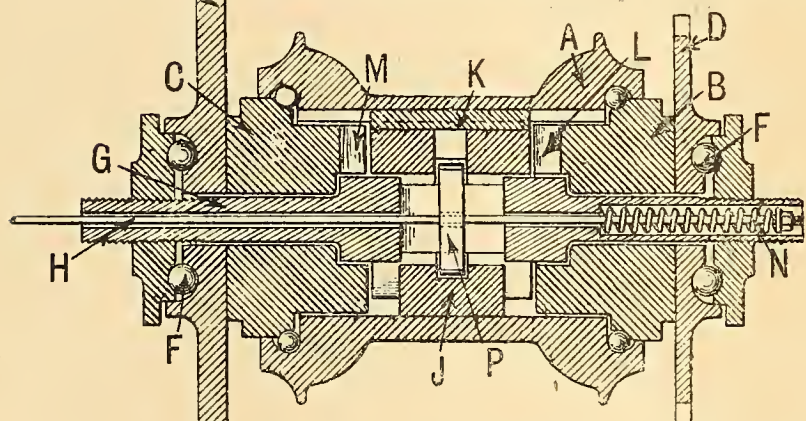
A Mechanical Horn.

Although this construction is not likely to be universally adopted, a short description may be of some interest. The horn A has a reed of the usual kind, and is provided with a bellows B, normally held open by the spring C. Mounted on a pivoted lever D is a friction wheel E, which can be brought into contact with the tyre F by pulling the cord G. Attached to the periphery of the friction wheel E is a cable H, and this cable runs over a pulley, and is secured to the movable side of the bellows B. Thus when the friction wheel is brought into contact with the tyre the bellows will be operated and the horn sounded. From the relative dimensions of the wheels in frictional contact, it appears that the horn would be sounded about nine times for each revolution of the cycle wheel.—K. Gabriel, No. 27,359, 1907.



A Two-speed Hub Gear.

This gear is of the type in which two driving chains are employed. The hub shell A is mounted on ball bearings on abutments B and C formed integral with the high and low driving chain wheels D and E respectively. These chain wheels are mounted freely on ball bearings F on the spindle G, which spindle is formed hollow for the passage of the operating rod H. Carried centrally within the hub is a sliding double jaw clutch J, which must always rotate with the hub owing



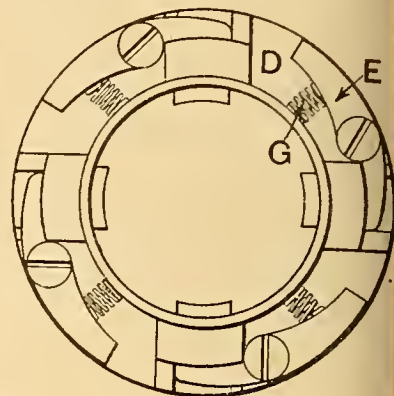
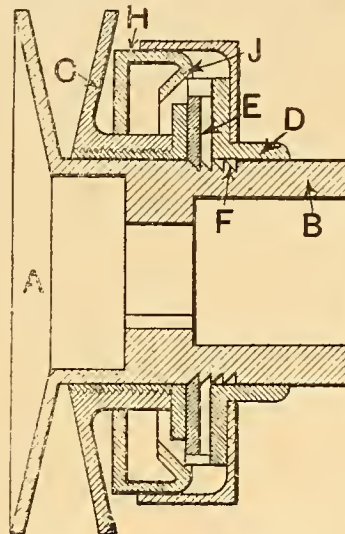
to feathers K. The teeth of this jaw clutch J are adapted to engage with corresponding teeth L and M on the abutments B and C respectively. The double jaw clutch is actuated by a crosspiece P fixed on the operating rod H, and is normally held in engagement with the teeth on the high speed abutment C by the spring N, the low speed abutment

then being free. When the clutch is in the position shown in the drawing, the hub is free of both abutments, and no drive can take place. When the clutch is drawn into engagement with the abutment C, the low gear is in operation and the high gear abutment is free.—A. Readhead, No. 18,389, 1907.

A New Variable Pulley.

The fixed pulley flange A is integral with a sleeve B, which is secured to the engine crankshaft. The movable pulley flange C is screwed on to a short sleeve which is connected to a collar D. This collar is provided with a number of pivoted catches E adapted to engage recesses F in the fixed pulley sleeve B, and which are normally held in their operative position by springs G. Adjacent to the movable flange

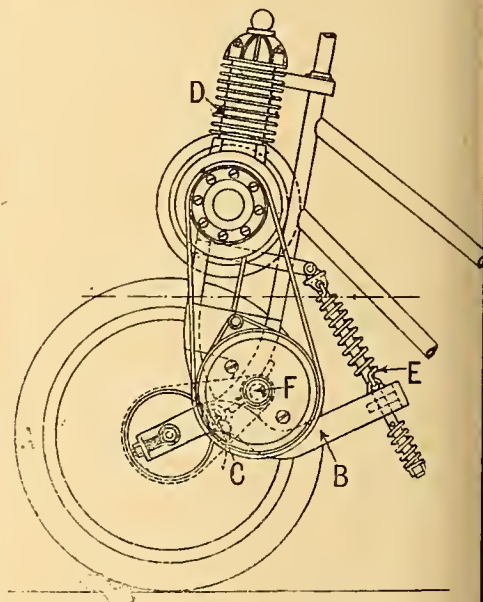
is a second collar H having a bevelled edge J. This collar is adapted to be moved laterally by a peg and inclined slot device (not shown). When this is effected the bevelled edge



J acts upon the ends of the pivoted catches E to withdraw them from engagement with the sleeve B. This allows the movable flange to be slid laterally to vary the distance between the flanges.—D. Carter, No. 18,036, 1907.

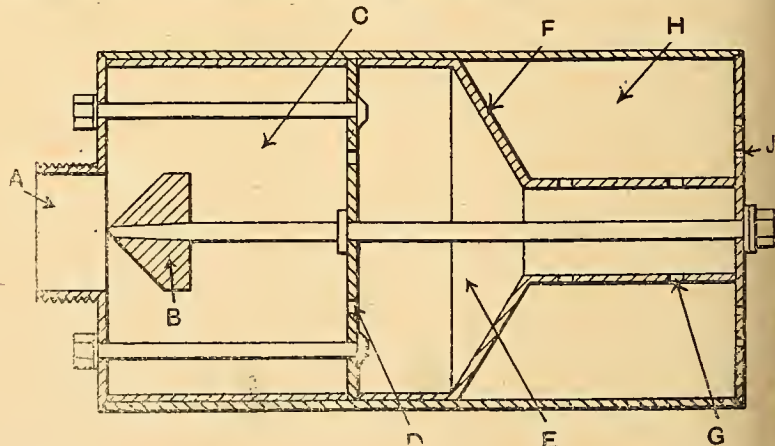
A Front-driven Tricar.

This invention relates to a form of tricar which was recently described in this paper. The front wheel A is carried in the forked lever B, which is pivoted at C to the usual rigid fork. This fork also carries the engine D. The free ends of the pivoted lever B are controlled by springs E, providing a spring suspension. In the construction illustrated, transmission is by belt to the countershaft F, and thence by chain to the wheel A.—F. L. Huttel, No. 4,711, 1908.



An Exhaust Silencer.

The exhaust gases enter the silencer through the inlet and strike the face of the cone B. They then expand in the chamber C, and escape through the perforations D into E



Here the gases are directed by the inclined plane F toward the perforations G, through which they pass into the annular chamber H, and thence to the atmosphere through the perforations J.—B. F. R. Collyer, No. 8,505, 1908.

MOTOR BICYCLES FOR SALE.

EEDS.—3½ h.p. 1906 Rex, spring forks, good running order; £13.
EEDS.—2½ h.p. Minerva, girder forks, engine first-class order; £11 10s.
EEDS.—2 h.p. Minerva, girder forks, good running order; £6 10s.
EEDS.—2½ h.p. De Dion, Chater-Lea frame, long handle-bars, good hill-climber; £12 10s.
EEDS.—5 h.p. Twin Rex, spring forks, 2½ in. tyres; £16 10s.
EEDS.—2½ h.p. Lightweight; wants coil and carburetter; £5.
EEDS.—2½ h.p. Kerry; just overhauled, and frame enamelled green; £12.
EEDS Motor Exchange, 28, Dock Street.

2 h.p. Triumph, newly overhauled, new Palmer back; £11.—61, Haddon Street, Fiddlesbrough.

1907 Twin Rex, perfect running order; £20; exchange entertained.—45, Infirmary Road, Sheffield.

5 h.p. Twin-cylinder Roc, two speeds, in good order; £25.—Hitchings, Ltd., 74, Gold Street, Liverpool.

5 h.p. Lloyds, 26 in. by 2½ in. Palmers, spares, etc., in good condition; £16.—Lugden's, Contractors, Low Moor, Bradford.

1 h.p. White and Poppe, low build, fast and reliable, only wants seeing; £17.—46, Stather Lees Road, Sheffield.

1 h.p. Rex Tourist, magneto, fine condition; £22.—Dairs, 191, Brunswick Street, Oxford Road, Manchester.

NEW 1909 Model 3½ h.p. Phelon and Moore, two speeds, Palmer tyres in stock. — Potter, Agent, Blenheim Square, Leeds.

1 h.p. Quadrant, Shamrock-Excelsior, non-skid, footboards, Whittle belt, no medals; price £18.—163, Park Road, Bolton.

1 h.p. Rex, splendid order, spring forks, all spares; £15; appointment by letter. — P. Thorougood, Waterloo, near Liverpool.

1 h.p. Centaur, low built, 26 in. wheels, 32 Palmer tyres, chain drive, free engine; perfect order; £16 lowest.—Lawson, Burley Mount, Leeds.

1 h.p. N.S.U., magneto, spring forks, excellent condition; £19, or exchange for 1908 Moto Reve.—Tranmer, 133, Victoria Road, Scarborough.

MINERVA, standard model, almost new, Continentals, spring forks, perfect condition; bargain.—Barlow, Victoria Terrace, Kearsley, Farnworth.

2 h.p. Viper Motor Cycle, Jap engine, 28 in. 22 Clipper tyres, 23 in. frame, not ridden 500 miles, guaranteed sound; £12 10s.—Leach, 19, Leonard Street, Hull.

1 h.p. Rex, splendid condition throughout; a genuine bargain; only wants seeing; £14.—Crompton, Coal Merchant, 103, Edinboro' Street, Goole.

4 h.p. Roc, July, 1908, two-speed, Druid spring forks, Shamrock-Excelsior back, Whittle belt, lamp, horn, spares; £35, or offers.—21, Loxham Street, Bolton.

TRIUMPH, 1908, lamp, horn, and spares, like new, footrests, fastest time in single class Bolton and District Hill-climb; £38.—Jos. Entwistle, 322, Manchester Road, Bolton.

1 h.p. 1904 Rex, perfect, new tyres, belt and spring forks, footboards, bargain; £12; 2½ h.p. Bradbury, perfect, £10; wanted, screw-cutting lathe.—Fairhurst, 16, Greenough Street, Wigan.

23 h.p. Kerry, F.N. carburetter, low, 26 in. wheels, Clincher A Won, new on back, trembler coil, 20 amp. accumulators, lamp, toolbag, spares, registration, enamelling, and plating perfect, fast and reliable; £11 10s.—10, Barley Wood Road, Darnall, Sheffield.

LIVERPOOL (Rex Agency).—Before buying your new mount come and have a look at our machines. The largest stock of new and second-hand machines for fifty miles round; anything taken in part payment.—F. C. Jones and Co., 3, Redcross Street, Liverpool.

BOOTH'S SPICY OFFERS

SIX 2½ h.p. REX FEATHERWEIGHTS,
1908 models, nearly new, probably run 200 miles, low built, high tension magnetos, climb hills as good as some 3½ h.p. models,
£19 19 0 each, or exchange.

FIVE NEW TWIN ANTOINES,
5½ h.p., 1908 models, low built, 2½ in. tyres, latest handle-bar control, smart and powerful machines, suitable for sidecar work, going at a second-hand price,
£25 0 0 each, or exchange.

FOUR 5½ h.p. REX-DE-LUXE,
1907 models, fitted with magnetos, Roe clutch, twin tyres, spring forks, spring seats, cost £50 0 0, ideal sidecar machines, handle starting,
£27 10 0 each, or exchange.

THREE 3½ h.p. REXES,
1907 models, spring forks, low built, good tyres; good hill-climbers and smart-looking machines,
£16 16 0 each, or exchange.

SIX 5 h.p. TWIN REXES,
beautiful machines, fitted with spring forks, low built, 26 in. wheels, will take a sidecar anywhere,
£17 17 0 each, or exchange.

SEVEN 1906 3½ h.p. REXES,
low built, spring forks, 26 in. wheels, Longuemore carburettors, climbs steep hills, very reliable,
£15 15 0 each, or exchange.

EIGHT 3½ h.p. REXES,
very low built, both feet can be placed on the ground while seated in the saddle, 26 in. wheels, Longuemore,
£11 11 0 each, or exchange.

OTHER RICH BARGAINS.

6 h.p. Twin REX, 1907, magneto	£19 19
5 h.p. Twin VINDEC, 1907, magneto	29 10
4½ h.p. Twin MINERVA, magneto	25 0
4½ h.p. Twin MINERVA, spring forks	19 19
5 h.p. Twin G.B., magneto	25 0
6 h.p. Twin REX and sidecar	22 0
6 h.p. Twin PHENOMEN, 1908, new month ago, Nala two-speed, magneto, spring forks, fan cooled, only been 200 miles, cost £66	42 10
3½ h.p. TRIUMPH, 1907	32 10
4 h.p. ROC, magneto, free engine	25 0
4 h.p. ADTOINE, magneto, two speeds ..	20 10
Four-cylinder F.N., magneto	19 19
3½ h.p. ARIEL, M.O.V., low	14 14
4 h.p. ADTOINE, M.O.V., low	14 14

LIGHTWEIGHTS.

3 h.p. HUMBER, £11; 3½ h.p. CLARENDON, £11 10s.; 3½ h.p. EXCELSIOR, £10 10s.; 3½ h.p. REX, £10 10s.; 2½ h.p. BUCHET, £9 10s.; ½ d.p. MINERVA, £8 15s.; 1½ h.p. MINERVA, £6 15s.; 2½ h.p. REX, £8 15s.; 2½ h.p. JAP, £8 15s.; 2½ h.p. KERRY, £19 10s.; 2 h.p. HUMBER, £8 5s. Push cycles taken in exchange.

TRICARS.

4 h.p. HUMBER, w.c., two speeds	£15 15
5 h.p. QUADRANT, two speeds	19 19
4 h.p. BAT, fan cooled	19 19

CORONET VARIABLE SPEED PULLEY.
14/- each.

Special Terms to the Trade.
Standard makes can be had without sending old pulley for pattern.

The screwed flange is securely held in any position by a simple yet ingenious contrivance that distinguishes it as the most improved pulley made.
GRIPSKIN BELTING.

Scientifically made from selected parts of hides. An efficient belt at a popular price. Outlasts two rubber belts. Correct angle, perfect drive, non-stretching. We send on approval on receipt of P.O. £ in. 9d., 2 in. 10d., 3 in. 1/-, 4 in. 1/1.
Special Terms to the Trade.

Booth's Motor Exchange,
CORONET WORKS, WADE ST., HALIFAX.
Telephone 1987.

MOTOR BICYCLES FOR SALE.

STOCKPORT.—4½ h.p. 1907 four-cylinder S.F.N., magneto, 650 by 65 Dunlop car tyre on back, Brooks's pan-seat, all absolutely perfect; 35 guineas.

STOCKPORT.—3½ h.p. 1908 Midget Bicar, two-speed and free engine, 26 by 2½ Continentals, unscratched, Bowden handle-bar control, special large footboards, Druid spring forks, will climb anything, enamelled white; 35 guineas.

STOCKPORT.—7-9 h.p. Twin Peugeot, magneto, spring forks, 26 by 2½ in. Palmer Cords, B100 saddle, not run 200 miles, cost £75; 38 guineas to clear.

STOCKPORT.—2 h.p. Minerva, splendid climber, £8 10s.; 2½ h.p. Demos lightweight, everything perfect, very little used, £12.

STOCKPORT.—Write for catalogue of the Midget Bicar if you wish to know why they have caught on so. Then come and try one; then you will buy one.—Lund and Sergeant (late Lund and Davies), Heaton Lane, Stockport.

2 h.p. Werner, in splendid running order, engine new, bushed, new accumulator (Fuller's), tyres never been punctured; £12, or nearest offer; spring forks.—W. Buchan, Conishead, Ulverston.

2½ h.p. Triumph-Jap, Shamrock-Excelsior tyre, G.B. accumulator, copper tanks, lamp, carrier, stand, numerous spares, splendid condition; £17.—Beesley, Charles-town Road, Blackley, Manchester.

6 h.p. Twin Roc, absolutely new, never been ridden, spring forks, Palmer cords, handle-bar control, two-speed and clutch; cost over £60, will sell £35; must have money.—Whalley, School Lane, near Preston.

2 h.p. Clement Lightweight, two-speed, £7 10s.; 3 h.p. Dowson (vertical), Longuemore, £10; 3 h.p. Calvert (vertical), Brown and Barlow, Palmers, £7 10s.; all perfect, or exchange.—Mac, 56, Carrhill Road, Mossley, Manchester.

5 h.p. Twin Peugeot throughout, Truffault spring forks, lin. Dermatine belt (new), two pulleys, enamelling and plating unscratched, guaranteed perfect; £25; will take lower power in part exchange. — S. Missen, Cottingham, Hull.

MOTOR Cycle, 3½ h.p. Auto engine, Longuemore, footboards, low, long handle-bars, two belts, new Clincher covers and tubes, good order; bargain, £18, or near offer, or exchange.—E. Middleton, 21, Kensington Road, Southport.

3½ h.p. Rex and detachable forecarriage, 34 side stays, band brakes, splendid tyres, marvellous climber, £17, or separate, trial; 2½ h.p. Wearwell, good condition, Clinchers, low, £9 10s.—Ramsbottom, 205, Whalley New Road, Blackburn.

23 h.p. Griffon, exceedingly low, 26 in., vertical engine, spray, long bars, cantilever spring seat, brass tank, M.O.V., enamelling and plating good, bag, tools, horn, lamp, pump, goggles, rubber coat; bargain, £9 10s.—Captain Spiney, Dutch Riverside, Goole.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chester Road, Old Trafford.

HUDDERSFIELD Agents for Triumphs, N.S.U., Brown, Roc, Phelon-Moore, Minerva, Vindec; any make supplied; new and S.H. machines in stock. Offers wanted for 3½ h.p. shop-soiled N.S.U., never ridden; 5 h.p. Twin Rex, done 600 miles; 3 h.p. Howe, good condition. — Moldgreen Engineering Works.

DON'T Miss This, cannot be repeated. — 5½ h.p. twin N.S.U., absolutely new and unscratched, not run a yard, magneto ignition, spring forks, Continental 2½ in. tyres, fitted with lamp, horn, stand, etc.; list price £52, extras cost £3, sell for £38 10s., packed in crate and sent same day as cash received.—W. Harrison, 5, Lincoln Street, Haslingden.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

LONDON Rex Motors.—J. Horner and Co., Store Street, stock all models.

LONDON Rex Agency.—All models of Rex 1908 motors; gradual payment or exchanges.

LONDON Rex Official Agents.—Write to us for prompt attention; spares, tools.—Store Street.

LONDON Rex Agency.—As new, 3½ h.p. Triumph, 1908, with Roc two-speed gear, and Triumph original wheel as spare, only 200 miles; a bargain, 44/ guineas.

LONDON Rex Agency.—As new, 3½ h.p. Minerva, only two months in use; £25.—Store Street.

LONDON Rex Agency.—A bargain, 5 h.p. Rex, 1907, very powerful machine, excellent hill-climber; £15 10s.

LONDON Rex Agency.—3½ h.p. Bradbury, in first-rate going order; accept £10 to clear.

3 h.p. Werner, £6 15s.; 3 h.p. Scout, £7 10s.; both perfect.—313, Coldharbour Lane, Brixton, S.W.

N.N. Lightweight, Standard £35 model, never been used.—Box 618, The Motor Cycle Offices, Coventry.

TRIUMPH, 1907, 3½ h.p. standard magneto model, £29 10s. (Yorkshire).—Box 617, The Motor Cycle Offices, Coventry.

1 h.p. Twin Hamilton, light and fast, not run 800 miles; offers wanted.—Seen at Chauchep's, 9, Shoe Lane, London.

1-1½ h.p. Minerva, spray, splendid condition, tyres as new, grand on hills; 10s.—Seen, 1, Hanover Street, Peckham.

1907 4 h.p. Roc, military model, M.O.V., Simms magneto, free engine clutch, practically new, unscratched; bargain, £25. Below.

FOUR-CYLINDER F.N., magneto, spring forks, Palmers (26 by 2½), long bars, low at, excellent order; cheap, £19 19s.—Below.

AT, 3½ h.p. M.M.C. engine, beautiful condition; £15 15s.—Whittle, 41, Skelbrook Street, Earlsfield, Wandsworth.

VINDEC Motor Bicycle, 5 h.p., 1907, first-class order throughout; £35, or best tick offer.—Apply, G. Hayes, The Cottage, Victoria Drive, Eastbourne.

ADY'S 2½ h.p. Jap Motor Cycle, unpunctured, 16½ in. frame, weight 75 to 80 lbs.; trial; £12 10s.; perfect condition.—Bores, 61, Denmark Hill, S.E.

1 h.p. Minerva, 26 by 2½ Continental tyres, two accumulators, splendid condition, very powerful; bargain; £14 15s.—Schlotter, Mayola Road, Clapton, N.E.

1 h.p. Rex, perfect condition, not ridden more than thousand miles; £13; by appointment.—Puckridge, 47, Queen Elizabeth Walk, Stoke Newington, N.

1 h.p. White and Poppe, Chater-Lea, low built, little used, very fast; £25, or change with cash for good forecar.—F.R., Kentish Town Road, London.

1 h.p. Triumph, two-speed gear, free engine, water-cooled, Fafnir engine, front seat; £22 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

FOUR-CYLINDER F.N., 4½ h.p., quite up to date, splendid condition throughout; trial; magneto, all tools; £26.—36, Moy Road, Streatham, London, S.W.

10 only buys 2½ h.p. Brown, enamelled green, with gold lines; £8 only buys 1½ h.p. lightweight Hudson, De Dion engine.—Incaster, 240, High Street, Acton.

7-2½ h.p. Peugeot, light, fast, and reliable; also 3½ h.p. Crypto (French grey), light, low; £15 10s.; both guaranteed perfect.—Russell, 39, West Street, Dorking.

1 h.p. 1908 Twin Minerva, spring forks, Longuemare, Autoloc control, tyres new, excellent condition, spares; trial; £37.—Burdett Road, Limehouse, E.

1 h.p. Rex, easily take sidecar, low saddle, extended handle-bars, engine and wheels absolutely perfect; only £10 10s.—E.S., French Place, Shoreditch, London.

1907 Magneto Minerva, 2½ h.p., spring forks, Advance pulley, Continentals, prior stand, perfect; £16 16s.; bought tri-—Ingleton, 37, Highbury Park, Highbury.



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Jacket and Leggings,

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HAMPSTEAD for Bargains, all machines guaranteed perfect; 1½ h.p. F.N., 1908 model; £19.

HAMPSTEAD.—1½ h.p. F.N., magneto and spring forks, brand new; £30, great bargain.

HAMPSTEAD.—Good Gent's cycle taken as part payment for any machine advertised.

HAMPSTEAD.—All machines guaranteed perfect; sent on approval, deposit, "Motor Cycle," if necessary.

HAMPSTEAD.—5½ h.p. Twin Vindec, magneto, in splendid condition; bargain, guaranteed; £24.

HAMPSTEAD.—3½ h.p. Minerva, almost new, late 1907, complete with all accessories; £20.

HAMPSTEAD.—3 h.p. Rover, M.O.V., late type, new tyres, all accessories, guaranteed perfect; only £9.

HAMPSTEAD.—3½ h.p. M.M.C., in Chater-Lea frame, splendid condition; great bargain, £9 15s.

HAMPSTEAD for 1908 Triumphs from stock. All mounts in part payment, or cycles.

HAMPSTEAD.—3½ h.p. N.S.U., magneto, late model, splendid condition; bargain at price, £17 10s.

HAMPSTEAD.—5-6 h.p. Kerry Twin, 1907 model, new condition, long bars, very low, handle-bar control, adjustable pulley, new belt, and all accessories; bargain, £18.

HAMPSTEAD.—2½ h.p. Jap-Triumph, good condition, and going order; bargain, £6.

HAMPSTEAD.—1908 Triumph, magneto and spring forks, handle-bar control, almost new, with all accessories; £37.

HAMPSTEAD.—4½ h.p. Twin Minerva, grand condition, adjustable pulley, new belt, with all spares; £20.

HAMPSTEAD.—Sole agents for Griffon, Triumphs, F.N.'s, Minervas, Vindecs; exchanges entertained.—Rey, 5, Heath Street Motor Works, Hampstead, close to Tube Station. Tel. 2678, P.O.

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3 h.p. M.M.C., long and low, good condition; £10 10s.—W. Thompson, 14, Salisbury Road, Hinggate Hill, London.

3½ h.p. Kerry, Longuemare, Watawata, 32 spring forks, perfect; £12, or near offer.—White, 50, Beresford Road, Kingston.

GODFREY and Applebee.—Send for current list of second-hand machines; best value in the trade.

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GODFREY and Applebee.—Come and see us, we can supply your wants.

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GODFREY and Applebee.—Send that troublesome machine to us, we will guarantee to get it running properly; charges moderate.

ORMONDE Motor Cycle, 2½ h.p., 24in. Palmer corded tyre on back, in good order, money wanted; £8 10s.—12, Blackhorse Lane, Walthamstow.

3½ h.p. Whitley, fast machine, just been rebushed; first reasonable offer has it; owner going abroad.—H., 6, Grand Hotel Buildings, Eastbourne.

3½ h.p. N.S.U., 24in. Continentals, Acetylene, genuine, reliable machine, new condition; seen any time; £18 10s.—162, Coldershaw Road, W. Ealing.

4½ h.p. Twin Minerva, 1907, Chater-Lea 42 frame, low, very powerful and reliable, first-class condition; bargain; £23.—404, High Street North, Manor Park.

5 h.p. Twin Kerry, new five weeks ago, cost £43, only done 60 miles, splendidly designed, do mile minute; what offers? Cash, instalments, etc.—98, Harold Road, Plaistow.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

31 h.p. Fafnir 26 by 2½ new Continentals, 32 Simms magneto, two-speed gear, all as new; £20.

5-6 h.p. Twin Rex, Cantilever seat, spring forks, fifty-guinea model, as new, splendid running order; £18 10s.

5 h.p. Twin Hamilton, fast, racy machine, suit passenger work; £15.

31 h.p. Werner Twin, very light and fast machine; £15.

21 h.p. Rex Light Motor Cycle, smart machine; £8.

21 h.p. Humber Lightweight, climb almost any hill, splendid condition; £8 10s.

3 h.p. Trent, in excellent condition; £11 cash; bargain.

3 h.p. Automotor, Longuemare, trembler coil, girder forks, perfect condition; £7 10s.

23 h.p. Bradbury, fast, powerful machine; £10 15s.—128, High Road, Tottenham.

3 h.p. De Dion, Chater fittings, gin. belt, searchlight, stand carrier, tools, etc., practically new, not punctured; £17.—Williamson, Oakfields, Bexley Heath.

5-6 h.p. four-cylinder F.N., run only 500 miles, wonderful hill-climber; owner going abroad; £40, or nearest offer; inspection from 10 a.m. to 12.—Poitevin, 2, Golden Square, W.

PEUGEOT, 3½ h.p., twin, Truffault spring forks, splendid condition, tyres like new, too powerful for owner; cash £23.—Ives, Sunnyside, Arcadian Gardens, Bowes Park, London, N.

23 h.p. Clyde, Simms engine, M.O.V., magneto, Goodrich tyres, long bars, re-enamelled and plated; £16; going abroad; examination any time.—584, High Road, Leytonstone.

23 h.p. De Dion Pattern, low frame, long handle-bars, French grey, with or without footboards, in new condition, ready for the road; £16; private.—9, Station Road, Redhill.

31 h.p. Rex, perfect, long handle-bars, low, spare valves, belt, and accumulator; £12, or highest offer for cash, a bargain.—C.J.K., 6, Bracewell Road, St. Quintin Park, W.

4 h.p. Excelsior, M.M.C., splendid machine, absolutely reliable, steady, fast, and silent, footrests, pedals; given away; £10 10s. lowest.—Heather, Tram Terminus, Purley.

£15.—3½ h.p. Kerry, Chater-Lea, Longuemare, long bars, low saddle, very powerful, in perfect order, or exchange lower power and cash.—443, Green Lanes, Harringay.

31 h.p. Magneto Rex, latest model, only purchased end of June, ball bearing engine, first-class machine, in perfect order.—Offers to W., 2, Norfolk Road, Seven Kings, Ilford.

23 h.p. Genuine De Dion engine and carburetter, Chater-Lea frame, spring forks, footrests, Palmers, splendid condition; £15.—1, Shaftesbury Avenue, New Barnet.

23 h.p. Falcon, excellent condition throughout, 26in. wheels, excellent hill-climber, neat reliable mount; sacrifice for £9 10s.—Motor, 9, French Place, Shoreditch, London.

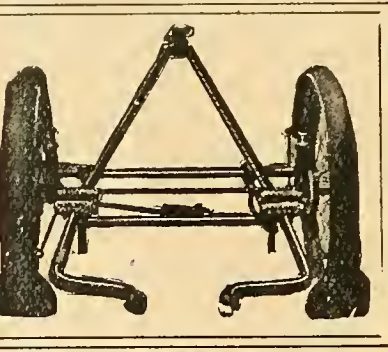
31 h.p. Bat, spring frame, Palmer cord, 32 two 20 amp. accumulators, separate generator lamp, spare cover, tube, valves, tools, footboards; £15.—27, Woodcote Road, Wallington.

6 h.p. Twin Swaim, French engine, footboards, large comfortable saddle, spring forks, good condition; 30 guineas, or reasonable offer.—Walker, 44, London Road, Redhill.

GENUINE Bargain.—3½ h.p. Brown, Chater-Lea, complete, long and low, handle-bar control; £18; must be sold, unforeseen circumstances.—35, Calverley Grove, Upper Holloway.

31 h.p. N.S.U., magneto, latest N.S.U. two-speed gear and free engine, spring seat and forks, powerful machine, splendid condition.—Ingleside, Golden Manor, Hanwell, London.

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 The Phoenix attachment will convert your motor bicycle into a safe and pleasurable three-wheeler for single or passenger work.



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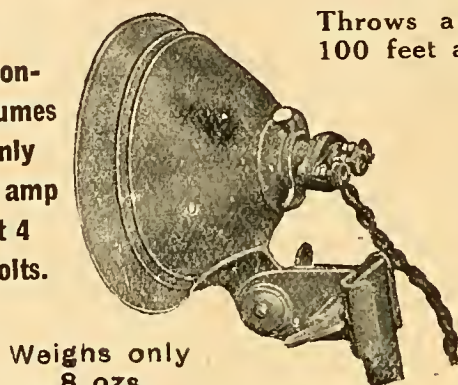
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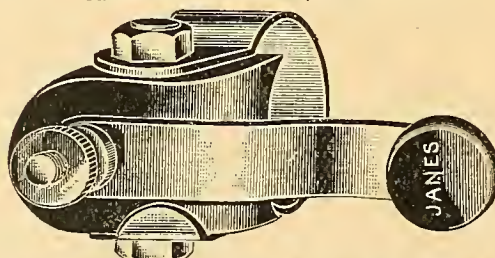
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MOTOR BICYCLES FOR SALE

END of Season.—Bargain sale.

3 h.p. Fafnir, new this season; £15.

3 h.p. M.M.C., almost new, every improvement; £15.

31 h.p. Rex, girders, Longuemare, 23 Clinchers, perfect; £10.

A NOTHER Ditto, surface carburetter; £7.

h.p. Minerva, girders, inclined, F.N. carburetter, nearly new tyres; £8 10s.

13 h.p. Minerva, Clinchers, surface carburetter; £4 15s.

2 h.p. Wearwell Featherweight; £3 10s.

2 h.p. Lightweight New Hudson, outside flywheel; £3 10s.

SEVERAL Sidecars, tricars, at clearance prices.—Carey's Motor Saleroom, Elephant Road, London, S.E.

MOTOR Cycle, 23 h.p., F.N. engine and carburetter, nearly new accumulator, Dermatine, Clinchers, perfect order; £10 10.—Bates, "Homestead," Pampesford Road, South Croydon.

3 h.p. Humber, Chater-Lea frame, low, perfect condition, £14; sidecar for same excellent condition; £4; the lot, or singly, together £17. bargain.—Moggridge, High Road, Potters Bar.

23 h.p. M.O.V. Noble, spring forks, Palmers, all spares and accessories in grand condition, do 30; owner going abroad £10 5s.—Gunnell, 7, Herbert Street, North Road, London.

31 h.p. Brown, splendid condition, Brook saddle, Dreadnought back, A Wood front tyre, Parsons non-skid, Millennium stand, luggage carrier, spares, etc.; £18. Jeffery, Radlett, Herts.

BARGAIN.—Triumph, 23 h.p., as new, low light, very powerful, B. and B. carburetter, two Bowdens, etc., in splendid condition; only £15.—Seen at 25, Lexington Street, Golden Square, London.

h.p. White and Poppe, Chater-Lea low frame, 26in. wheels, everything in perfect condition, flies up hills, very reliable; £11 10s. for quick sale.—Motorist, Bodney Road, Hackney, London.

21 h.p. Jap Lightweight, engine equal new, enamel, plating, and tyre brand new, not done 300 miles, neat and efficient machine; £13 10s.—"Jap," 86, Colverstone Crescent, Dalston, London.

31 h.p. 1908 Triumph, purchased the month, only ridden once, with Auto clipse lamp and generator, Goodlads speed indicator, horn and spares; £43; no offers 41, Ledbury Road, Bayswater, W.

2 h.p. Chater-Lea, Minerva engine, new amp. accumulator, studded back tyre, registered Whitley carburetter, can be seen and tried; £8 8s., or nearest offer.—W. Casey, 1, Glenny Road, Barking, Essex.

N.S.U. Motor Cycle, 3½ h.p., with sidecar almost new, with free engine and two-speed gear, only ridden 400 miles.—Apply Frank Boisset, 6 Flat, 4, Cranworth Gardens, St. Ann's Road, Brixton, London, S.W.

31 h.p. De Dion, 26 by 2½ Watawata by 32 Palmer and Clincher tyres, lamp stand, tools, been used with trailer; £9 1 ideal bargain; giving up.—"Maycroft" Southfield Road, Broadwater, Worthing.

6 h.p. Twin Rex, guaranteed as new, £2 2 h.p. Minerva, perfect, £8; 12 h.p. Bristol Car, like new, £65; gradual payments or swaps.—Norwood Motor Exchange, Lansdowne Place, Upper Norwood, S.E.

4 h.p. Brown Motor Cycle, with fore attachment, can be used as a cyclo-tricar, or three-wheeler, changed from one to the other in 10 minutes, everything perfect; sold cheap; other particulars by post.—Address, 613, The Motor Cycle Offices, Coventry.

TRIUMPH, 3½ h.p., magneto, been used and well cared for, condition faultless, would willingly dismantle engine must sell immediately, cash wanted, very low price; £29; only wants seeing and trying.—Crouch, 5, Grove Villas, Nightingale Lane, Wanstead, E.

TRICARS FOR SALE.

h.p. Tricar, Chater-Lea throughout, two speeds, B. and B. carburetter, R.O.M. contact, Dunlops, Continental, coach-built aluminium seats; perfect order, no fault, 30 easily; lamps, spares. — 4, Frances Street, Woolwich.

1 h.p. Phoenix Tricar, in splendid order, 2 speeds, free engine, fan cooling, tonio coil, footboards, carrier, spares, nps; owner abroad; £23 10s.; seen after 10 or by appointment.—Motorist, 123, Lord-p Road, Stoke Newington, N.

1 h.p. Auto Phaeton (bike and two-wheel sidecar), Fafnir engine, H.T. magneto, 5-speed gear, 2½ by 26 new Continental es, coach-built body, enamelled green, d lines, splendid passenger turn-out, good new; £28 10s.—123, High Road, Tottenham.

07 Practically Brand New Triette (Rex tricar), 5-6 h.p., twin-cylinder, every t in brand new condition, starts very ily first walking pace, climbs all hills h two passengers; £25 to quick buyer.—ette, 86, Colvestone Crescent, Dalston, don.

h.p. Light Kerry Tricar, 26in. wheels, new P.U. non-skid on back, Brooks B100, g handle-bars, accumulator, two new gas ps, new belt, splendid little hill-climber, plete with tools and spares, etc.; £25, or r offer.—Dale, 89, Garratt Lane, Wands- rth, S.W.

REAT Sacrifice.—Allday's 3½ h.p. Tricar, aluminium coach-built body, spare nt wheel and forks for use as motor cycle, ine just overhauled by makers, fitted h Osborne four-speed pulley and starting dle; owner purchased car. What cash rs?—C. Porter, Coleford, Glos.

08 6 h.p. Singer Tricar, three speeds for- ward, reverse, water-cooled, coach- lt. perfect order, wheel steering, tyres ctically new; any expert examination l trial; lamps, horn, spare tube; price uineas, cost £130, new March.—T. B. For- d, the King's Own Regiment, Fleetwood.

h.p. Clement-Garrard Tricar, water-cool- ed, three speeds, sprung frame, coach- lt, worm drive, large clutch, car control, Grose non-skid on back, nearly new cher on front, three lamps, spare tube, aust and inlet valves, tools, etc., fast; l here; £29.—Coleman, Kesteven Road, wich.

h.p. Rexette, w.c., perfect order, two bucket seats, coach-built, wheel steer- ing, two speeds, good car Dunlops, 2½ front, back, reliable, climb anything, carefully d, luggage carrier, apron, tubes, two ac- cumulators, jack, tools, and spares; £38; offers or exchange.—Artist, 37, Fleet et, Torquay, Devon.

PHENIX Trimco, 4½ h.p., fan-cooled, two- speed, free engine, handle starting, in drive, climbs any hill, in perfect con- on and going order, tyres extra heavy, y 2½ non-skid back, all new, two Rich's es, acetylene lamps, etc.; trial run; 50 es with pleasure; great bargain, £28. — t, 3, St. Martin's Street, Leicester are, London.

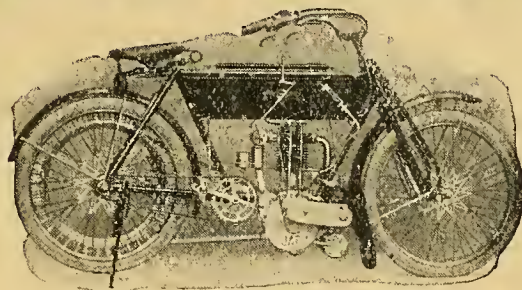
UST Be Sold. — Twin Antoine, R.O.M., Mabon clutch, splendid machine, £30; n Kerry, long bars, Millford front, very t and fast, R.O.M., grand goer, £28; 4½ Phoenix, Fitall two speeds, footboards, £25; 3½ h.p. Excelsior, two-speed, starts car, £18 10s.; 4½ h.p. Kelecom, plain ve, sound and fast machine, £17 10s.; offer, cash or exchange; trials, trials; st on trials.—123, High Road, Tottenham

ERY smart, powerful, and comfortable. 5-6 h.p. Tricar, open frame, tyres and rying as new, coach-built, bucket ts, foot clutch, two speeds, handle start- Autoloc air control from wheel, three ss lamps and powerful headlight, two arate generators, two accumulators, ry necessary spare; 45 guineas; accept d motor cycle part; trials given and ected. — Taylor, 35, Roland Road, Wal- mstow.

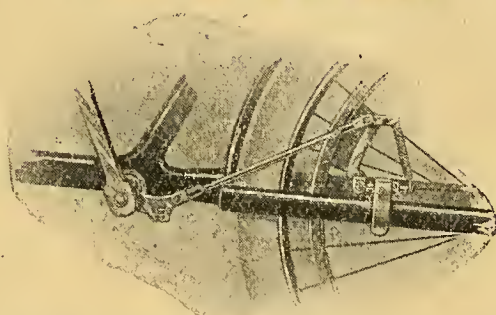
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LEASE send for full covering Motor Cycle Policy, from 19s. per annum.—Bass, In- surance Broker, Ongar.

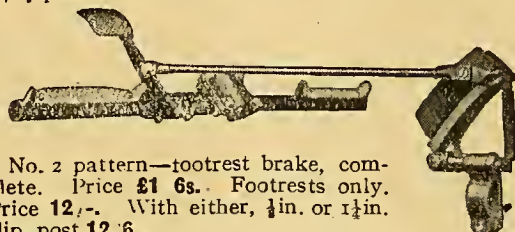
INSURANCE Policies of every description for motor cycles are issued by Hugh J. well, insurance broker, Norwich, at ex- tionally low rates; fire or self-ignition, 6d.; third party, 7s. 6d.; accident to le, 15s.—Write for full particulars.

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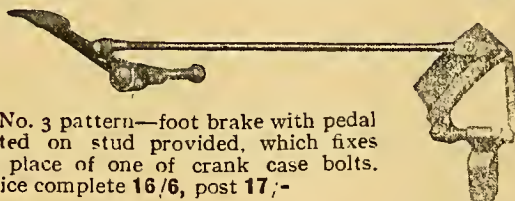
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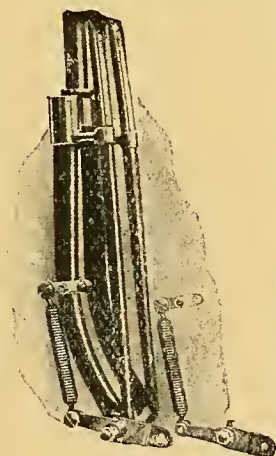
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RIGID Sidecar, 26 by 2½, upholstered green, fit any machine; £3 15s.—Motorist, 57, Somerleyton Road, Brixton, London.

SIDECAR, art cane, upholstered green, rigid, Palmer; £2 10s.—B. Hayden, 16, Rastell Avenue, Streatham Hill, S.W.

CHATER-LEA Sidecar, latest model, brand new, will fit any machine; £5 15s.; approval.—R. May, 111, Larkhall Lane, S.W.

MONTGOMERY Sidecar, new tyre, upholstered green; cost £12, will sell for £5.—Abell, 15, Holmesdale Road, Sevenoaks.

SIDECAR, fit any frame, perfect condition, 26in. motor tyre; sacrifice £4 5s. lowest price.—C. A. Edgar, 123, Holloway Road, London, N.

LIBERTY, art cane, Clincher, upholstered, apron, etc., tool box, just taken off Triumph; 90s., or exchange.—19, Cowley Hill, St. Helens.

SIDECAR, rigid, coach-built body, blue enamelled, upholstered brown, brand new; cost £15, sacrifice £6 10s.—Sembill, Jeweller, Finchley, N.

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SIDECAR, wicker, 26in. by 2in. Dunlop, upholstered green, £3 15s.; also Oppermann free engine clutch, £1, or exchange forecarriage.—10, Thornhill Road, Leyton.

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BARGAINS in Sidecars, complete with powerful two-speed motor bicycles, guaranteed sound, and in perfect running order; send for particulars and prices.—W. Montgomery, Ensign Cycle Works, Bury St. Edmunds.

MILLFORD Light Rigid Sidecar, 26in. wheel, suit low power motor or push cycle, guaranteed quite new, perfect every detail, Dunlop tyre, unpunctured; cost 7 guineas last month, bargain, £5 10s.—83, Heythorpe Street, Southfields, S.W.

OAKLEIGH Sidecars.—Don't forget, for a short time only we are taking any class of sidecar in part payment for an Oakleigh, also forecars. Our price still the same, £5; second-hand ones at £3 15s.; remember we are the sole inventors and originators of the sidecar, and no one knows better how to build your sidecar than the inventors. Call and see us. Nearest stations: West Dulwich, Tulse Hill, and West Norwood. Telephone, 93, Sydenham.—Oakleigh Motors, Ltd., West Dulwich.

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1908 Sidecar, 3in. belt, Lucas Acetyphote.—George, 11, Liverpool Road, London, N.

RIGID Sidecar, hardly used, 26 by 24; take £3 17s. 6d.—587, Seven Sisters Road, Tottenham.

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ROYAL Enfield Tricycle, 3 h.p., faultless condition; £7 15s.—313, Coldharbour Lane, Brixton, S.W.

ARIEL, 3½ h.p., water-cooled, two-speed trike, Milford trailer, with pedal brakes, tyres all new; £16 10s.—Apply Lord, Kingswood Road, Gillingham, Kent.

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LADY-BACK motor tandem frame and forks, 35s.; automatic extra air valve, 2s.; pump pressure gauge, 2s. 6d.; two-way dashboard switch, 2s.; all perfect condition.—46, Vardens Road, Clapham Junction.

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STRONG Motor Trailer, good condition, 28 by 13 Clinchers; 50s., offers.—Mizen, Downton, Salisbury.

QUADRICYCLES.

ARIEL Quad, last one made, water-cooled, two-speed gear, all possible extras, new voiturette tyres, everything perfect condition; £25.—Butler, Inglewood, St. Peter's Road, Croydon.

QUADCARS.

QUAD, 2½ h.p., w.c. head, De Dion, two-speed gear, perfect; cash, £9 10s.—Doubell, Beulah Road, Thornton Heath.

PHENIX Quadcar, 6 h.p., two speeds and reverse, magneto, spares, three lamps, good condition, luggage basket, with insurance policy; price £45.—Rector, Crawley, Winchester.

7-8 h.p. Phoenix Quadcar, makes two-seater or runabout, Fafnir water-cooled engine, two speeds and reverse, used but little and carefully; first cash £45, or exchange.—Wanchope's, 9, Shoe Lane, Fleet Street, London, E.C.

CARS FOR SALE.

6-8 h.p. Gladiator, four-seater, three speeds and reverse, in splendid condition; £40.

4½ h.p. De Dion, three-seater, first-class order; £25.—Moore and Haigh, 63, Kirkstall Road, Leeds.

RUNABOUT, wheel steering, 4 h.p., two speeds; £21.—Oldfield, Delaunays Road, Crumpsall, Manchester.

SIZAIR, 8 h.p., four-seater, fast, good order; offers; private.—No. 610, The Motor Cycle Offices, Coventry.

6 h.p. De Dion-Prunel, three-seater, three speeds and reverse, in excellent order; £45.—Harris, School, Roydon, Essex.

6 h.p. M.M.C., water-cooled engine, in first-rate condition; seen running; £12.—Frank Gale, Caversham-on-Thames.

12 h.p. Wolseley, Cape cart hood, lamps, etc., good running order; must be sold.—Apply, 6, Glebe Street, Walsall.

10 h.p. Two-cylinder De Dion Racing Spider, perfect running order, just overhauled; bargain, £55.—T.R., 212, High Road, Lee.

8 h.p. Coronet, two-seater; £35, or exchange good magneto motor cycle, cash adjustment.—Robert, 10, Grove Place, Hampstead.

PANHARD, 10 h.p., four-cylinder, fast, Krebs carburetter, wheel control, detachable limousine; sacrifice £65.—Seen at London Engineering Co., Wolseley Road, near Kew Bridge, Brentford.

6 h.p. Argyll, two-seater, three speeds, cardan drive; good condition and running order; £25; will accept new ladies' and gent's cheap cycles to value.—Frank Gale, Cycle Works, Caversham-on-Thames.

STANLEY DERMATINE,**The Motor Belt of Merit,****HOLDS ALL RECORDS.****London to Edinburgh.****Land's End to John-o'-Groat's.****London to Land's End and back.****London to Plymouth and back.****71 GOLD MEDALS.****British Made. Beware of Imitations.**

Read testimonials from End to End riders:

"Woolwich, July 22nd, 1908.

"STANLEY DERMATINE MOTOR BELT CO.

"Dear Sir,—I write to inform you of the perfect satisfaction I obtained from your belt in the Land's End to John-o'-Groat's Trial. One belt only carried me from End to End, and to all appearance is in as perfect condition as new. Under the dreadful weather conditions experienced on this ride, it proves your belt, in my experience, a perfect production.

Yours faithfully,

"J. E. TASSELL."

"Birmingham.

"Dear Sir,—The belt behaved splendidly. I only had to take it up once during the trial (End to End), and it is still in grand condition. I had no trouble with it in the wet.

Yours faithfully,

"F. C. MUSTARD."

"Sheffield, July 24th, 1908.

"TO THE STANLEY WEBB CO.

"Gentlemen,—I used the belt you supplied me with in the End to End, and found it most satisfactory. I had no trouble whatever with it, and only had to take it up twice during the three days' heavy rain. I was not troubled in the slightest with it slipping.

Yours truly, F. DOVER."

"London, W.

"Dear Mr. Webb,—Thanks for sending me one of your new extra hook-fasteners to Warrington. I found it just the thing for Berridale. I simply slipped out the extra hook, and saved about ten minutes. Again thanking you,

I am, yours sincerely,

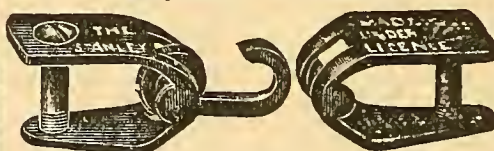
"GORDON GIBSON."

Hundreds of Testimonials. British Made.**NOTE THE PRICES.**

3/4 in.	1 in.	1 1/4 in.	1 1/2 in.
1/2	1/4	1/8	1/11 per ft.

POST FREE.

The Stanley Detachable Fastener.
80,000 in use.



With Unbreakable Hook. Guaranteed. (Made under Simplex Patent.) In sizes 3/4 in., 1 in., 1 1/4 in., 1 1/2 in.—each. Wholesale and Retail.

THE STANLEY DERMATINE
MOTOR BELT CO.,

32, London Road, BROMLEY, KENT.

STANLEY WEBB, Manager.

¶Readers who purchase, or contemplate purchasing, a new machine, should advertise their present mount in these columns. ¶Experience has shown that "The Motor Cycle" is, in the majority of cases, successful in finding a purchaser. ¶This applies also to accessories and spares. ¶

CARS FOR SALE.

4½ h.p. Libena De Dion, two-seater, two speeds, reverse; £19.—Below.

9 h.p. Beaufort, four-seater, single-cylinder, magneto, three speeds, reverse; £35.—Below.

6 h.p. De Dion Populaire, two-seater, two speeds, genuine licensed car, lamps, etc.; £65.—Below.

10-12 h.p. Gladiator-Aster, four-seater, two-cylinder, three speeds, reverse, perfect; £75.—Below.

16-24 h.p. De Dietrich, tonneau, four-cylinder, magneto; fast, reliable touring car; £145.—Below.

18-28 h.p. Gladiator, side-entrance, four-cylinder, exceedingly silent and reliable carriage, late model; £165.—Below.

24-30 h.p. Hurst, side-entrance car, four-cylinder, cardan drive, good hire car; £95.—L. N. Palmer, 190, Mellison Road, Tooting. Telephone: 208, Streatham.

10 h.p. White Steam Car, tonneau, hood, screen, Dunlops, spares, etc.; fine car; £65, worth double.—98, Potternewton Lane, Leeds.

7 h.p. M.M., three-seater, very fine order; £30; accept motor bike and cash.—Below.

6 h.p. Rover, 1907, Cape hood, lamps, better than new; £100.—Below.

6 h.p. De Dion Regal, two-seater, three speeds, very smart; £48.—Below.

6½ h.p. Beeston Humber, two-seater, hood, screen, lamps, very fine condition; £40.—Below.

14-16 h.p. Daimler, four-cylinder, tonneau, fast, silent, excellent condition; £85.—Below.

24 h.p. Mutel, four-cylinder, m.o.v., pressed steel frame, new condition; £100.—255, Earlsfield Road, S.W. Phone, 1135 Putney.

4½ h.p. Renault Light Car, three speeds, De Dion engine, w.c., nice economical little two-seater, very good condition; £2 10s.; trial.—128, High Road, Tottenham.

10-12 h.p. two-cylinder Brussels car, three speeds and reverse, artillery wheels, pneumatic tyres, painted orange, in good running order; £30.—10, Elephant Road, S.E.

10-12 h.p. Humber, screen, hood, five lamps, Stepney; new condition; £215; take nearly new Triumph 1908 bicycle in part payment.—Dowling, Cressington Park, Liverpool.

BARGAINS; owner giving up; offer wanted for one or lot: 12 h.p. Darracq £75; 5½ h.p. Baby Peugeot, £55; water-cooled tri. free engine, £25; 3 h.p. De Dion cycle £14.—Woodcock, 3, South Terrace, Boston.

7 h.p. Fafnir, three speeds, reverse, two bucket seats, Clincher tyres, in perfect order, quite modern, very quiet, splendid hill-climber, fitted with hood, suit doctor £45; any trial; photo.—61, Byron Street, Derby.

FINE Opportunity.—Pope Tribune, side entrance, 14 h.p., splendid hill-climber, seats four or five, showroom soiled only cash, exchange tricar or cycle, or extended payments arranged; also new chassis same make.—The Service Co., 292, High Holborn.

4½ h.p. De Dion, a grand specimen of these simple cars, 1904 make, two or four-seater, detachable tonneau, bonnet, tyre grand, 50 miles trial four up, absolute perfect condition, quiet and up-to-date, four lamps, tools, etc.; photo; £45.—61, Denmark Hill, Camberwell, S.E.

CLEMENT, 9-11 h.p., two-cylinder car, tonneau body by Rothschild, four seats, roomy and comfortable, excellent condition and splendid running order; new gear commutator, etc.; all necessary spare lamps, tools, etc.; sacrifice, £70; trial willingly.—Motor, 21, Regent's Parade, North Finchley, N.

8 h.p. Phoenix Car, two-seater, twin-cylinder, Goodrich non-skid tyres to a wheels, Cape hood, Stepney wheel, spare tyre, four lamps, all accessories; new less than three months ago; cost over £170; price £120, a bargain; good motor cycle taken in part exchange.—Bridge Garage, Briggate, Leeds.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

EXCHANGE.

HANGE, 3 h.p. M.M.C. Motor Cycle, fast, powerful, two good cycles wanted, etc.; offers.—Bert, 2, Bushey Road, Uxton, Middlesex.

HANGE, w.c. Chater-Lea Tricar, twin seats, motor cycle, diamond ring, or gold part payment, or sell £35.—Walters, Brimant Road, Derby.

HANGE 1½ h.p. Matchless, in good going order, and cash, for higher.—Letters, Lynton Clemow, 64, Gran Park, Blackheath, London.

HANGE, 3 h.p. Triumph, in perfect order, and spares, for higher power, Fafnir, or Minerva wanted for side-Motorist, 53, Highgate Hill, N.

ER'S Motor Tricycle, 2½ h.p., magneto, splendid condition, exchange for first-class cycles (lady and gent's) and or sell £10.—Ferguson, Gipprock, Glasgow.

p. Clement-Garrard Tricar, water-cooled, three speeds and free engine, in order, spares; cost £100; exchange for light motor cycle.—C., 62, High Street, London.

HANGE, for good push cycle and £25 cash, 3½ h.p. Humber, absolutely perfect condition, engine and tyres like new; the bargain.—Motorist, 9, French Place, Fitch, London.

HANGE, for good motor cycle or tricar, new high-class furniture, any description, valued wholesale; direct from works. Furniture Manufacturer, 7-11, French Shoreditch, London.

HANGE, Gent's absolutely new three-speed green enamelled cycle, inverted, every refinement, and cash adjustment for modern motor cycle; no rubbish. Ford, Dinnington, Rotherham.

HANGE Gent's Cycle, three speeds, new this year, cost £13, also lady's cycle, new, and double-barrelled gun, 12 bore, in condition, for Tricar or Small Car. J. 16, Minster Street, Reading, Berks.

R-SEATER Brown Car, 8-10 h.p., two cylinders, three speeds and reverse, sp. wheels, three tyres new (grooved), one Continental, green leather upholstery, complete with tools, horn, three in splendid condition, bargain, £55; or entertain exchange for good spring frame motor cycle and cash price.—J. Cherry, "Clovelly," Etching-Park Road, Church End, Finchley.

WANTED.

NTED, Trailer, 2in. tyres preferred; cheap for cash.—Dallaway, Cape, Wick.

NTED, cylinder and piston for 3½ h.p. Rex.—Steer, 39, Napier Avenue, South-Sea.

MPH, 1907 or 1908; send full particulars, spares, etc.—Parry, Watgate Chester.

NTED, Bozier or Dupont two-speed gear, cheap, for Dion Quad.—Westfield, Essex.

TER-COOLED Head for 2½ h.p. De Dion, cheap.—Stuart Shaw, 2, Cholmeley Highgate.

NTED, Cylinder for 4 h.p. air-cooled Antoine engine.—Brown, Abbey Park, Rmeline, N.B.

NTED, good Sidecar; will give gent's 10-guinea pedal cycle, new.—Farrar, e Road, Halifax.

NTED, excellent Sidecar, rigid frame, 26in. castor wheel preferred; also good 21, Ritherdon Road, Balham.

NTED, good 3½ h.p. Motor Cycle, magneto, spring forks, cheap for cash.—Want, 23, Gosford Road, Beccles.

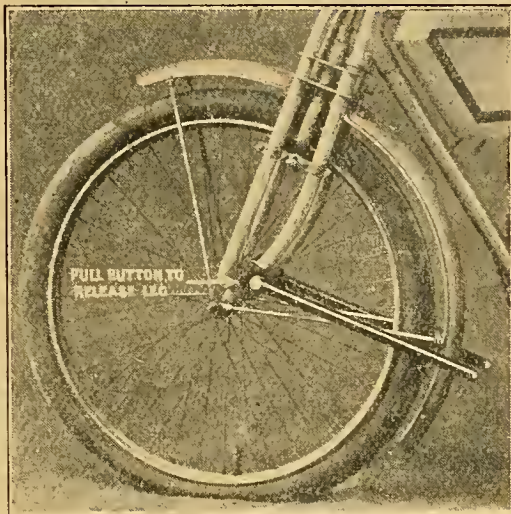
NTED, good Air-cooled Engine; will exchange New Hudson cycle, as new. 604, The Motor Cycle Offices, Coventry.

. Rover or De Dion Car; give 3½ h.p. White and Poppe motor cycle, value £30 cash.—Box 606, The Motor Cycle, Coventry.

NTED, 1907 Triumph, magneto; exchange 2½ h.p. F.N. motor cycle, push cycle, and cash.—Storey, Bridge, Cambridge.

AT LAST. The "R.O.M." Patent Front Wheel Stand.

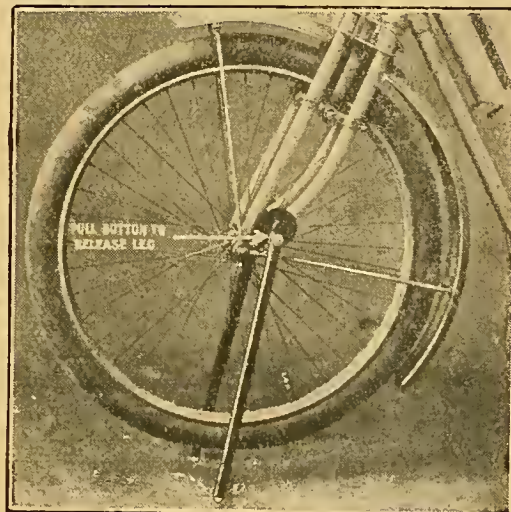
Facilitates mending punctures in front tyre, and if necessary the whole wheel can be easily removed when "R.O.M." stand is used.



Stand, out of position.

(Note "R.O.M." patent ball ends; by this means the machine can be easily moved in any direction in the garage, even with front wheel out.)

This stand is automatically locked when out of position, and cannot shake down. By means of the "R.O.M." patent eccentric action, the legs come close in to the mudguard when out of action, and yet spread well out when in use, thus securing an absolutely rigid support for the machine.



Price 14/6 per pair.
Illustrated list free. Prompt deliveries.

10/- FOR YOUR OLD COVER.

Any condition.

	SHAMROCK.	GOODRICH.	PALMER CORD.
24 x 2½	49/-	—	—
24 x 2½	53/-	—	59/3
26 x 2	48/-	40/-	43/6
26 x 2½	50/-	40/-	58/9
26 x 2½	54/-	—	59/3
28 x 2	—	—	50/3

We allow 10/- for your old cover in part payment for any of the above. 5/- allowed for your old cover in part payment for any other make of tyre.

The NEW CLINCHER RUBBER STUDDED NON-SKID

(as used in the late End-to-end Record).

One size, 26 x 2½ 40/-
7/6 allowed for your old cover in part payment.

Shamrock or Goodrich rubber studded non-skid bands fitted to your own cover, 21/-. Heavy Bates non-slipping band, 13/-. Extra heavy Bates non-slipping band, 15/-. Pullman Puncture proof leather non-skid band, 17/6.

These prices include fitting in all cases. Time taken, about three days.

Our New Tyre List free on application.

R. The only contact breaker Really suitable for
O. twins with accumulators and coils.
M. R.O.M. means—more power, easier starting,
smoother running. Illustrated list free.

The CONTINENTAL MOTOR CO.,
32, Rosebery Avenue, LONDON, E.C.
Phone, Holborn, 1513. Telegrams, "Bromitch," London.

WANTED.

WANTED, Tricar; front seat light and roomy. — Leverett, 9, Goswell Road, E.C.

REASONABLE Cash Price given for high-class motor cycles.—Booth, Wade Street, Halifax.

WANTED, motor cycle; exchange good cycle, cash. — 1a, Frideswide Place, Kentish Town.

BOOTH Wants Drummond or other good lathe.—Booth's Motor Exchange, Wade Street, Halifax.

WANTED, good magneto machine, any pair; low tension wire, 3½d. yard; high, Pettyt, dentist, Halifax.

WANTED, Phelon and Moore or Anglian two-speed gear, chain drive.—Sutcliffe, 8, Cobden Street, Poplar, E.

TRIUMPHS wanted, 1907 or 1908, for spare cash.—Rey, 5, Heath Street, Hampstead.

SIDECAR or Forecar wanted, in exchange for oak bureau, handsome design.—23, Arden Road, Handsworth.

WANTED, four-cylinder F.N., any condition; must be cheap for cash. — 5, Heath Street, Hampstead.

WANTED, 3½ h.p. Magneto Motor Cycle, low, and accessories, N.S.U. preferred. — 56, King's Bench Street, Hull.

WANTED, Triumph Motor Cycle for cash. — Milbourn, c/o Colebarn and Sons, Cherry Lane, Walton, Liverpool.

WANTED, Round Contact Breaker, 2½ h.p. Clarendon engine, also silencer. — Aitken, Morpeth, Northumberland.

WANTED, good Motor Cycle, in exchange for a gent's and lady's new cycles, value £17.—20, Hastings Place, Bradford.

WANTED, Good Sidecar (fit Triumph), exchange Watson 12 by 1 Prism binoculars, value £6 10s.—36, Carter Street, Walworth, S.E.

SIDECARS, any number, give new gent's cycles, Sturmey-Archer three-speed gears, level exchange.—Booth, Wade Street, Halifax.

WANTED, First-class make motor cycle, 1907-8, for cash, or exchange stamp collection, value £40.—6, Cromwell Street, Ipswich.

WANTED, Tricar or Motor Cycle, exchange good piano, or sell £22, a bargain. — c/o 140, Manchester Road, Cubitt Town, Poplar.

1½ h.p. F.N. Engines with outside flywheel; condition no object; must be cheap.—Full particulars to Stuart Shaw, 2, Unolmeley Villas, Highgate.

GOOD Single-cylinder for very powerful twin Rex, guaranteed. Give cash adjustment for up-to-date magneto machine.—Box 619, The Motor Cycle Offices, Coventry.

WANTED, Motor Cycle in part exchange for 8-10 h.p. four-seater Motor Car (see advert. Exchange Column). — J. Cherry, "Clovelly," Etchingham Park Road, Finchley.

STRONG Wide Trailer, axle and hubs, complete; also forecar, front axle, with wheel steering, complete, must be heavy pattern, and perfect. — Harding, Engineer, Fairford, Gloucestershire.

WILL give £10 to £20 and 3½ h.p. Twin Clement-Gerrard, low Chater-Lea frame, good order, for good Tricar or small Two-seater Car. — W. Hayman, Rhodesia, Clifton Crescent, Folkestone.

WANTED, good Motor Cycle or Tricar; exchange new high-class Furniture, any description, valued wholesale, direct from works.—Furniture Manufacturer, 7-11, French Place, Shoreditch, London.

THE Proprietors of the patent rights of R.O.M. synchronised contact breakers are prepared to accept offers for the rights to manufacture in France; write for particulars.—Continental Motor Co., 32, Rosebery Avenue, E.C.

WANTED, 6 h.p. Water-cooled Engine, genuine De Dion preferred; also two-speed and reverse gear, epicyclic, exchange 3½ h.p. De Dion, nearly new, Michelin tyres (31 by 90), accessories, or motor bodywork. — Apply, Box 602, The Motor Cycle Offices, Coventry.

WANTED.

WANTED, cylinder head for 2 h.p. Minerva engine, a.o.i.v., 26 by 2½ rubber studded cover. — 26, Caunce Street, Blackpool.

WANTED, 3 or 3½ h.p. engine to clip on frame; cash, or exchange cycles of phonograph records. — Robinson, Buckden Hunts.

WANTED for cash, motor cycle accessories, and spares, large or small quantities. — Carey's, Elephant Road, London, S.E.

WANTED, Triumph, 3½ h.p., magneto for small lathe gap, slide rest, back gear, tools, and cash. — Perkins, Jessmond Dene Wycliffe Road, Northampton.

WANTED, Powerful Tricar, sound condition, part exchange handsome cash inlaid bedroom suite. — Box L3 102, The Motor Cycle Offices, 20, Tudor Street, E.C.

WANTED, very light Motor Cycle, 20in. frame, 24in. wheels, in good going order; cheap for cash; free engine preferred. — 6, Albert Road, Blackpool.

MOTOR Cycle, in exchange for Chater-Lea Ladyback tandem, nearly new, Dursley-Pedersen three-speeds, Palmer tyres, or sell cash. — 9, Church Hill, Walthamstow.

WANTED, Motor Cycle, any condition, in exchange for Ariel (gent's) high-grade cycle, perfect order and condition. — Mechanic, 54, Chaucer Road, Herne Hill, S.E.

WANTED, pair of tricar hubs and axle, also back hub and axle, cheap for cash; or will exchange 2½ h.p. petrol engine. — J. P. Sutherland, Sound, Lerwick, Shetland.

WANTED, powerful cycle, four-cylinder F.N., or good twin cycle preferred; must be cheap; long bars, spring forks, tyres good. — Ralph Radclyffe, Hyde, Wareham, Dorset.

WANTED, 6-7 h.p. twin V engine and carburetter, in exchange for splendid pedigree bull bitch (12 months), valued £15, slight repairs not objected to. — Particulars, F. D., 79, Idsworth Road, Pitsmoor, Sheffield.

WANTED, a Two-seater Car, in exchange for a 3½ h.p. motor cycle, Bat engine, latest, low built, magneto, fast, powerful, reliable, accessories, built two months ago, or sell £25; also give new dynamo, 1908 3½ h.p. Minerva engine. — Zenith, 20, Earlswood Street, East Greenwich.

MISCELLANEOUS.

ENGINES Re-bushed throughout from £4.

CYLINDERS Re-bored from 5s.

PISTONS supplied new from 7s. 6d.

RINGS from 9d.

CONNECTING Rods from 7s. 6d.

INLET Valves from 2s. 6d.

EXHAUST Valves from 2s. 6d.

PULLEYS for any Motor—

TRIUMPH, Brown, Fafnir, 4s. 9d.;

REX, Antoine, Kelecom, 5s. 9d.;

DE DION, M.M.C., 6s. 9d.

ABOVE 4½in. Diameter, extra 9d.

AXLES, cranks, spindles, handle-bars, seat pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed. — Tufnell and Co., Lightning Motor Works, Leytonstone.

WHIPCORD Breeches, latest cut; 10s. 6d. — J. C. Savage, 119, Donegall Street, Belfast.

WHITTLE Belt, 8½ft. by ½in.; run fifty miles; 15s.—49, Browning Road, Manor Park.

GOOD 'Cello for sale, or exchange for motor cycle. — Clews, 12, Chester Street, Crewe.

PLEASE NOTE

We can supply all parts for 2½ and 3½ h.p. F.N. Engines.

"VINDEC" Adjustable Pulleys for 2½ h.p. F.N. Engines, 10/- each.

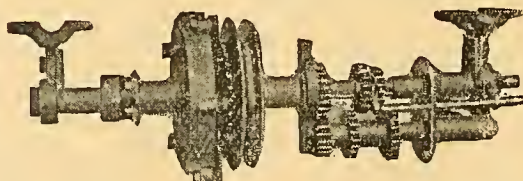
"VINDEC" Adjustable Pulleys for 3½ h.p. F.N. and 3½ or 5 h.p. Peugeot Engines, 15/- each.



"KUMFO" Sponge Rubber Grips, ¾in. or 1in. bars, 2/6 per pair.

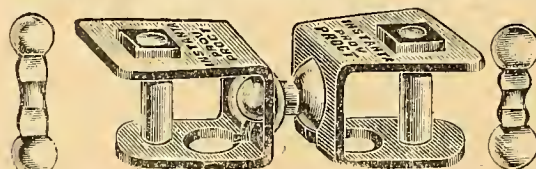
South British Trading Co. Ltd.,
13-15, Wilson St., London, E.C.

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TREMENDOUS SAVING
of Worry, Money,
Trouble, and Expense.
BY USING THE
VOLTOO
2-Volt **COILS**
For MOTOR CYCLES and CARS.
Write to Sole Manufacturers:
The CITY IGNITION CO.,
14, Spencer St, Goswell Rd., London, E.C.,
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FOR ALL PARTICULARS.

**THE KENT
THREE-SPEED GEAR.**

This gear has been re-designed and improved. Can be fitted to Tricar in two hours. Price £11-11-0.
List Free. Discount to Trade.

RODGERS BROS.,
330, Kennington Road, S.E.
'Phone 1000 'Hop.

**THE
'INSTANTA' PATENT ADJUSTABLE
AND DETACHABLE FASTENER.**

Three links, 1s. 6d.; one link, 1s.; post 1d.
251, OX HILL ROAD, HANDSWORTH,
BIRMINGHAM.

MISCELLANEOUS.

TANKS of all kinds made to order. — D. J. T. gett, metal worker, 65, Turnmill Street London.

QUADRANT Loop Frame, with front fork and 20in. handle-bar; 32s. 6d. each. Farrar.

LONG Motor Handle-bars, 21in., 4s. 9d. heavier gauge, 5s. 6d.; well plate three sizes. — Farrar.

DOUBLE-TWIST Cow-voiced Horns, 4s. 9d. large size, 6s.; new Lycett's B toolba 6s. — Farrar.

PREMIER Accumulators, Rex size 12 send for price list; pounds saved. Farrar, Square Road, Halifax.

GUENET Coil, perfect spark, 10s.; another very fast, 8s. — A. Glover, Barbour Worcester.

SHEDS for Motor Cycles, 45s.; portable. Stevens, 82a, Leighton Road, Kent Town, London.

THE Great Eastern Motor Exchange. — Bargains: Frame; 55s., complete with wheels and pedals.

F.N., 2½ h.p., genuine, Dunlops, low built perfect, £14; also Ariel, 2½ h.p., A.W. Clinchers, patent carburetter, bargain, 10s.; also

GEME perfect accumulators, unequalled 10s. 6d., 12s. 9d., 13s. 6d.; Perfecta No headlights, 15s.; large double twist horn 6s. 6d.; ear horns, new design, 18s.; ditto wheel pattern, 22s. 6d.

M.M.C. Car, 12-14 h.p., De Nevers tyres, perfect order, seats seven, upholstered green leather; bargain, £70, or near off.

2½ h.p. Humber, as new, Dunlop tyres, 24 Rich tube, £12; genuine De Dion spray carburetter, 6 h.p., 39s. 6d.

TUBES, red, 25 by 2, 6s. 3d.; 2½in., 6s. 9d. plugs, funnels, spanners, tyre lever tools, and accessories, at keenest prices. Call, 97, Great Eastern Street, E.C.

SMART Whipcord Motor Cycling Breeches, 8s. 6d., post free; patterns free. — Meredith's, Northwich.

ONE pair Simplex spring attachment plated; first letter, 10s. — Reed, 239, Bridge Road, Woolwich.

WHIPCORD Cycling Breeches, latest cut 10s. 6d.; write for patterns. — Boot tailor, Longton, Staffs.

WHITTLE Belt, ¾in., 12s.; 2½in. Minerva Valves, 1s. 10d.; springs, 3d. — George, 11, Liverpool Road, London, N.

MOTOR Cycle Saddle, Duene's patent shop-soiled; cost 21s., price 8s. 6d. Oliver, 154, Fleet Street, London.

31 h.p. Humber, free engine, minus front wheel; bargain, £7 10s. — G. W., Sandringham Road, Dalston, London.

STANLEY-DERMATINE 1½in. Belt, length 8ft. 6in., brand new; 12s.; bargain. James, 74, Heathfield Road, Plaistow, Ke.

BELT Rim Brakes, flexible cable, hand applied, easily fitted, stop anything, 6d., usual price 15s. — Slack's Garage, Stockport.

VALVE Lifters, complete with hand lever and flexible cable, easily fitted, 4s., usual price 9s. 6d. — Slack's Garage, Stockport.

NEW R.O.M. Contact Breaker (Minerva), accumulator, and handle-bars, both Minerva, for sale. — Longden, Pier Pavil Southport.

EVERYTHING made in Tanks and R. ators except a fortune; write for prices, A. Phillips, 112, Lynton Road, Lymondsey.

PORTABLE Motor and Cycle Houses, built of iron, etc.; cheap prices; catalogue free. — Phoenix Manufacturing Co., 13, Paternoster Row, E.C.

ADJUSTABLE Pulleys, 4½in., 8s.; 5in., engine repairs, spare parts; overhauling. — Lee, Motor Engineer, 18, Some Road, Edmonton.

READERS having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium; 1d. word, minimum 9d. — Address "Photography and Focus" Offices, 20, Tudor Street, London E.C.



THE MOTOR CYCLE



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Is the Tricar Dead?

MANY motor cyclists will answer this question in the affirmative, but those who look a little further ahead, and do not always judge conditions by the immediate present, may be inclined to think that there is still a promising future for this type of vehicle. Reference to our correspondence pages this week will show that one motor cyclist at any rate has noticed during a tour on the North Road quite an effervescence of tricars—many more than one would be led to expect. Thirty tricars, eighteen sidecars, and forty-one motor bicycles seen in the course of a short tour certainly calls for comment.

Whatever prejudice there may be against this type of passenger motor cycle, we can only say from our own experience that within the last few weeks we have owned and driven a special tricar which we think would sell in fairly large numbers if it was placed on the market at a reasonable price. The machine in question is quite a reversion to the old or first type of fore-carriage, with up-to-date improvements in frame, engine, and gear. There is nothing luxurious or superfluous about it, and its total weight is only about 3 cwts. It has what the early forecars never possessed, viz., a good two-speed gear and clutch, and is driven by means of a belt sufficiently wide to transmit the power of the engine without undue slipping. The early forms of light tricars had narrow belts, no two-speed gear, and in many instances were discarded because of the trouble in starting and hill-climbing. A few weeks' use of the new machine, which we hope to describe and illustrate very shortly, has convinced us that it is possible with a properly-designed $3\frac{1}{2}$ h.p. air-cooled engine and two-speed gear to propel a combined weight of about 6 cwts. in fairly undulating country without the least trouble.

The average speed does not exceed the legal limit, the frame is rigid with both seats sprung, yet the machine is extremely comfortable on fairly good roads. In our opinion this is the type of passenger motor cycle which motor cyclists who do not yearn for speed are inclined to buy.

Conversing the other day with the maker of one of the very latest forms of tricar, which has gained innumerable awards in open competition, we were informed, upon describing to him the type of vehicle in our possession, that in his opinion this was on the right lines, and that possibly within the next year or eighteen months we should see the light form of tricar with air-cooled engine return to popular favour.

What can be done with an Air-cooled Engine.

WE must say that at first we were rather timid of the air-cooled engine when running on the low gear, but although it is not equal in power to a similar sized engine with a water-cooled jacket when run for any length of time on the low gear, it is astonishing what can be done, provided the engine is suitably constructed and designed for the purpose.

There is one all-important feature in connection with an air-cooled engine which in the old days, with few exceptions, was overlooked, and that is the ratio of compression employed for different purposes. Air-cooled engines have also been improved out of all knowledge since the days when the light form of tricar became unpopular. It is therefore not surprising to find that it is possible to obtain a great amount of pleasure at a small cost from a vehicle which, with passengers,

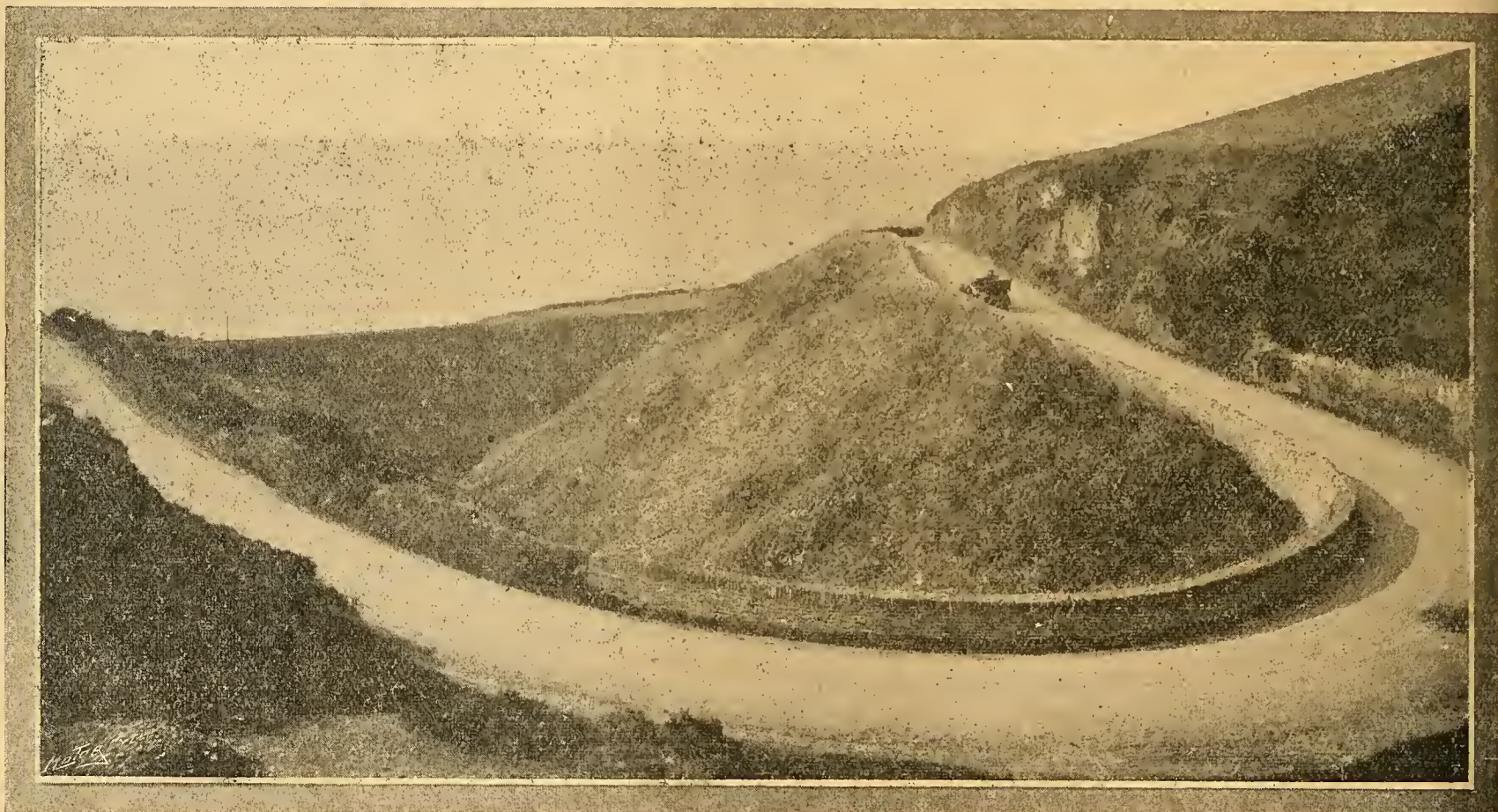
weighs less than the majority of small cars when unladen.

A machine of this description, however, must retain its lightness and simplicity. The moment the buyer begins to yearn for car luxuries in the way of seating, luggage capacity, wind screens, and hoods, the utility and advantages of its lightness and handiness are lost. Such additions entail a corresponding increase in power with added weight to frame, engine, and tyres, until it is not only almost as expensive to maintain as a small car, but has only one greater advantage, viz., increased speed.

Speaking as enthusiastic motor cyclists, we know that there would be a very ready sale for a vehicle of this description, provided it could be sold at a reasonable price. It will not climb all the danger-board hills in the country; a gradient of 1 in 8-9 with both passengers seated is about its limit in this respect, but as hills in excess of this can be avoided in nine cases out of ten.

and the odd one climbed with the aid of the low-speed gear with the driver only up, this should be no very great hardship. A dismount might not occur more than once in a whole year's riding.

To men who want a sporting vehicle which will climb anything at high speed and exceed the speed of most cars under 30 h.p., the small air-cooled tricar will not and does not appeal, but there are hundreds of riders who wish to take a passenger on their rides, and prefer a self-contained vehicle to a sidecar and bicycle. That is why the air-cooled light tricar will come into popular favour again before very long. It is the advent of the reliable two-speed gear and clutch, all contained in the back wheel, and the reliable magneto machine, which have rendered such a machine possible. Such a vehicle in the hands of a careful and considerate man of moderate ambitions is a pleasure to own and drive, and we can quite believe that there will be a fair demand for it.

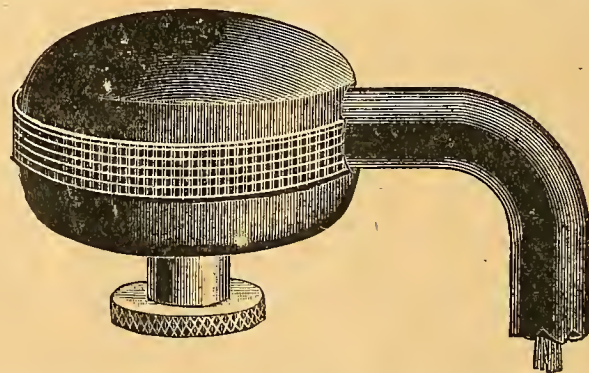


The famous horseshoe bend between Kirk Michael and St. Germain's, Isle of Man. This bend will have to be negotiated several times by the competitors in the Motor Cycle Tourist Trophy Race on the 22nd inst.

A NEW TERMINAL.

An ebonite terminal which largely differs in style from previous patterns is the one illustrated herewith, made by the makers of the Oleo sparking plug, Messrs. Ripault and Co., 64a, Poland Street, Oxford Street, W. It is designed to combine bulk of insulation and terminal connection with lightness in weight. The ebonite knob or insulator is drilled at right angles for the cable conveying the current to the sparking plug, or from the battery terminal as the case may be. The hole up the base is tapped, and in it is screwed an adapter, which is intended to push on to the top of the sparking plug, or it may be tapped to screw on to a terminal. The hole for the cable is recessed so as to form a substantial support for the wire lead, and prevent it being broken from vibration. On motor cycles

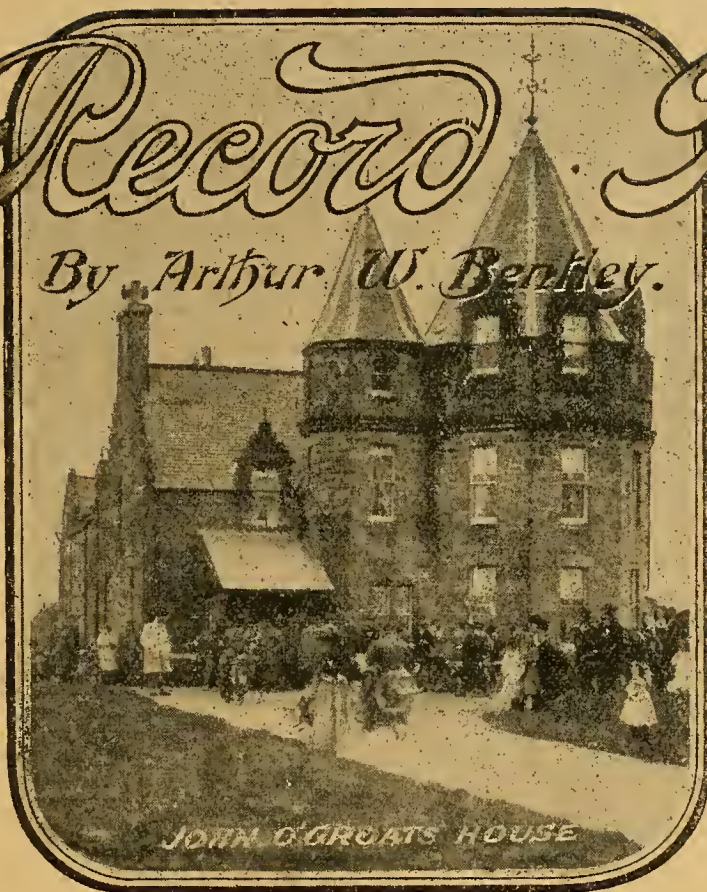
where there is sufficient room between the sparking plug and tank, or other parts of the machine, it is eminently



suitable, as it is impossible for a short circuit to take place with such a large amount of insulation.

My Record Ride

By Arthur W. Bentley.



BY the time this article appears in print I know full well that the Land's End to John-o'-Groat's record may rest in other hands, and, indeed, I almost hope that this may be the case, as I am very anxious to have another run over this course with all my arrangements properly made. It was only utter exhaustion and fatigue, due to twenty-five hours without any proper nourishment, and the misery of a night spent endeavouring to find the way along an unknown road, that caused me to lose precious time during the last stages of my ride.

Some people say that these fast long distance runs are injurious to motor cycling, inasmuch as twenty miles per hour is almost continuously exceeded.

I must decline to agree, and for these main reasons: as everybody who has travelled in these parts knows, the road for the greater part of its length is singularly quiet and deserted, notably from John-o'-Groat's to Perth. Consequently one may drive at high speed the whole time without fear of annoying any living beings other than the black faced mountain sheep, hares, and rabbits that scamper up the mountain side immediately the purr of an engine is heard. And then, again, it must be borne in mind that a great deal of the ride is carried out during the night and early morning, when, of course, there is nobody on the road at all. Lastly, if the rider has not the common decency to study the feelings of his fellow creatures, he will at any rate for the sake of avoiding a smash drive carefully through towns and populous places.

Preparatory Arrangements.

In order to make a success of a run such as the End-to-End it is absolutely necessary that arrangements be early and properly made and everything cut and dried some weeks before you are due to start. This is a lesson I have learnt by most bitter and painful experience, and I shall not readily forget it. After sundry and manifold calculations as to routes, times, pilots, feeding arrangements, and suchlike details, I managed to land myself within a week of my ride absolutely and completely at sea, and with everything in most complete and absolute chaos.

The last week before actually starting I think our gardener lost nearly a stone in weight, owing to the frequent excursions he made to the post office in order to despatch telegrams, and I believe that I personally have shortened my life by some years, owing to dire anxiety and most distressing perplexity.

On the Friday evening before Whitsuntide, however,

feeling and looking somewhat limp and woebegone after my exertions, I caught the night train up North, with my machine safely packed in a crate at the end of the train, and with a large assortment of literature and provender in my travelling bag. I had decided to start from John-o'-Groat's and work southwards.

Have you, dear reader, ever made that journey up to Wick? If you have you will condole with me; if you have not you will take my advice—never to think about it under any circumstances.

Luckily, Mr. D. K. Hall, who had kindly consented to act as timekeeper, is one of the very best companions on a long journey, and he managed to liven the weary hours with stories of some of the famous rides in which he has taken part.

Well, we did arrive at last, and with all due reverence we superintended the hoisting of my machine on to a handcart and its conveyance to Mr. Robertson's garage, which had been kindly placed at our disposal for the night.

After writing a final batch of letters and dispatching the last complement of telegrams we composed our minds to rest, and were soon sleeping the sleep of the just in the station hotel, which we had fixed upon as our headquarters for the night.

Sunday morning was typically Scotch; by this I mean a steady misty drizzle did its best to drain our spirits for the whole of the day, and, failing in this, it decided to show us what a beautiful evening it could provide for us if it really cared to do so.

At about six o'clock, we decided to start on the journey to John-o'-Groat's, I on my bicycle and Mr. Hall on the front seat of Mr. Robinson's car, which was kindly driven over with a full complement of passengers.

The roads were very greasy after the rain, but as both my wheels were fitted with rubber studded covers, I did not trouble much about skidding, and in a very few minutes we were standing outside the "John-o'-Groat's Hotel," the most northerly point in Scotland, and the scene of many a famous start and finish in days gone by, and I hope in days to come.

At the Starting Point.

After we had done justice to a very substantial high tea, we went for a short stroll along the beach, and after taking several snapshots, the time being 9.30, but still quite light, Mr. Robertson bade us good-bye, and we were left to possess our souls in patience for the ensuing twenty-seven hours or so, and to pray that the good weather we were now enjoying would hold for the next few days.

My Record Ride.—

We were gladdened on Monday morning by the sun streaming into our bedroom windows, and a clear cloudless sky overhead promising well for the run south. After breakfast we repaired to the garage, which is situate a short distance down the road, to place the numerous spares I was carrying snugly and safely in the saddle bags, and to carefully tighten up nuts and see that everything was in order.

This did not take long, and before eleven o'clock I was again in bed, in order to rest, as I knew that the next two days would be full of hard work, and that I should have need of all my superfluous strength and energy to successfully cope with the numerous hardships that inevitably crop up on a long run against time. Unfortunately for me, they were building an iron house immediately beneath my window, and although I tried bribery and corruption in a vain endeavour to stop the noise, I could not overcome the conscientious scruples of the Scotsmen, who, anxious as they were to please, were none the less anxious to finish their work, and sleep being out of the question, I made the best of a bad job, and spent the remainder of the day reading "The Scarlet Pimpernel" and about fifteen telegrams that arrived at intervals from Huna. I am afraid the poor old fellow who acts as postman up at Huna will not readily forget me. I think he made that journey—about one and a half miles each way—about eight times during the day.

The Weather Prospects Good.

At intervals during the day Mr. Hall kindly brought in the latest reports as to the weather, and from him I gathered that my journey South would not be disastrous, from a weather point of view at any rate.

At nine o'clock (four hours before I had arranged to start) I could stay in bed no longer, and, donning my motor cycle garb, I went down to the garage, which, however, I found heavily padlocked.

On enquiring indoors as to the reason of this, I learnt that a chauffeur had stored a car there during the night, and had carefully locked the doors and forgotten to return the keys, which were now probably a hundred miles away.

They say that "love laughs at locksmiths," and, although I cannot answer as to the truth of this from personal experience, I can only say that we did. There are plenty of heavy stones up at John-o'-Groat's, and we found them excellent hammers for breaking padlocks.

By the time I had finished strapping on the last impedimenta Mr. Hall arrived on the scene with seals and copper wire, as I had particularly asked him to see to this, so that nobody could accuse me of riding more than one machine during the run.

Not only did Mr. Hall seal the frame of my machine, but he also sealed the cylinder of the engine, and these seals are still intact.

Reflections Before the Record Attempt.

Leaving the garage, I went for a short stroll along the beach, so as to waken up a good appetite for dinner, which I had ordered for eleven o'clock.

The day had been rather windy, and a few showers of rain had fallen; but the evening, though somewhat cloudy, was absolutely quiet and calm, with scarcely a breath of wind to disturb the unruffled face of the waters, and even as late as this the sun was bright in the heavens. Walking alone with no human being in sight and no noise save the occasional cry of some cormorant or seagull as it lazily flew away to its home across there in the Orkneys, the setting sun shining out across the North Sea likening it to a vast lake of gold, the small islands of the Orkneys indiscriminately dotted about, their dark, gaunt, rugged coastlines sending great shadows stretching far out into the water, the small white cottages of the fishermen standing out in bold relief against the dark background, and far out at sea the lighthouses dreamily flashing their lights round and round in one vast circle, and here and there some small fishing smack gently drifting back to the well-known port, the failing wind scarcely filling the sails, it is small wonder that in contemplating this most perfect scene I quite forgot for a few minutes the mission that had brought me to this quiet spot.

Slowly, very slowly, the sun sank, the shadows gradually lengthened, and I was left alone to reflect upon the wondrous works of Nature and to let its beauty and grandeur sink deep into my mind.

It was almost with a start that I looked at my watch and saw how late it was, and, hurrying back to the hotel, I found Mr. Hall and Mr. Robertson (who had kindly consented to pilot me down to Beaulieu) already seated at the table and dinner waiting. As this was the last sit-down dinner I expected to have for about two days I need hardly say that I did full justice to the really first-class fare they had without a murmur prepared for us at this late hour.

We rose from the table at 12.30 and sallied forth into the night, and having lit the lamps, proceeded to warm up the engine. My dear little machine fired with the first stroke of the pedals, and I placed full trust in it for the most severe and trying test to which a motor bicycle can be put.

Given the Word "Go" at 1 a.m.

At ten minutes to one I was at the door of the hotel anxiously waiting for the start as the minutes slowly passed by: 12.56, 57, 58, 59—I flooded the carburette, buttoned my coat well up, as the night was cold, and adjusted my goggles—15 seconds, 10, 5, 3, 2, "Go. Good-bye and good luck to you." The word rang in my ears as I turned the corner by the garage and my engine settled down to a steady hum.

Mr. Robertson had started a couple of minutes ahead of me, and upon him I was relying to pilot me down over the first 130 miles to Beaulieu; but luck was against us. First of all his lamp crashed into the road, and he continued for some distance without one, and then his back tyre gave out, and I was perforce left to find my way as best I could.

Somehow or other the news had got abroad that an attempt was being made on record, and I was much surprised at the enthusiasm and keenness that prevailed amongst these hardy Scotch sportsmen.

(To be continued.)



A practice start from John-o'-Groat's House.

By B. H. DAVIES. (Continued from page 661.)

A map of the course for the Tourist Trophy Motor Cycle Race in the Isle of Man. Competitors start from St. Johns and ride to Ballacraigne, up Creg Willey's Hill and down the other side to Kirk Michael; then along the coast road to Peel and back to St. Johns. A contour section of the route appears on page 690.

THE SCOTT TWO-STROKE MOTOR BICYCLE.

Described by its Designer, Mr. A. A. SCOTT.

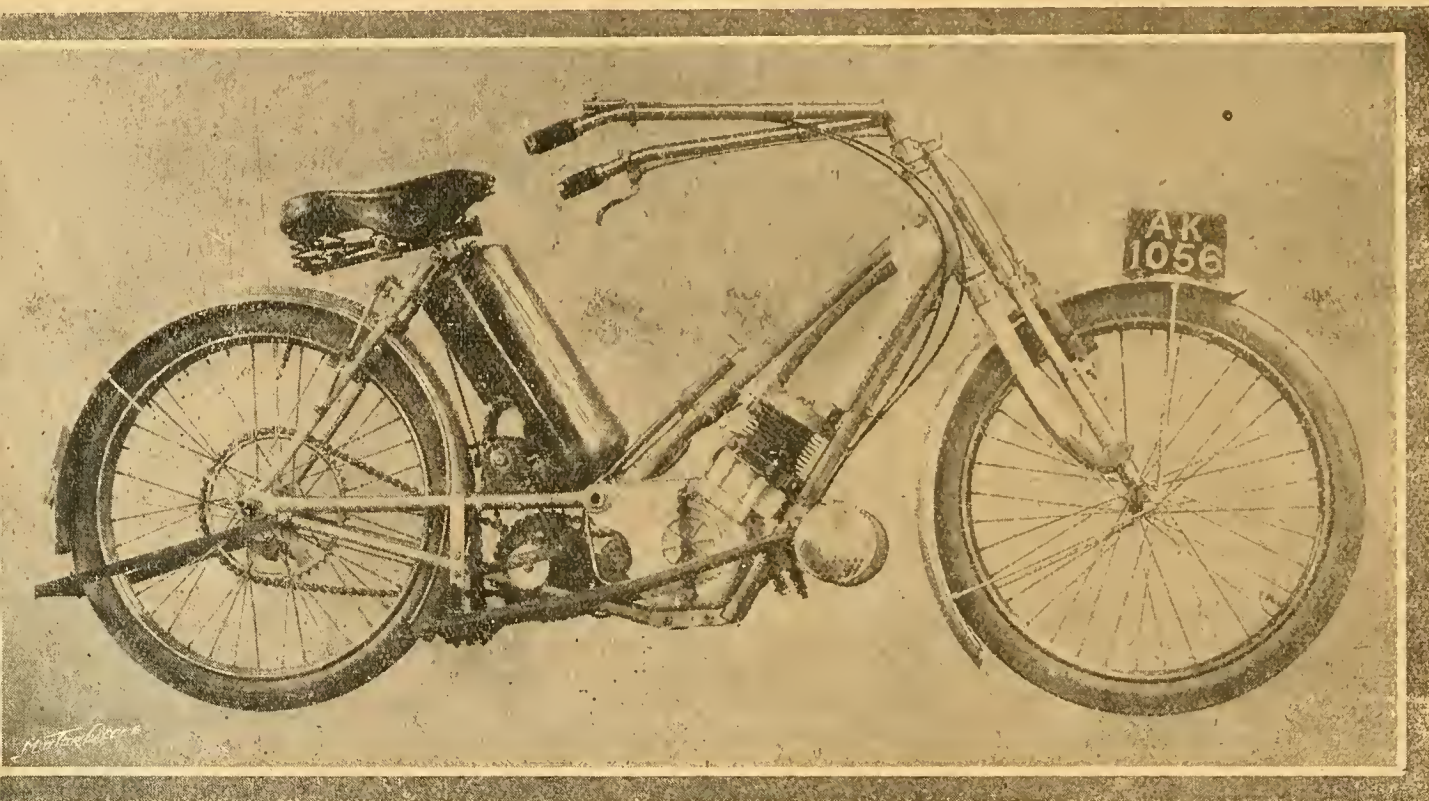
THE most noticeable feature of this motor bicycle, which competed at Sutton Bank, Newnham, and other hill-climbs recently, is the dropped frame and position of tank round the seat tube. Any striking departure from standard lines such as this at first sight suggests the "freak." The same, however, on closer examination is justified in its mechanical construction, and the obvious advantage of having the petrol tank as well as the engine as low as possible is obtained in this machine by a simple pressed structure, of which the engine forms a central part, serving as a strut between the lower duplex tubing and the upper diagonal tube—a construction of such strength and rigidity that the machine may be ridden at full speed on the most treacherous surfaces without trace of side-slip.

The arrangement of spring forks permits of a front wheel brake, and the sliding motion of the movable

taken from the sprocket wheels fixed to each side of the flywheel by chains to the chain wheels on the two-speed gear, and thence by a longer chain to the rear wheel. The Ruthardt magneto, placed behind the tank, is driven at engine speed by a chain from the two-speed gearshaft.

The gear is operated by a convenient pedal, which when in a horizontal position provides a free engine, and when pressed backwards drops in the low gear, and when pressed forwards the high gear. This leaves the hands free to control the engine, which will readily start with rider seated on the saddle by giving a slight push off with the left foot, and at the same time throwing in the low gear with the right foot.

The engine is provided with abnormal cooling surfaces, which at first sight give the appearance of complication, but there is a noticeable absence of



The Scott
twin-cylinder
two-cycle
motor bicycle.

Note the
arrangement of
radiators above
the water
jacketed heads
of the cylinders
and the petrol
tank around the
seat tube.

fork in the sockets at the lower ends of the fixed fork is taken by rollers, so that the action is free under all conditions and unaffected by mud and wet. The compression and recoil springs are also protected by plated tubular casings.

The footboards, which extend in a gradual curve forward and aft, are also mounted on a system of compression springs. The additional comfort of roomy spring-supported footboards is appreciated on a long run, where a change of position for the feet does much to reduce fatigue. The footboards are also hinged in a gradual curve, so that the natural posture of the feet is retained in all positions without bending or extension of the ankle.

The Engine Details.

The two-stroke engine is a twin-cylinder (58 by 40 mm. each), with separate crank cases, the interiors of which can be inspected by slackening a winged nut and removing a cover plate. A proportionately large flywheel is mounted on that portion of the shaft which lies between the crankcases, and the drive is

transmitted by piping, which is generally so conspicuous on a "twin." The water-cooled head is directly connected with the radiator and supply tank, fixed to the lower duplex tubing of the frame. The radiator consists of flat copper tubes, with interposed distance rings bolted together, forming a mechanically held system independent of soldered joints. Natural circulation is relied upon.

A Reduced Number of Parts.

The working parts of the two-stroke engine are simply piston, connecting rod, and crank pin in duplicate, and all of these parts are kept in constant thrust, so that slackness in any of the bearings has no effect on the quiet running of the engine. To emphasise this point: The piston, connecting rod, and crank pin are kept closely pressed together at all points of the revolutions, so that slack in the bearings can have no effect on the running of the engine beyond reducing the cylinder compression and clearance spaces. This condition of affairs obtains up to 2,500 revolutions per minute, above that speed the

The Scott Two-stroke Motor Bicycle.—

customary knock would occur, as in the ordinary four-cycle type. The connecting rod ends and main shaft are provided with a type of roller bearing similar to and occupying the same space as the ordinary ball bearing, and the shaft is off set so as to equalise the pressure caused by the angularity of the connecting rod on each side of the cylinder. The mechanical efficiency of the engine has been found to be 85%.

The exhaust ports and the ports used for conveying gas from crank cases to combustion heads can be inspected by removing the front and back covers so that the piston rings can be examined and ports cleaned if necessary without removing the cylinders.

It will be noticed that the cylinders are mounted on an aluminium casting known as the "distribution box," which contains an exhaust chamber in connection with the silencer, and also a suction chamber connected with the automatic carburetter and in communication with the inlet ports of each cylinder. The charge is drawn in and compressed in the crank cases by the displacement of the pistons, and delivered to the cylinder through the "transfer" ports in the ordinary way. Constructional details completely prevent any chance of "backfiring," and the piston is shaped in such a way as to effectively deflect the incoming charge, and at the same time minimise the surface exposed to the hot gases.

The engine is controlled on the throttle, which affects the crank case pressures only, and the cylinder compression is under all conditions the same.

The port openings and pipe areas in this engine are designed so as to permit of exceptionally high speed, and the engine is capable of running up to 3,000 revolutions per minute. The actual speed with a gear of 5 to 1 is 2,690 revolutions per minute.

No Valve Grinding.

In this engine the cylinder compression remains permanently good, due to the absence of valves, and also owing to the port system, whereby the top piston ring gets lubricated as well as the lower rings, so that there is no appreciable wear at the piston ring grooves.

It will be seen that the scope for tuning up an engine of this description is limited to the adjustment of the carburetter, which has a variable jet controlled from the handle-bar. The petrol level is normally kept nearly one inch below the mouth of the jet, and an automatic adjustable air valve is provided, which at slow speeds and at starting gives the necessary suction at the jet.

The petrol consumption averages eighty to ninety miles to the gallon, and the total weight of the engine is 37 1/4 lbs.

[This interesting machine is now made by The Jowett Motor Manufacturing Co., Grosvenor Road, Marnborough Lane, Bradford.—ED.]

Variable Gears as an Aid to Traffic Riding.

ZENITH MOTORS, LTD., are to be doubly congratulated in that, firstly, they thought of an excellent means of testing the efficiency of their gear in traffic, and, secondly, that they came through that test with flying colours. A few days ago Mr. W. G. Bower, the managing director of the company, telephoned through to these offices, suggesting that if one of our staff would observe him, he would drive a Zenette of standard pattern as far and as long as we liked, through the densest traffic we could find, without stopping his engine or leaving the saddle. The trial was one of a nature which had never before been attempted by a motor bicycle, so we gladly selected a route which is about the most difficult which can be found from the point of view of dense traffic, while the surface in places is about as bad as can be found anywhere in town. The route chosen was as follows: Stroud Green Road, Seven Sisters Road, Hornsey Road, Holloway Road, Old Street, Great Eastern Street, Norton Folgate, Bishopsgate Street, Liverpool Street, Old Broad Street, Bank, Queen Victoria Street, Ludgate Circus, New Bridge Street, Tudor Street, *The Motor Cycle* Offices. Here a brief rest was to be taken, and with the exception of one or two modifications the same route was to be followed back to Stroud Green Road. Throughout the trip Mr. Bower, who rode a standard 3 1/2 h.p. Zenette fitted with accumulator ignition, was closely followed by a Morris steam car, a vehicle highly suitable for such a journey, which bore our representative. The Zenette came through the arduous trial in excellent form and without becoming unduly overheated, the engine never

missed fire, and its rider never left the saddle. In the dense traffic where the explosions were inaudible to those following in the observing car, we were acquainted with the fact that the engine was firing regularly by the blue smoke issuing from the silencer, an overdose



Mr. Bower and his Zenette Motor Bicycle in the thick of the traffic at the Bank Crossing.

of lubricating oil having been inserted for the purpose. On the return journey the machine ran equally well, and anyone acquainted with the terrors of London traffic will appreciate the fact that the accomplishment of such a non-stop ride is no mean performance, while it goes to prove the comfort of a variable gear.

OCCASIONAL COMMENTS.

By "IXION."

Cyclometer Fitting.

Several correspondents inform me that an ordinary pedal bicycle cyclometer will last perfectly well on a motor cycle if a special attachment be made for it; with the screws provided they jar off in a few miles. Since writing my notes upon these I have inspected a pedal bicycle cyclometer which has run for two seasons on a $3\frac{1}{2}$ h.p. Minerva, and I note that the original clip is still in use, but a much longer screw has been fitted, and after the locknut had been packed out with washers the projecting end has been riveted over with a hammer. This plan is therefore to be recommended.

Worn Bell Cranks on Magnetos.

A correspondent sends me a wrinkle for obviating the effects of wear on either the bell crank or the fibre ring of a motor cycle magneto. It runs as follows, and was obtained direct from the Bosch Co.: Unscrew the fixed platinum point, and file one-sixty-fourth part of an inch off the face of the plate into which this screw beds, so as to sink it further into its bed by that distance. This adjustment naturally increases the amount of break at the platina, but the break may be corrected by placing a very thin paper washer under the platinum screw on the bell crank. Care must be taken not to reverse this process, as a reversal of the operations will not improve the timing of the spark. I see from my files that Mr. Davies gave a similar tip some years ago. I might point out that this tip should only be followed in emergencies, as when the platina which have been adjusted in this fashion are worn out further adjustments will be needed to obtain accurate timing of the spark with a pair of new platina or a new bell crank. Fortunately, the wear on this tip is intended to deal with does not take place in a less distance than several thousand miles, so owners of comparatively new magnetos need not worry their heads about it either way.

An Appeal to the Industry.

When you write for the catalogue of the $3\frac{1}{2}$ h.p. Thunderbolt in these advanced days, you first of all peruse in its pages the specification of that magnificent machine, with the various items which cause it to stand out head and shoulders above a crowd of feebly envious rivals; then you come to an astounding list of its performances, which make it appear to you as a dog in the manger, until you have also procured the catalogue of the 5 h.p. Lightning Conductor, and discovered to your bewilderment that it also swept the board in 1907, and at last you come—and this is my point—to the accessory pages, wherein you find prices of the Thunderbolt accessories—the Thunderbolt lamp, the Thunderbolt horn, the Thunderbolt pump, the Thunderbolt stand, and so forth. When you purchase these accessories, you find in many instances that they would suit the 5 h.p. Lightning Conductor quite as well as the Thunderbolt, or possibly better; and this leads to experiences like mine of the other day.

I was riding an important journey—by night—on a $\frac{1}{2}$ h.p. Thunderbolt. I was duly fitted out with the Thunderbolt specialities, and more particularly with their Thunderbolt lamp, hooter, and separate generator. One long a screw dropped out of the Thunderbolt separate generator bracket, and it slid gently down

towards the hub of the front wheel, where it wrenched out several spokes. Having no spare screw I carried the generator in my hand for some miles, until I got enough tubing to connect it from my side pocket to the lamp. Then the Thunderbolt lamp itself—peerless illuminator though it be—jarred off the Thunderbolt bracket, and broke its Thunderbolt glass. Then the Thunderbolt hooter jarred off the Thunderbolt handle-bar, and had to be carried thenceforward tied to the Thunderbolt carrier by a piece of non-Thunderbolt string. And so on. My point is this; if a motor cycle firm lays itself out to supply accessories, why does it not go one step further, and perfect those accessories for the services they have to perform? Why is not the Thunderbolt separate generator's bracket either brazed solid with the fork before enamelling, or stamped in one piece with the Thunderbolt tankclip? Why have not both Thunderbolt lamp and Thunderbolt generator clamping screws passed right through their holders and fastened by lock-

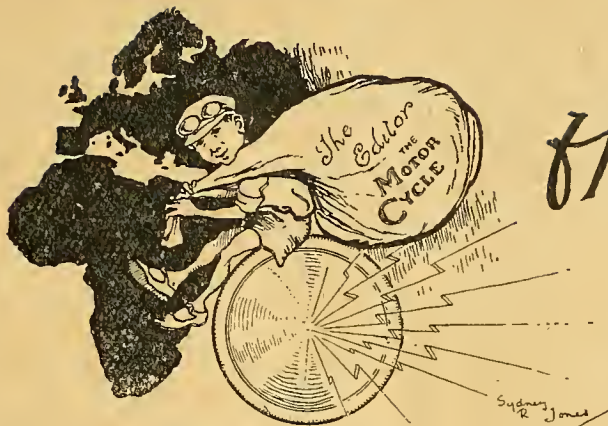


Some of the competitors in the Manchester M.C. Two Days' Reliability Run to Cheltenham and back.

nuts? Why has not the Thunderbolt hooter a clamp which will really grip the Thunderbolt handle-bar? And so forth. It is true all this means a trifling extra expense; but it would be quickly and fully repaid to the far sighted maker. At present not one rider in ten gets his accessories from the makers of his machine, for the simple reason that with one or two noble exceptions, they will not fit his machine one atom better than any chance assortment purchased from any factor's general stock. But if we knew that by ordering accessories with the machine, we should get a set of fittings suited in outline, finish, and attachment to the machine, free from defects of appearance, free from those annoying little mischances which I have described as spoiling my night run, every single motor cyclist would take care to order his 1909 mount to be sent out from the factory fitted complete and ready for the road. And its makers would more than repay themselves for the outlay on a few bolts, screws, and special fittings by the profits on an increased sale of accessories.

Palmer Tyre, Ltd., announce that owing to increasing business they have found it necessary to transfer their cycle and motor cycle departments to more commodious premises at 103, St. John Street, Clerkenwell, London, E.C.

Letters to



the Editor

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle" 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Petrol Consumption.

[3509.]—I am much interested in Mr. A. H. Doherty's reply to "R. G. P.," page 609, *re* the G. and A. carburetter. I have made and fitted an extra air inlet to my $3\frac{1}{2}$ h.p. Minerva, which is fitted with this make of carburetter, and am now riding 100 miles to the gallon of petrol instead of eighty or eighty-five before this extra air inlet was fitted, and also with a marked gain in power.

CECIL CROWTHER.

Sidecars.

[3510.]—After the discussion in *The Motor Cycle* recently, one would have thought the different makers of sidecars would have backed up their arguments in the End-to-end trials. They evidently do not consider them fitted for the journey. I beg to give Mr. Montgomery a tip which he should place before his customers. By lifting up the links on the top and tilting the basket over the motor bicycle, the combination will pass through a narrow doorway. I have to do this every time I take out my sidecar.

PERCY.

The Judges' Report on the End-to-end.

[3511.]—I wish to correct an error in my article on the judges' report of the End-to-end. I spoke therein of the Douglas machines as being fitted with a high tension distributor and single trembler coil. As a matter of fact, they were all three fitted with Bosch magnetos. This mistake was due to my own carelessness in identifying these machines with a similar mount just examined, turned out by a different firm—a carelessness confirmed by an untrue statement just to hand from a correspondent of mine.

B. H. DAVIES.

Thirteen Stone v. Two Horse-power.

[3512.]—I read the article under the above heading by Mr. B. H. Davies in the issue of August 12th, regarding the Moto-Rêve lightweight machine. It interested me very much as I have invested in one of those marvellous little machines. Happening to be in Scotland about the middle of May, I saw one at the Edinburgh Exhibition, and after a demonstration of its various points, I purchased one, and rode it on the following day from Edinburgh to Blackpool. Although almost a complete novice, I did this journey of over 200 miles in less than eleven and a half hours, which I think is remarkably good going for a small engine like this, and quite fast enough to satisfy the average motor cyclist.

I have had no trouble at all with the engine since I received the machine; it starts easily, and very seldom have I had to help it by pedalling, as it fairly flies up any ordinary hills, but I must agree with Mr. Davies that we want wheels and tyres a little heavier. I had not used the machine more than six weeks when the belt rim spokes slackened, and one or two of them broke, also some of the spokes of the back wheel broke, with the result that the belt rim was practically hanging to the wheel. I sent the wheel back to the Edinburgh agents, and they were so good as to fit up the wheel again, rebuilding it with much heavier spokes. I got wheel back almost at once, carriage paid, without any charge, and it is now quite strong. But I think that a 2in. tyre instead of the 1 $\frac{3}{4}$ in. would be a great improvement, otherwise I could

not desire anything better, and so long as I can spin along with my 2 h.p. and climb hills as I do with ease and comfort, I am quite content to look no further than the humble
LIGHTWEIGHT.

Motor Cycle Finish.

[3513.]—I read with interest the letter [No. 3474] of Mr. H. Crole-Rees on the subject of motor cycle finish, and quite agree with him that black is really a most unsuitable colour, but I do not entirely agree with his choice of French grey. Although the grey would not show dirt it would not look really smart or clean.

I have this season painted my own motor cycle, and perhaps your many readers may be interested. The colour used was cream with fine green lines, and the result is a spick and span motor cycle, even after a long run, especially in districts where dust is white.

The great thing one must be careful about to ensure good appearance and lasting wear is to get a good enamel paint that does not set in five minutes, and has high elastic quality. This is essential.

Personally, I have used Satinette, and do not think it can be beaten, although I have tried many makes, special cycle enamels included.

It is made by Messrs. Pinchin, Johnson and Co., Ltd., Bevis Marks, London, and I would recommend all who contemplate painting their motor cycles at home to give it a trial. Dismantling to my idea is essential.
TAP.

Is the Tricar Dead?

[3514.]—I am at a loss to account for the number of tricars on the road lately. Whilst touring on the North Road during last week I counted nearly thirty tricars against eighteen sidecars and forty-one motor cycles. Is the tricar coming into vogue again, or is there a tricar club now? A number of tricars passed me one after the other, and at first I did not count them. The open frame variety were in the majority—mostly Rileys, Rexettes, and Phoenix, and I only saw one stopped for repairs (broken chain, I think).

I have been thinking of selling mine, but shall not do so until next spring if you think a boom is coming. I have had little trouble with mine, except a slipping clutch, which has righted itself now. Tricars I find are at first rather difficult to get round corners, at least to a bicyclist, but this all depends on clutch manipulation, and once you have mastered the proper use of the clutch it is quite easy.

I was stopped the other day by a policeman for not having the rear number illuminated, and he took my name and address. Your book, "Motor Cycles and How to Manage Them," says that a rear number is not required. The tricar only weighs 3 cwt., so I should be quite on the right side, I think; anyhow, I have heard nothing further at present.

I quite agree with your correspondent "Moclist" in last week's issue regarding vexatious delays, having had three months of the summer wasted through having to wait for two small parts. Wishing your splendid paper every success,
OLD HAND.

[Tricars weighing under 3 cwts. unladen, *i.e.*, minus petrol, oil, tools, etc., are not legally compelled to carry a rear red light, or to illuminate the rear number. The front number must, however, be illuminated on both sides of the plate, as on a motor bicycle.—ED.]

Adjustable Tappets.

[3515.]—The following may be of interest to those who have not adjustable tappets. The top of my tappet is about as large as a farthing, and the exhaust valve stem is barely $\frac{1}{16}$ in. diameter, the result being that a considerable hole was worn in the tappet by the valve stem. I ran a $\frac{1}{4}$ in. thread in the valve stem, and fitted a nut and lock nut. I can now adjust my exhaust lift to a nicety, and also have the large surface of the nut to strike the tappet, with consequently less wear. Also, if the nut gets worn it is not much trouble or expense to replace it.

H. H. COBB.

Protecting Magneto Terminals.

[3516.]—I feel I must emphasise the tip I read in *The Motor Cycle* on page 642, regarding the smearing of the magneto with vaseline to stop short circuiting. I am an old rider of the Twin Vindec, and the trouble mentioned was the only fault I had to find with a splendid machine. On the 23rd ult. I was compelled to take a longish ride in what proved to be one of the wettest days of the year. I started with a great fear of constant trouble with the magneto as hitherto, but I had rubbed vaseline over all the terminals as recommended, and I can thankfully say I did not have a single misfire, so I felt I must write you on the subject, as this is the first time I have thoroughly overcome the trouble.

E. P. WAGHORN.

The Muratti Trophy Reliability Trials.

[3517.]—Is a 200 guinea prize not enough to induce riders to come to Belfast? The few who turned up for the above trials only represented three makes of machines. All the competitors were Belfastians except Mr. McCann, and he deserves a special supper or medal for coming over. I found him in the centre of Belfast with no one to show him the road to the Grand Central. I trust there will in future be a much larger entry, and there should be a committee of motor cyclists formed to pilot the competitors to their stopping place and entertain them when they get there. Trusting to see a better representation next year,

ONE AND A QUARTER.

Hill-climbing in North Wales.

[3518.]—I notice in letter 3487, Mr. R. Meesom mentions that he climbed the hill on the road from Bettws-y-Coed to Chapel Garmon. He may be interested to hear that I have also climbed this hill.

I notice Mr. Meesom also mentions West Hill, Hampstead. Surely, he means Highgate, for I have lived in Hampstead practically all my life and have never heard of a West Hill there. West Hill, Highgate, is a very mild one.

Motorists looking for a real hill should try Barbrook Hill, about a mile from Lynton, on the road to Parracombe in Devon. The surface is first-class, but should not be tried in wet weather.

Mr. Meesom may be interested to know that the machine used in Wales was a $3\frac{1}{2}$ h.p. Bat, De Dion type engine, rigid frame, N.S.U. two-speed gear, with Advance adjustable pulley, combined gear 4 to 1 and $6\frac{1}{2}$ to 1, long footboards, and no pedals, weight 162 lbs. all on excepting oil and petrol. My own weight is 11 stones.

HAROLD KARSLAKE.

Formulae in Hill-climbs.

[3519.]—Might I be allowed to reply to your correspondent, Mr. W. G. Bower concerning formulae in hill-climbs. I think the Coventry Motor Club and the A.C.U. show great judgment in not having a special formula for two-cycle engines—a type which undoubtedly merits encouragement. If, after years of experiment and trial a man succeeds in bringing out an engine which develops more power, weight for weight, is simpler almost by half, and with two cylinders as the torque of the usual four, I should consider it the height of injustice if the governing body and leading clubs handicapped his machine to give the older fashioned type a look in.

I think Mr. Bower must have written without full thought, for an exact parallel would be the case of an engineer who improved the usual four-cycle engine very greatly by some simple contrivance, and then got no benefit because he was handicapped out of hill-climbs and power competitions from the results of which so many buyers receive guidance.

It is no use to say that the two-cycle engine has other points which condemn it, for that is not the case. Up till now, lack of power, weight for weight, has usually been its fault, for it used not to be able to run fast. Mr. Scott seems to have got over this difficulty, and I consider that every encouragement should be given in the development of a type of engine which threatens, in time at any rate, to eclipse the more usual and better known four-cycle type.

R. K. HUBBARD.

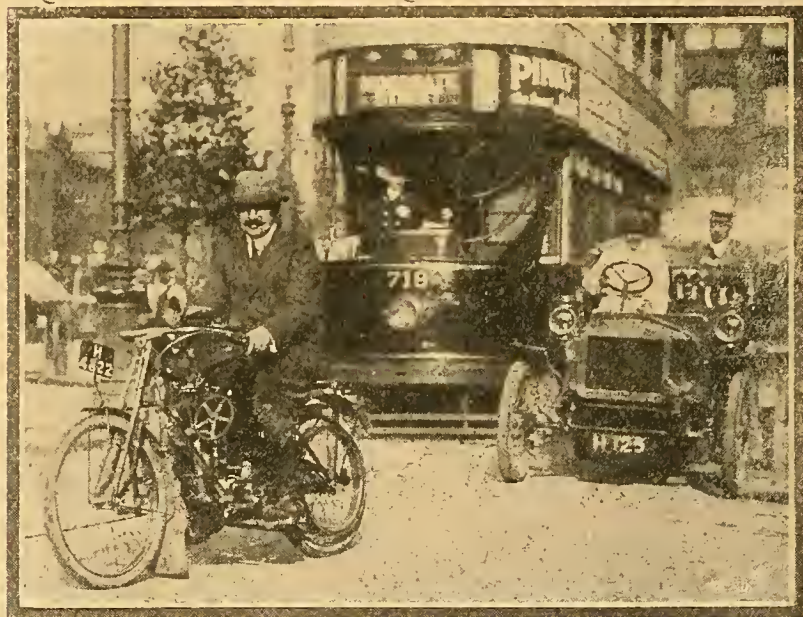
Footrests v. Pedals and Stands.

[3520.]—Mr. A. W. Wall [letter 3493] should not forget that pedalling gear in connection with a clutch or two-speed gear gives motor cyclists a convenience that car drivers hanker after very much, viz., the power to start the machine from the seat without having to dismount and "coffee grind." It is difficult to manage this on a car, but it is so easily arranged on a motor cycle that I am sure motor cyclists will insist upon it or some equivalent.

Mr. Davies's remarks *re* lamps are well founded. I suggested some time ago that the End-to-end run should be availed of for a test of lamps as well as machines, the lamps to be purchased by the judges from ordinary dealers so that there should be no question of special articles being supplied.

H. M.

[3521.]—I agree with the writer of letter 3493 *re* above with regard to not requiring pedals for assisting the machine, but do not think that the advent of the variable-gear has made it unnecessary to have pedals. What of the various gears such as the Vindec, and several others, which start the engine by turning the pedals, and are far superior in every way to handle starting? No trouble about where to carry the starting handle, or getting it out, starting the engine, putting it away again, and then getting on the



Variable Gears as an Aid to Traffic Riding. Mr. Bower on his Zenette Variably-g geared Motor Bicycle, followed by the observing car. (See page 683.)

machine and letting in the clutch and all the time the engine racing and getting hot. With the Vindec gear just one push at the pedal whilst the rider is standing astride the machine and letting in the clutch. With regard to footrests, these can be fitted to any machine, but are not so good as a stand when changing a tube, particularly so on a muddy road. I prefer to have the wheel clear of the mud. As for pedals not allowing of a comfortable safe low riding position, all I have to say is that there is no difference in the height of the saddle top from the ground in my two machines—the one a 1908 twin-cylinder two-speed Vindec Special with pedals, and the other a 1908 single-cylinder two-speed Royal Roc. There is one point with regard to the Roc 1908 clutch gear on which I should like readers' experiences, and that is how to stop the clutches from slipping. The oil works out of the gearcase on to the clutch bands, and no amount of pressure on the clutch pedal will cause them to grip properly. This is the experience of three of us in this district (Liversedge).

PRACTICAL EXPERIENCE.

A Problem to be Solved.

[3522].—I have been very much interested indeed in the replies to my letter entitled "A Problem to be Solved," which was published in your magazine a short time ago. I think that perhaps you hit the nail on the head in your footnote to my letter when you stated that the oil had something to do with propulsion at the high temperatures which are present when this phenomenon takes place. I see that letter No. 3407 agrees with this, and suggests that in the abnormal state referred to my engine operated like the Diesel engine, which, as everyone knows, burns crude oil. I believe when the matter is thoroughly thrashed out it will be found that either the above is the explanation, or else the high efficiency is due to the perfect compression caused by the expansion of the pistons. One of your correspondents stated that the piston and cylinder expanded the same amount. I cannot agree with him. The piston is moving in a confined space, where it cannot radiate its heat. It is practically insulated from the cylinder wall by the film of oil surrounding it. The cylinder, on the other hand, can radiate its heat readily, and therefore is at a much lower temperature than the piston itself.

Correspondent No. 3407 asks why cannot the Diesel engine be employed on motor cycles. I believe the reason that this very excellent engine has not been used on automobiles and motor cycles is due to the fact that an unusually heavy engine is necessary in order to get any power; in other words, the weight per h.p. is abnormally high.

I hope that this matter will be thoroughly discussed in your paper, and that in the end a satisfactory explanation may be evolved.

I made one very pleasant trip to England, and met Mr. W. H. Wells, of the South British Trading Co., and several other trade riders. I had such a good time that I am planning to take in the Stanley Show this year. I meant to get to Coventry last year, but, owing to press of other matters, I failed to do so. I will not fail to make the acquaintance of *The Motor Cycle*, however, when I take my next trip. From my experience, I have nothing but praise for the English motor cyclist, for I found him to be a sportsman through and through. I look forward to coming in contact with him again.

EARLE L. OVINGTON.

New York.

Standard Machines in Hill-climbs.

[3523].—Having carefully read Mr. B. H. Davies's article upon this subject, it appears to us that it must appeal to a number of your readers that the "Messrs. So-and-So" mentioned who use ball bearing engines for hill-climbs and yet sell machines with plain bearing engines are the Rex Motor Manufacturing Co., Ltd. If this is so, Mr. Davies is quite right in stating that we do manufacture certain engines with plain bearings, and also certain engines with ball bearings, but the ball bearing engines are just as much a feature of the Rex business as the plain bearings, the only difference being that the public are charged three guineas extra for machines fitted with ball bearing engines.

As regards winning many hill-climbs, if it is the Rex Co. which is referred to, it certainly has done its share during the past few years, but we must point out that the majority of these successes have been obtained with plain bearing engines. Take the performance, for instance, of Messrs. Applebee and Godfrey. These riders have never used in competition a ball bearing engine, and bestride the same machines to-day as they rode early in 1907. On going through the list of Rex machines ridden at the Newnham Hill-climb, to which Mr. Davies refers, we think we are right in stating that at least 75% per cent. of these were fitted with the old-fashioned plain bearing engines. We should, therefore, like to wipe away any suggestion that the Rex motor cycles used in the Newnham Hill-climb were any other than standard machines, except where riders dispensed with pedals and substituted the bar footrest which gave them a non-standard appearance.

The two plain bearing machines used by Applebee and Godfrey in hill-climbs during the past two years have been through all the long distance trials, including the London to Edinburgh and back, Land's End to John-o'-Groat's, Plymouth and back, and all other performances in which their respective names have appeared.

Surely machines of this description, which are even to-day, as proved at the Newnham Hill-climb, the fastest in the twin class, cannot be accused of being other than standard touring mounts.

THE REX MOTOR MANUFACTURING CO., LTD.

"Ixon" on Lightweight Motor Cycles.

[3524].—"Ixon" admits that he may be jaundiced against the lightweight motor cycle. Confessedly, then, he is scarcely a competent critic. The whole tenor of the paragraph under "Occasional Comments" in *The Motor Cycle* of August 19th is one of thinly veiled contempt for the lightweight motor cycle. Such a paragraph is calculated to do a considerable amount of harm to a portion of the industry which we claim to have inaugurated, and we resent its publication.

While in various competitions of a strenuous character the Motosacoche has performed admirably and drawn to itself a considerable amount of unqualified praise, we wish to point out that it is not intended as a racing instrument; it is not intended to compete with heavy high-powered motors for excessively long-distance work. We wish once again to emphasise that its whole *raison d'être* is that it is a motor-assisted bicycle, a link between the ordinary push bicycle and the motor bicycle so-called.

If "Ixon" would make a journey to Geneva, the birthplace of the light detachable motor, we are sure his eyes would be opened to a state of things which does not at present exist in England. Here the detachable motor has taken the place of the ordinary push bicycle. It is used by business men in the same way they used the push bicycle before the introduction of the motor. There are no goggles, leather coats and leather breeches, big boots, leggings, and other weird get-up about the riders of Geneva; neither are their machines loaded up with huge lamps, horns, luggage carriers and luggage stands, such as seem to be the delight of the English motor cyclist. The Genevese have accepted the Motosacoche for what it is and for what it was intended—a machine to take the place of the ordinary bicycle, and which can be handled with all the ease of the ordinary bicycle.

It is most absurd and unfair to compare it with heavy touring motor cycles. "Ixon" is good enough to admit the reliability of the motor attachment itself, but condemns the bicycle and its component parts, such as belts, tyres, and rims. It is granted that these items are lighter than those employed on the high-powered motor bicycle of more than double the weight, but the weights of the bicycle and its tyres are all in conformity with the weight of the motor, and if the machine is used for the purpose for which it is intended these fitments are in every way suitable and efficient. If we are to take "Ixon" seriously we should fit a Motosacoche attachment—1½ h.p. engine and all mechanical parts, including accumulator, belt rim, belt and control weighing only 41½ lbs., with a bicycle equipment suitable for any of the heavier machines now on the market. While this is on the face of it ridiculous, the whole idea of the light, portable, runabout bicycle is at once destroyed.

In conclusion, we have yet to receive complaints of damaged rims or frames such as "Ixon" suggests is a common feature of the lightweight motor cycle. The bicycle for the Motosacoche attachment is made by the Rover Co., Coventry, which is a good enough guarantee of quality.

H. AND A. DUFAUX (ENGLAND) LTD.

["Ixon" did not refer to frames, he confined himself to belts, tyres, and rims.—Ed.]

EXPERIENCES WANTED.

"Conversion" would like to have readers' experiences regarding a Triumph motor bicycle after it has been converted to the Roc two-speed gear and clutch system.

"E. R. C." (Dover) would like readers' experiences with the 7-8 h.p. Minerva engine.

"B. A. F." would like readers' experiences with the Triumph engine; also the Jap automatic centrifugal expanding and contracting pulley.

[Several interesting letters are unavoidably held over, and will be published as space permits.]

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

THE MOTOR CYCLIST AND HIS AMBITION.

By Clarence Ponting.

(With apologies to Bart Kennedy.)

THE ambition of the motor cyclist. This aristocratic, enviable, over wealthy, time-killing, thirty-miles-an-hour, non-silencer, happy-go-lucky ambition of the motor cyclist. The ambition and hobby of him with the well-filled purse.

Or is it the hobby of the man with moderate means, the man with enough to support himself, the man with a little spare wealth? Which is it?

Let us see what is his ambition.

Let us sit down and minutely examine his motor. This strange conglomeration of wheels and wires, of sparking plug and magneto. The motor cyclist's pride. This thing of petrol and noise. Let us examine it I say.

The motor cyclist. He begins his education as a raw cyclist. A push bike. A thing which has to be pushed. A mere bicycle. Target for abuse. Target for contempt. Target for derision. A target for everybody.

You who have "twins," have pity on him. Have pity on this poor unfortunate push cyclist. The man who pedals. Pity him, I say, for is not the push cyclist the father of the lordly car? Yes, great as you all are, you once were cyclists. Poor push cyclists like him. Cyclists. And so, pity him.

He is now no longer a push cyclist. That time has passed. That seemingly interminable, cheerfully forgettable time has passed. Gone for ever. Never to return.

He is a cyclist no longer.

He is the owner of a one horse motor cycle. He has motors. He is responsible for it's good behaviour. The motor provides his daily labour. He works at the motor, on the motor, by the motor, for the motor. His life is nothing but motors. He therefore hates his motor. He does not love his motor. He hates it. Loathes it. Detests it. He hates it with an undying and diabolical hatred. He yearns to be rid of it. Yearns to have a three-horse motor. Yearns to leave his one horse-power motor for ever, never to touch it again. Never again.

And yet he is proud of it. He is swaggeringly, blatantly, unbearably proud of it. He flaunts it in the face of the cyclist, an exemplary of the way cycling should be done. The poor, little cyclist is forced to study the machine, to examine it, to praise it. He, too, hates it. Poor push cyclist. He, too, hates it. Unhappy cyclist. And the motor cyclist laughs. Hard-hearted motor cyclist. Silly, noisy, affected, overbearing, leather-coated motorist. He cannot contain himself. Cocky motorist. Leave him alone. He'll grow out of it. Some day. Perhaps.

The ambition of the motor cyclist. Its third stage. Ah! Don't breathe of it! Don't speak of it! Stage three.

He is the owner of a "twin." A full blown owner of a "twin." A leather coated, yellow legged, swaggering owner of a "twin." The sole owner of a "twin." Paid for it out of his savings.

Sometimes he is polite, attentive, chatty, good-humoured, affable, beaming, cheery motor cyclist. That is when everything is nicely tuned up.

Other times he is peevish, petulant, irritable, fidgety, and blasphemous.

That is when it is misfiring, or he is talking to a man who owns a one horse motor.

Now everybody envies the owner of a "twin"! How they all stare at him, glare at him, envy him! Yet he obviously continues slinging money about on accessories. The glimmering, shimmering, gold and silver and copper. He calmly, contemptuously, contumaciously, continues buying the latest accessories. It's all done with money.

Money. Wonderful money.

Money. The harbinger of comfort and longevity.

Money. The herald of malice and murder.

Money. The root of all evil.

Money. The root of all good.

Money. Mere metallic money.

What does the owner of a "twin" care for money?

What does he, the owner of a twin, care for money?

In spite of being able to purchase the latest thing in sparking plugs, the owner of a "twin" is not contented. He is not a contented man. He is a discontented man. This owner of a "twin." His life is one of hopes and fears. Big speeds and excessive fines. Police traps and punctured tyres.

When he owned a one horse-power he thought he would never be able to afford a "twin," and now that he has a "twin" and able to level all hills, he is not satisfied. He is a dissatisfied and discontented owner of a "twin." Only the owner of a "twin." Just the owner of a "twin." Nothing more. Nothing less. Just the owner of a "twin."

Let us leave him. He will be more some day. He will be the driver of a tricar. Something more than the owner of a "twin."

It's oh! to be the driver of a tricar! No belt troubles! No misfiring! No solitary rides! No anything!

The driver of a tricar.

You know everything that's worth knowing. You are a chauffeur. You are the boss of the whole contraption. You order everybody about. Nobody orders you about. The man with the 1 h.p. consults you. The repairer obeys you. They obey you, for you possess a tricar.

You have no trouble. The repairer has all that. You are not the repairer. You are the tricar driver.

If you drive well you get the credit. Good driving puts you at a premium.

If you drive badly and make mistakes the motor gets the blame. Bad results puts it at a discount.

Oh! it's nice to be the owner of a tricar. To live the comfortable life of the tricar driver. The lucky owner of a tricar. The airy driver of a tricar. The wealthy owner of a tricar. It's great to be able to possess a tricar.

We shall all have tricars. Some day. Perhaps. If we live long enough.

The ambition of the motor cyclist.

Its last stage. The owner of a car.

The owner of a car. That is the ambition of a motor cyclist.

What a vast assortment of car drivers there are! Tall drivers. Short drivers. Thin drivers. Stout drivers. Calm drivers. Angry drivers. Deep drivers. Clever drivers. Young drivers. Old

The Motor Cyclist and his Ambition.—

drivers. Bald drivers. Red-faced drivers. Voluble drivers. Silent drivers. Reckless drivers. Careful drivers. Begoggled drivers. Drivers all.

The driver is *the* man on the car. *L'ne* motorist *par excellence*.

Everybody looks to the car driver for everything.

The culminating point of a motor cyclist's career is that of a chauffeur. It is his ideal, his goal, the terminus of his ambition. The car driver. The man at the wheel. Boss over all he surveys.

Oh! It's nice to be the driver of a car. A real car

driver. Not a motor cyclist, but a car driver.

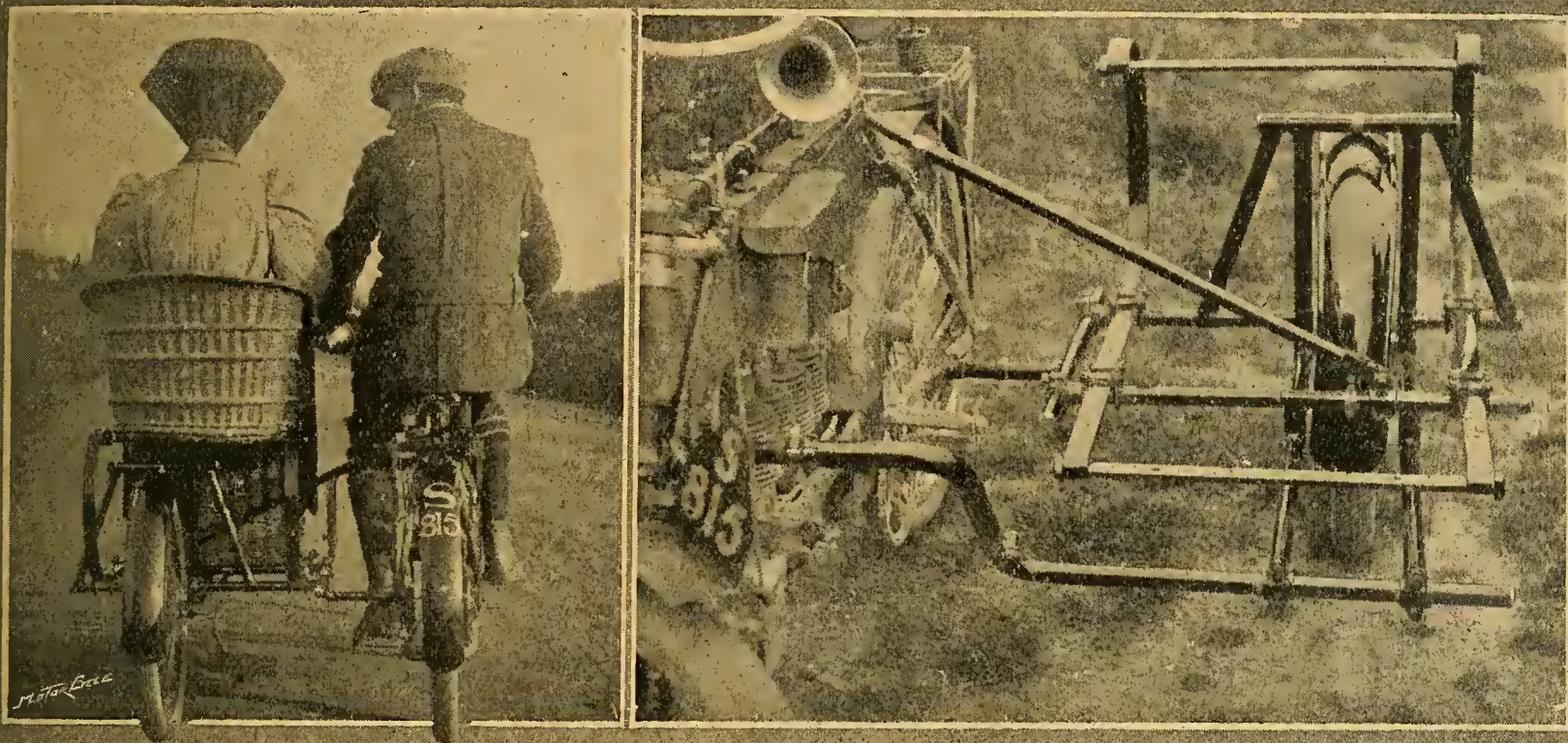
Envy him, I say. Is he not the owner of a car? We shall all own cars. Someday. If we live long enough.

And now that we have followed the motor cyclist to the culminating point of his ambition, are we any the wiser? Do we know anything more about him? About this curious, heterogeneous, self-propelled, snorting motor cyclist?

No? You say no! You say we do not! That is what you say! Then let us leave it.

Leave this ambition of the Motor Cyclist.

Let us leave it alone. For ever.



A new pattern rigid sidecar patented by J. McCullum, of Joppa, N.B. It will be noticed that the sidecar wheel is directly under the passenger's seat, the advantages claimed for this arrangement being less wear on tyres owing to the reduced width, which it is said causes less strain.

Magneto Covers and Short Circuiting.

THE letter published below was sent for our correspondence columns, but as it is one of many we have received lately from readers complaining that magneto covers now on the market are a cause of short circuits on the magneto, we addressed a letter of enquiry to the Bosch Magneto Co. on the subject, and have received their reply, which we have pleasure in publishing in conjunction with the warning sent by our correspondent, Mr. J. Butler.

"May I warn your readers against using a patent leather magneto cover, as I purchased one during the holidays and could not for the life of me make out why the machine did not fire when the cover was on, but would do so as soon as the cover was removed. The magneto was shorting somewhere, so I removed all the buckles and straps, and again put it on. This had no effect. I was informed it was the glazing on the leather attracting the current. May I ask if this is so? The machine is a Triumph, and nothing is amiss when the cover is discarded. But, oh! what a hot job to find this out during the August Bank Holiday heat.

"J. BUTLER."

"Replying to yours of the 11th, re the short circuiting of Bosch magnetos through patent leather covers,

we beg to point out that this has of late become quite a common occurrence, and the cause is that the leather absorbs so much moisture that it becomes more or less a good conductor, and the same effect would be produced on any material that will absorb moisture, and for this reason we have put on the market hard fibre covers, which we have found the best material for resisting water, and if these are varnished they are perfectly satisfactory. With regard to the glaze on the leather, we are not aware that there is any ingredient used in the preparation of this to make it any way more conductive than the other part of the leather, and believe that the shorting is simply and solely due to moisture.

"THE BOSCH MAGNETO COMPANY, LTD."

Will readers kindly note that the failure of the gear on Newman's Roc machine which was mentioned in our report of the A.C.U. London to Plymouth and back run was not the two-speed gear in the back hub fitted to the Roc machines but the timing gear of the engine. A taper pin which holds the timing wheel to the shaft broke, and one half of it fell between the revolving pinions, causing three of the teeth to be broken.

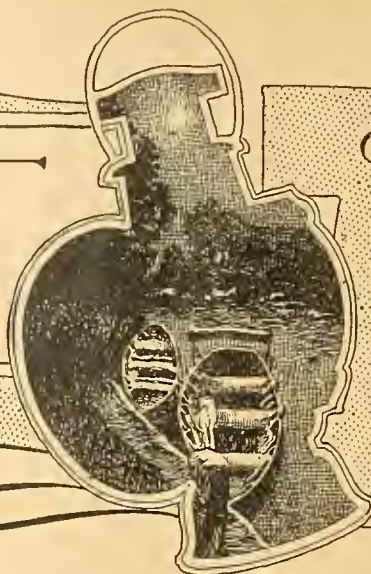
CURRENT CHAT

SPECIAL FEATURES

MY RECORD RIDE.

By Arthur W. Bentley (Illustrated).

THE SCOTT TWO-STROKE MOTOR BICYCLE (Illustrated).



S.R. Jones

An Echo of Newnham

Mr. A. W. Bentley wishes us to inform our readers that the machine he rode at Newnham was an ordinary standard Triumph.

T.T. Motor Cycle Race.

Practising on the course for the above race begins to-morrow, Thursday, Sept. 3rd, and ends on Monday, Sept. 21st. A map of the course appears on page 681, and a contour section of the road will be found below.

Roads to the Coast.

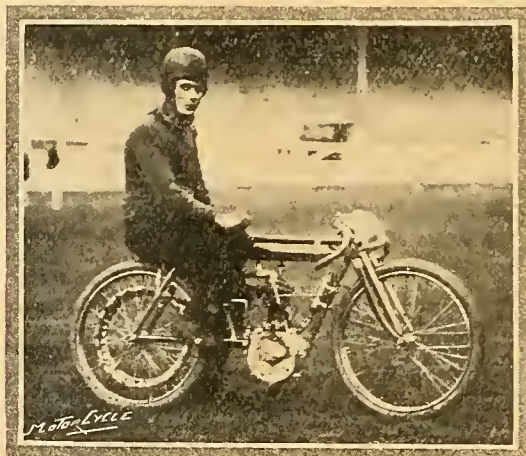
The surface of the road to Herne Bay and Whitstable is now tarred, and it is a capital run down to the sea *via* Rochester and Sittingbourne. As a centre for a motor cycle tour Herne Bay and Margate are very popular. The roads in this district are mostly flat, and for this reason the district can be recommended for touring on single-gear passenger machines.

A Revolutionary Machine.

A motor bicycle which has attracted a considerable amount of attention of late is Mr. Scott's twin-cylinder two-stroke motor cycle, a description and illustration of which are published on page 682. Mr. Scott's endeavours to provide an efficient engine which is also an easy starter have borne fruit already. At the Bradford M.C.C. hill-climb at Wass Bank, and the Coventry M.C. hill-climb at Newnham, it competed with other twin-cylindered machines, and on the A.C.U. or Professor Callender's formula it was awarded first position. Several competitors in both the above events are of the opinion that a two-cycle motor should not be allowed to compete against a four-cycle on formula. The opinions of our readers are appearing in the correspondence pages. It appears as though this is a similar case to that of steam *v.* petrol.

Identification Mark Obscured.

At the Godalming Police Court on the 24th ult. Arthur Young was summoned for allowing the rear identification mark of his motor bicycle to become obscured on the 20th ult. P.C. Lightfoot deposed to seeing the defendant's rear number-plate covered with fresh mud. Defendant said it was clean when he got off at Guildford, and the road from there was very muddy. Ordered to pay the costs. Motor cyclists should keep an eye on their number-plates in muddy weather.



D. R. Clark (2½ h.p. Century), winner of the Mile Time Trials at the A.C.U. Race Meeting on the 24th ult. Time, 1m. 5½sec.

A Puncture Record.

"Misfortunes never come singly" is an old saying, exemplified in the case of Mr. D. S. Baddeley, who experienced a failure to the front wheel bearing, lost his way, and used up three air tubes, fifteen patches, one pump, and one rubber-studded cover, in the London-Land's End-London ride. He rode altogether 1,000 odd miles in four days. This, combined with tyre repairing, can only be described as hard labour.

Favourite Motor Cycle Resort.

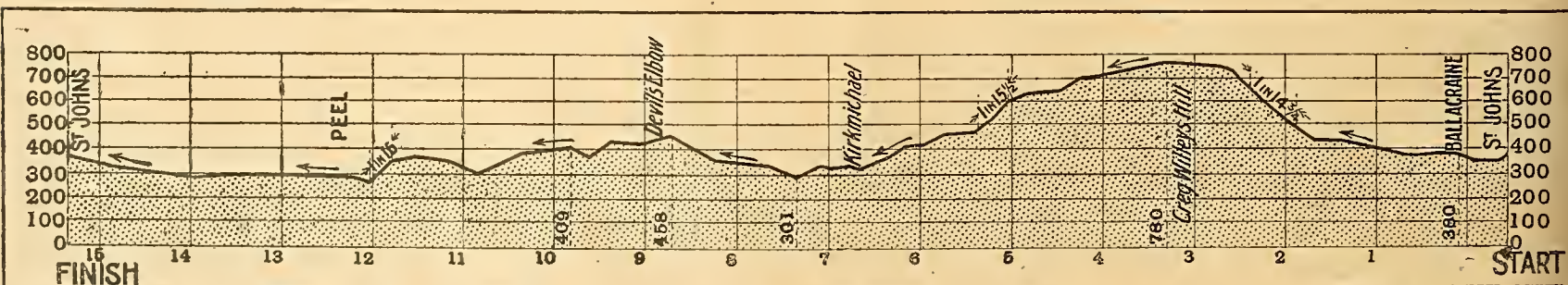
Writing to the *Times* Sir Martin Conway states that 200 motor cycles were garaged at Folkestone on August Bank Holiday. The majority of motor-ing visitors came from outside the county. £40,000, he estimates, were spent in Kent by motorists alone during the three days of the holiday. Thus dustless roads, well patrolled by motor cyclists, and a reasonable police force, are of benefit to the county financially.

Police Detectives on Motor Cycles.

Two Sevenoaks police detectives are, we understand, using motor cycles to assist them in their investigations of the mysterious murder case at Seal, situated within a few hundred yards of the Maidstone main road. Meanwhile, motor cyclists are well advised to exercise care when riding alone and after dark in the quiet Kentish lanes. With the exodus to the hop gardens the roads are frequented by dangerous characters. Carry good lamps, as on the surface of dark tarred roads foot-pads are only recognisable a few yards away.

The Late Secretary of the C.T.C.

We are asked to issue an appeal to motor cyclists for donations towards "The Shipton Assistance Fund." Hundreds of motor cyclists who were at one time cyclists will remember Mr. E. R. Shipton's services to the pastime of cycling, and may wish to send a donation to the fund which is being subscribed to provide him with a small annuity. Mr. Robert Todd, chairman of the A.C.U., is the chairman and hon. treasurer of the committee, and any remittances may be addressed to him at 5, Percy Circus, W.C. A full statement of Mr. Shipton's case will be sent to anyone applying to Mr. F. Maclean at the above address.



A Contour Sectional Map of the Tourist Trophy Motor Cycle Course in the Isle of Man. As last year, the start and finish will take place at St. John's, near Ballacraane. The highest point on the course is the summit of Crag Willey's Hill, which is about 800 feet above the level of the sea, and 400 feet above St. John's. A map of the course appears on page 681.

Hill-climb at Trouville.

Thirteen motor cycles competed at the hill-climb at Trouville on Wednesday last organised by *Les Sports* and called "The Course de Côte du Calvaire." The results were:

Motor bicycles weighing less than 66 lbs.—1, Berlie (Moto-Rève), 1m. 4½s.; 2, Pontié (Moto-Rève), 1m. 18s.; 3, Pons (N.S.U.), 1m. 24½s.

Motor bicycles with engines not exceeding 212 cubic centimetres capacity.—1, Contant (N.S.U.), 1m. 39½s. The fastest time was made by Rawlinson (Darracq car), viz., 44s.

A Tourist Trophy Racer.

We omitted to mention in our last issue in describing Mr. C. B. Franklin's Tourist Trophy racer that it was provided with a Ruthardt magneto, which Mr. Franklin says is most satisfactory. The machine was originally fitted with a coil and battery, but the magneto proved more convenient, although the rider informs us that he does not find that there is any increase in power with the magneto over a battery and coil.

Pedalling in the T.T. Race.

The preliminary regulations for the International Auto Cycle Tourist Trophy Race are before us, and it is interesting to note that Rule 6 says that the machines entered must be touring machines without pedalling gear. Readers will remember that there was a good deal of correspondence last year with respect to the pedalling indulged in by some of the riders in this competition, and the Auto Cycle Union is to be commended for its decision this year, viz., that no pedalling is to be allowed. Such a decision clears the air and leaves no doubt in the minds of competitors.

A Case of Obstruction.

The thanks of the motoring community are due to Mr. Harold R. S. Walford, a motor cyclist, for the trouble he took the other day in bringing to justice the driver of a horsed vehicle who obstructed his progress on the road at Bridport. The vehicles met and the cart was on its wrong side and would not allow the motor cyclist to pass, notwithstanding that he sounded his horn and shouted,

eventually causing him to dismount on the kerb. The motor cyclist followed the cart and tried to get the driver's name and address, but these the driver refused to give. Witnesses were secured and eventually a policeman was found. The hearing of the case resulted in the horse driver, Mark Doble by name, being fined £2 and £1 8s. costs, and the magistrates thanked Mr. Walford for bringing the case before their notice.

Next Year's Provincial Meetings.

The Motor Union has accepted the invitation of the Welsh A.C. to hold one of the provincial meetings of 1909 in South Wales. This will be the first Motor Union gathering held in this important centre.

a new plate made, and by some mental confusion he must have mixed up the two numbers. There was no fraudulent intention. Supt. Jennings said he would like to inform the Bench of the great importance the police attached to the identification mark, to their mind it was everything. Fined £1 and costs.

Week-end Riding Conditions.

The surface of the roads last week-end provided plenty of variety. Owing to the locality of the rainstorms it was possible to ride in a dust cloud one minute and the next to be splashing through pools of water and liquid mud.

Mounting with a Sidecar.

A correspondent gives the following tip for mounting a motor cycle with sidecar, the idea having occurred to him after reading "Ixion's" remarks about the difficulties of mounting when the machine is on the right hand side. He says, "The best method in which to proceed is to stand immediately behind the sidecar with the left hand on the left handle of the bicycle controlling the switch, and the right hand behind the carrier of the bicycle. This enables one to exert the maximum push with the greatest ease with the help of one's shoulder against the chair, and then, when started, it is a simple matter to put the left foot on the cross-stay which connects the sidecar to the bicycle at the back. Next move the right hand on to the handlebar and step with the right foot over on to its footrest and the left foot to follow on to its footrest."

Tyres in the End-to-end.

Owing to a printer's error the tyres fitted to Mr. T. K. Hastings's machine in the End-to-end run were described at Good J. tyres in the last issue. The name of these tyres is, of course, G. and J., a well-known American make.

The T.T. Motor Cycle Race.

The prizes presented for the T.T. Race fall short of those given last year. Mr. M. J. Schulte has, however, kindly promised a silver cup for the best performance by a private owner on a single-cylinder machine. The Fund may also be sufficiently large to enable the A.C.U. to provide some cash prizes.

Juvenile Accessory Thieves.

Motor cyclists are warned to beware of juvenile excursionists from the slums who are transported to country lanes and roads for fresh air, particularly down south. Conversing this week with Mr. Sleath, a well-known Leamington trader and a motor cyclist to boot, he told us that when repairing a tyre of his Motosacoche near Brighton the other day he had a 1s. 6d. touring map, a screwdriver, and his goggles stolen by these juvenile admirers of his tyre repairing efforts. A whispered consultation among the little thieves disclosed the whereabouts of his goggles, but they got away with the map and the screwdriver, and there were quite enough of them to take the bicycle.

FUTURE EVENTS.	
Sept. 3—	Daily practising begins for International Auto Cycle Tourist Trophy Race. Daylight to 8 a.m.
" 4—	A.C.U. Run to Norwich.
" 5—	R.A.C. General Committee Meeting at Norwich. Members of the A.C.U. are invited to attend the various functions at Norwich.
" 12—	Motor Cycling Club Petrol Consumption Tests.
" 12—	Brooklands R.A.C. Meeting.
" 12—	Newcastle and District M.C.C. Hill Climb.
" 18—	Motor Union Provincial Meeting at Oxford.
" 22—	The International Auto Cycle Tourist Trophy Race in the Isle of Man.
" —	Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.
Oct. 10—	A.C.U. Council Meeting at Leamington Spa.
" 21—	Motor Union General Committee Meeting.
Nov. 20-28—	Thirty-second Annual Stanley Show, at the Agricultural Hall, Islington.
" 28 to December 13—	Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.

A Curious Offence.

At the Godalming Police Court on the 24th ult. Henry Smith Bilbe was summoned for driving a motor bicycle at High Street, Godalming, on the 9th ult. with a false identification mark. Defendant pleaded guilty. P.C. Plowman said the front number was LC 6272, and the rear LC 6227. Defendant on oath said the proper number was 6227, and that of a former machine was 6272. A few weeks ago he had to have



M.C.U.I. (Dublin Centre) Speed Trials at Portmarnock, described in the last issue, page 672. The start of the Final of the Four Miles Handicap. Reading from the right—Dr. Kennedy (2 h.p. Moto-Rève), Messrs. R. Walter (Jap), H. Quinn (Triumph), P. Hurse (Peugeot), and T. Dunphy (F.N.).

The Tourist Trophy Motor Cycle Race.

THE last day for receipt of entries for the above race was yesterday, Tuesday, September 1st, and although at the time we went to press it was impossible to include the names of the very latest entrants received, we are able to give the names of all who had entered up to and including Monday last. They are as follows:

Entrant.	Make of motor cycle.
*Mr. C. R. Collier ...	Matchless-Jap
Mr. H. Collier ...	Matchless-Jap
Mr. H. Collier ...	Matchless-Jap
†Mr. H. Rem Fowler ...	5 h.p. Norton
Triumph Cycle Co., Ltd.	3½ h.p. Triumph
Triumph Cycle Co., Ltd.	3½ h.p. Triumph
Triumph Cycle Co., Ltd.	3½ h.p. Triumph
Bat Mfg. Co. ...	6 h.p. Bat-Jap
Mr. W. H. Wells ...	5 h.p. Vindec Special
Mr. R. W. Ellis ...	3½ h.p. Rex
Mr. W. H. Bashall ...	6 h.p. Bat-Jap
Mr. C. Gordon Gibson ...	3½ h.p. Triumph
Mr. Noel E. Drury ...	5 h.p. Jap
Mr. C. B. Franklin ...	3½ h.p. Chater-Lea-Jap
Mr. S. C. Perryman ...	5 h.p. Norton
Brown Bros. ...	3½ h.p. Brown
Mr. W. H. Wells ...	5 h.p. Vindec Special (second machine)
Mr. W. Gurr ...	5 h.p. F.N.
Mr. A. J. Moorhouse ...	5 h.p. Rex
Mr. W. G. McMinnies ...	3½ h.p. Triumph
Mr. H. Lister Cooper ...	3½ h.p. Triumph
Mr. E. G. Young ...	3½ h.p. Young-Bentnck
Mr. H. Brown ...	3½ h.p. Triumph
Mr. H. Reed ...	5 h.p. Dot
Rex Motor Mfg. Co. ...	3½ h.p. Rex
Rex Motor Mfg. Co. ...	5 h.p. Rex
Rex Motor Mfg. Co. ...	5 h.p. Rex
Rex Motor Mfg. Co. ...	3½ h.p. Rex

Entrant.	Make of motor cycle.
Rex Motor Mfg. Co. ...	5 h.p. Rex
Mr. R. O. Clark ...	5 h.p. (four-cyl.) F.N.
* Holder (single-cylinder trophy).	
† Holder (multi-cylinder trophy).	

The total number of entries has now reached thirty, so there is no fear of the postponement of the contest on account of lack of entries.

The race is for perpetual trophies presented by the Marquis de St. Mars and Dr. Hele Shaw, F.R.S. The present holders are: Single-cylinder, C. R. Collier, 3½ h.p. Matchless-J.A.P.; twin-cylinder, H. Rem Fowler, 5 h.p. twin Norton-Peugeot. For this year the allowance of petrol, which will be supplied by the A.C.U., will be for single-cylindered machines, 1 gallon for 100 miles; and for multi-cylindered machines, 1 gallon for 80 miles. This is a less quantity than last year, for in 1907 the competitors were allowed 1 gallon for 90 miles and 1 gallon for 75 miles respectively.

No pedalling will be permitted this year, whereas in 1907 there was no ruling on the subject, and some competitors pedalled and others did not. This caused a certain amount of heart burning and recrimination, and several letters on the subject appeared in our correspondence columns.

It is interesting to note that all engines will be tested for silence by the judges prior to the race, and any engines which are not efficient in this respect will be disqualified if the fault is not rectified.

Mr. M. J. Schulte has kindly offered a silver cup for the best performance by a private owner on a single-cylinder machine.



Hull and East Riding A.C.C. A group of officials and competitors photographed on the occasion of the Club Hill-climbing Competition at Spout Hill, Brantingham, on Saturday last.

MURATTI TROPHY RELIABILITY TRIALS.

At a meeting of the Ulster Centre, M.C.U.I., held on Friday last, the result of the above competition was considered. When the riders finished on the 22nd ult. it was found that J. Stewart (holder), C. E. Murphy, J. J. Kennedy, and C. V. Blake (all on 3½ h.p. Triumphs) had received the maximum number of marks, 80 for each day, making 160 for the two days. On a closer examination of the times, however, it was discovered that some differences existed, and in consequence of this it was decided to communicate with the timekeepers of several of the controls in order to have the figures verified before announcing any result; hence the delay in not publishing this sooner. After consideration of the replies it was found that Stewart and Murphy had ridden exactly to schedule time throughout the two days, and as it

was impossible to find the slightest difference between their performances it was decided to ask them to re-ride the Derry portion of the contest (some two hundred miles) in order to decide the winner, if possible, starting one rider fifteen minutes after the other. Kennedy having ridden closer to schedule than Blake, was placed third, and Blake fourth. The marks awarded to the other riders were: J. J. O'Rawe (¾ h.p. Rex), 151; T. Moles (3½ h.p. Triumph), 148; J. McCann (3½ h.p. Triumph), 138; R. Sharpe (3½ h.p. N.S.U.), 131; and W. J. Andrews (3½ h.p. Rex), 120.

Will R. F. Heron, who writes from Folkestone under date of the 21st ult., kindly send his postal address to the Editor to enable his query to be inserted?

CLUB NEWS.

South-eastern A.C.A.

The S.E. Auto Cycle Association has definitely decided to hold the autumn open hill-climb as originally intended. A novel feature will be introduced to test the flexibility of the engines. The idea is to start the competitors at the foot of the hill as usual, but to only time them for the competition from a point half-way up the hill on the first half. The riders will be obliged to keep within fifteen miles per hour, and all those covering this portion faster will be disqualified. This will give the officials an opportunity to judge of the flexibility required when touring and striking an unknown hill.

Leeds M.C.C.

The result of the hill climb at Stainburn Bank, Leathley, has now been declared as follows: 1, Jack Scriven (5 h.p. Rex), Triumph cup and gold medal; 2, R. Bolton (5 h.p. Rex), silver medal; 3, E. Slater (3½ h.p. Triumph), bronze medal.

Fastest time of the day was also made by Mr. Jack Scriven, on his twin Rex.

At a meeting of the committee held on Friday night last, it was decided to include an open class in the speed contest to be held on a private and prepared track in Templenewsam Park on Sept. 12th (by kind permission of the Hon. Mr. Wood). As its title implies, this class is open to all and for any motor cycle. The winner will receive the club standard bronze medal and a certificate. Any motor cyclist wishing to enter should send his name with make of machine to Mr. F. C. Bagshaw, 4, Ash Grove, Headingley, Leeds, as early as possible, and certainly not later than Monday, September 7th.

On Friday and Saturday next, September 4th and 5th, the club has arranged a special two days' non-trade reliability competition to Scarborough and back, the arrangements for which are in the hands of the trials hon. sec. (F. C. Bagshaw) and Mr. Geo. Horner.

Hull and East Riding A.C.C.

The result of the non-stop run held on the 13th ult. is: 1, H. Thomlinson (4 h.p. Stevens), 100 marks; 2, A. A. Plumpton (3½ h.p. Triumph), 95 marks; 3, R. Pearson (3½ h.p. Minerva), 90 marks. The judges have penalised all the competitors ten marks each for disobeying the rules of the Scarborough Reliability Trial held on July 11th last, and recommend that Messrs. Straker, Pearson, and A. Rester should run in a speed-judging contest of one mile



A handsome trophy presented to the Leeds M.C.C. by the Triumph Cycle Co., Ltd., and won recently by Mr. F. Greenwood, of the Leeds Club, who rode a 3½ h.p. Rex Tourist Model. Above is Mr. Greenwood photographed during the progress of the competition in which the trophy was won.

for the first, second, and third places, and that Messrs. Thomlinson and Mumby should run for fourth place (tie). A non-stop run to London will be held on September 12th, particulars to be announced. The picnic originally announced for that date is postponed until the following week. On Saturday last a hill-climbing competition took place on Spout Hill, Brantingham. There were thirteen entries, and the results will be announced when passed by the judges.

Herts County A.C.

With regard to the paragraph published last week under the heading of "An Open Autumn Hill-climb," Mr. A. J. Salmon, the hon. secretary of the Herts County A.C., writes to say that the idea of awarding a certificate to every rider who climbs the hill in a hill-climbing competition is not a novel one. The Herts County A.C. has always made a point of doing so in all its events.

Sheffield and Hallamshire M.C.C.

The above club held its annual hill-climbing competition on Saturday last, on a very steep hill situate between the Rivelin New Road and Stannington. A good entry resulted as follows: 1, T. W. B. Durant (3½ h.p. J.A.P.); 2, F. Donovan (3½ h.p. Triumph); 3, F. Dover (3½ h.p. Triumph). J. W. Ardern (3½ h.p. P. and M.) earns the consolation prize.

A committee meeting will be held to-morrow (Thursday), when any member will be welcome.

Essex M.C.

The twenty-four hours run from Woodford to York and back was held last week-end, and seventeen members started from Woodford on Saturday evening, of whom eleven finished at 6.30 the next evening. The riders were well checked, and the run was much enjoyed, except for the rain near the end. In parts the police were very active. The following finished the long run to time: A. G. Reynolds, F. Smith, H. Silverlock, F. W. Applebee, E. Leverett, W. Pratt, H. R. Dougal, A. J. Sproston, A. Howard, J. Browning, and J. Everett.

Dublin and District M.C.C.

A hill-climb under the auspices of the above club was held at the Long Hill, Sugar Loaf, Co. Wicklow, on Saturday last, August 29th. The event was poorly supported, owing to the inclement nature of the weather, and the surface of the hill being very greasy and treacherous in parts. Only five competed, and the results were decided on the formula

$\frac{W}{C \times T}$	Position on time. M. s.	Position on formula. Per cent.
1. C. B. Franklin ($3\frac{1}{2}$ h.p. Jap)	... X	... 100.0
2. R. H. Taaffe ($3\frac{1}{2}$ h.p. Triumph)	... 51 $\frac{2}{5}$	... 75.8
3. J. Doleman ($3\frac{1}{2}$ h.p. Rex)	... 2 12 $\frac{3}{5}$	... 63.0
4. F. J. Walker (5 h.p. Rex)	... 1 20	... 47.0
5. M. J. Chambers ($2\frac{3}{4}$ h.p. F.N.)	Retired owing to side-slip.	

Cardiff M.C.

The Cardiff club intends to hold a closed reliability trial for motor cycles and cars on Saturday next, the 5th inst. The total distance to be covered is seventy-eight miles at a speed of eighteen miles an hour or less. Competitors meet at Roath Court at 1.45, and start at 2 p.m. There will be two prizes awarded. It is interesting to note that no competitor will be permitted to use solid tyres or tyres provided with any filling. Reliability trials have truly become a test of tyres, and should now be entitled "Tyre Trials."

Inter-club Meet of Midland Motor Cyclists.

As announced last week, we now have pleasure in giving particulars of what transpired at the above meeting of motor cyclists held at Stratford-on-Avon on the 24th ult.

It was proposed that a central body of Midland M.C. clubs' representatives be formed with a view to making all arrangements for the meet, and also to keep the various clubs in closer touch with each other.

This proposition was unanimously carried, and it was arranged that each club should have two representatives for every fifty members or less, and one representative for every twenty-five additional members, the club secretaries to be appointed representatives as far as possible.

This body will meet early in each year to arrange for the general meet, but beyond this no call will be made on them. Clubs desirous of joining this central body and taking part in next year's meet are asked to communicate with Mr. R. Vernon C. Brook, Eastgate, Greenhill Road, Moseley, Birmingham, who will supply full particulars.

It was also resolved that each club approach its members at its next general meeting on the subject of making the Whitsuntide meet the occasion of a gymkhana.

The meet was voted a great success, and it is hoped that now it has been successfully launched by Mr. Brook, to whom a vote of thanks was unanimously passed for his efforts, it will continue to grow year by year.

Club News.—

Western District M.C. (London).

A committee meeting of the above club was held on the 6th ult., when it was decided to hold the annual hill-climb on September 20th. There will be separate classes for singles and twins. Members wishing to enter for this will kindly notify the sports secretary, Mr. C. N. Gould, 10, High Road, Chiswick, W., as early as possible.

A Club for West Calder, N.B.

A meeting will be held on Saturday next, September 5th, in Thomson's Rooms, West Calder, at 9 p.m. sharp, to discuss the advisability of forming a local motor cycle club. All interested are requested to attend so as to secure a good representation at the first meeting. Will club secretaries send copies of rules, etc., to Alan J. Steuart, hon. sec. *pro tem.*, Westwood, West Calder, N.B.?

Perth and District M.C.C.

The Perth and District M.C.C. held an all day reliability trial on the 26th ult. The route was by Greenloaning, Luthill, Crieff, Comrie, Lochearnhead to Killin, where luncheon was served, continuing by Fearnan, Coshieville, Whitebridge, Kinlochranoch, Struan, to Pitlochry, for tea, and home by Bankfoot. The weather up to Killin was good, but during luncheon it began to rain, and continued for the remainder of the run. The total distance is about 140 miles, and there were six controls. The first three competitors in order of merit were James W. Robertson (lost no marks), Bruce Syme, and D. Bachelor.

Newcastle and District M.C.C.

Competitors in the above club's flexibility test will start from North Gate, Morpeth, at 2 p.m., on Saturday next, the 13th inst. The competition will be divided into four classes: Class I.—Single-cylinders, fixed gears; Class II.—Twin-cylinders, fixed gears; Class III.—Variable gears; Class IV.—Passenger machines and tricycles. The final of the team trials will take place on the following day, starting from North Gate, Morpeth, at 10.30 a.m.

On the 12th inst. a closed hill-climb will be held for single and twin-cylinder motor bicycles and passenger machines, the winners to be decided on A.C.U. formula.

Basingstoke and District M.C.

The Henley branch of the above club held its speed-judging contest last Wednesday, August 26th. Bad weather prevented a really good attendance, only six members turning out. The result and placings were as follow:

- | | |
|---------------------------------------|---------|
| 1. A. F. Plint (3½ h.p. Kerry) | 28s. |
| 2. M. Carpenter (3¼ h.p. Rex) | 2m. 2s. |

Also competed: H. Linford, G. Ayling, F. Ellis, and L. Wright.

The winner scores three marks and the second man two marks towards the club gold medal, whilst the remainder receive one mark each for attendance.

The committee has elected Messrs. J. E. Pool and Geo. Watson, M.I.A.E., as representatives on the R.A.C. General Committee. The former hopes to be present at the Norwich meet of the R.A.C. and A.C.U.

Newcastle M.C.

A novel competition for cars, passenger cycles, and motor bicycles is to be held on Wednesday, September 9th, by the Newcastle Motor Club. It follows the lines of an ordinary non-stop trial, with the addition that, when entering for the event, competitors have to declare the value of their machines, and on this declaration the handicap will be framed, one point being allowed for each pound (£1) difference. For example, three machines, A, B, and C, are entered at £10, £20, and £30 respectively, A would have ten points start of B, and twenty of C, and B would have ten from C, which, as the highest priced machine, would be on scratch. Any member may claim a machine at the declared figure, and if there is more than one bid the machine will be put up for auction, the surplus value (if any) to go to the club funds. In the trial proper, all machines will be penalised equally, viz., one point for every fifteen seconds or fraction of same they arrive at controls before or after schedule time. The course is one of seventy-six miles, and the competition is open to all members of the North-eastern Automobile Association, who can obtain entry forms, etc., from the hon. secretaries, Messrs. J. Wilford and J. P. Robson, 119, Gloucester Road, Newcastle. Entries close on Monday next, September 7th.

Essex M.C.

In consequence of the abandonment of the 200 miles non-stop run, it has been decided to hold an autumn hill-climb, particulars of which will be published later. A very steep hill has been found, and machines will require to be in very good form to climb it.

Bradford M.C.C.

The above club has decided to hold on Saturday, October 3rd, an open hill-climb. A trophy in the form of a silver cup (to be won outright) will be awarded to the rider making the fastest time of the day, whilst gold medals will be awarded for other meritorious performances. The venue of the hill, and further particulars will be announced in due course, and any affiliated club may have a copy of the rules and regulations, on application to the trials hon. secretary, Mr. F. Scriven, Alma House, Bradford.

Birmingham M.C.C.

A competition for the Triumph medal and Premier lamp will be held on Saturday next. The competition will take the form of a fifty miles petrol consumption test, which will consist of two circuits over a twenty-five miles course. Competitors will meet at the King's Head, Hagley Road, at 2.30 p.m. sharp. The distance must be covered at a speed not exceeding twenty miles per hour, or less than eighteen miles per hour. Marks will be awarded according to the petrol consumption, worked out on formula, and marks will be deducted at the rate of twenty for every minute late, and ten for every minute early at controls. Entries should be sent to the trials hon. sec., Mr. R. Vernon C. Brook, Eastgate, Greenhill Road, Moseley, Birmingham, not later than Friday next, the 4th inst.

Motor Cycling Club.

The Motor Cycling Club's annual petrol consumption trial for motor cycles and cars will take place on September 12th, starting from Gerrard's Cross on the London-Oxford Road at 3 p.m. This event is always very popular, and in addition to a most interesting competition members can be assured of a pleasant social reunion.

The competitors receive a given amount of Shell spirit according to the total weight of the machine, driver, and passengers. The course is five miles in extent, and the winner in each class will be the competitor who drives farthest on the allowance of petrol.

Entries close on September 7th, and should be sent to the trials hon. sec., F. J. Jenkins, 35, Loveday Road, Ealing, W. A good deal of assistance is required for marshalling the course, and members willing to help will oblige by communicating with the trials hon. sec. as above.

Speed Trials at Portmarnock.

* Pressure on our space prevented us giving the detailed results of the speed trials at Portmarnock, held by the Dublin Centre, M.C.U.I., on the 24th ult. They are as follow:

TWO MILES HANDICAP (OUT AND HOME).

	Start.	Time.
1. C. B. Franklin (3½ h.p. Jap)	20s. ...	2m. 55½s.
2. R. Dunphy (3½ h.p. Jap)	30s. ...	3m. 7s.
3. R. Walshe (2¾ h.p. Jap)	40s. ...	3m. 50s.
Won by 1¼s.; 13s. between second and third. Time of race, 3m. 35½s.		

FOUR MILES HANDICAP (DUNLOP CUP).

	Start.	Time.
1. R. Walshe (2¾ h.p. Jap)	scr. ...	7m. 21s.
2. P. Hurse (2¾ h.p. Peugeot)	30s. ...	7m. 51½s.
3. H. Quinn (3 h.p. Triumph)	30s. ...	8m. 3¾s.
Won by ¾s.; 12½s. between second and third. Time of race, 8m. 1s.		

FOUR MILES HANDICAP (CONFINED TO DUBLIN AND DISTRICT M.C.C.)

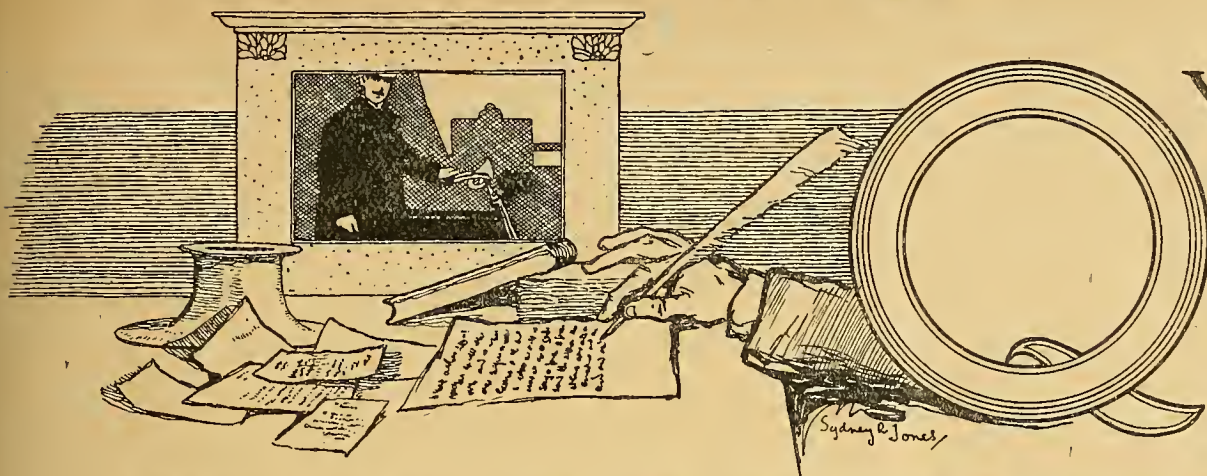
	Start.	Time.
1. C. B. Franklin (3½ h.p. Jap)	30s. ...	8m. 26½s.
2. R. H. Taaffe (3½ h.p. Triumph)	40s. ...	9m. 30s.
Won easily. Time of race, 9m. 16½s.		

TWENTY MILES HANDICAP (OUT AND HOME).

	Start.	Time.
1. C. B. Franklin (3½ h.p. Jap)	3m. ...	28m. 52½s.
2. R. Dunphy (3½ h.p. Jap)	3½m. ...	31m. 26s.
3. P. Hurse (2¾ h.p. Peugeot)	9½m. ...	42m. 9½s.

Franklin took the lead at half distance, and won easily by 2m. 4s.

Mr. T. W. Murphy acted as starter and timekeeper.



QUESTIONS & REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and, whether intended for publication or not, must be accompanied with a stamped addressed envelope for reply.

Leeds to Yarmouth.

? Could you kindly tell me the best and quickest way per motor cycle from Leeds to Yarmouth?—R. SHRUB, Hyde.

Leeds to Aberford, or the nearest point on the Great North Road, or Leeming Lane, which you know of, then travel down *via* Doncaster, Newark, Grantham, and Stamford to Peterborough. Leave the North Road at a point called Kate's Cabin, the route is then Wisbech, Downham Market, Swaffham, Dereham, Norwich, Caistor, and Great Yarmouth.

Difficulty in Starting and Heavy Consumption.

? I have a 1908 Triumph motor bicycle which I find rather difficult to start. If I start in the orthodox way and jump on I find that as soon as explosions take place the machine starts at such a pace as to make it dangerous for me to mount. Could the difficulty be met by adopting a free engine clutch or change-speed gear, and would the use of either of these necessitate the removal of either the back brake or the pedals? I find that my motor does only some fifty to sixty miles to a gallon of petrol, but when started it runs perfectly. Should I take any steps with reference to the petrol consumption, as I see in *The Motor Cycle* that it is possible to run 100 miles with the same amount.—H. WELL, Greenwich.

A clutch, or preferably a change speed, would certainly enable you to start more easily. As to whether it would interfere with the fitting of the brake rod for the foot brake depends on the type. To mount adopt the following method: Run machine for a yard or two with valve lifter raised, drop valve lifter, and the moment engine fires lift valve lifter again, so preventing further explosions, and place left foot on pedal. Swing right leg over rear mudguard and drop into the saddle, simultaneously dropping the valve lifter the moment you are sure you have a safe seat. If you adopt this method the machine cannot run away with you, but if you try to mount with the engine firing there is a possibility of the left foot missing the pedal and causing a fall. With regard to consumption you possibly drive engine with throttle further open than

is necessary, or with air lever closed too far. 100 miles to the gallon is quite ordinary with care and with a properly adjusted carburetter, and there is no reason why you should not do the same. It is a question of skill in handling the machine, *i.e.*, having throttle cut down to a minimum and air open as far as possible consistent with speed. It is customary to ride with cut-out open in the country, but we do not think this affects consumption materially.

Knocking on Hills and Air Control.

? I should be very pleased if you would tell me the reason for my engine knocking. I have a 1908 Triumph, and it has not been ridden more than 700 or 800 miles. It knocks when I slow down for corners and have to pick up again, and knocks on the slightest hill. I have had engine down and scraped all carbon away. The engine looks all right. Once it has picked up it stops knocking. The engine gets very hot when it has only been ridden a little way. I ride with the air as far open as possible without engine misfiring, but that is not very far. Should it take more air, and how could I make it do so? In other ways the machine runs well.—C.T.W., Hants.



W. F. Merritt (3½ h.p. Triumph), a gold medal winner in the A.C.U. End-to-end Trials. This was his first competition, and he gained every possible mark.

The knocking may be due to the manner in which you drive the machine. These engines should be driven practically on the carburetter control. For instance, you must always close the air after slowing down. When climbing steep hills, unless you rush them, it is necessary to close the air lever in accordance with the speed of the engine. The slower it runs the less air it requires, and *vice versa*. There is no necessity to make it take more air. Probably sufficient air enters at the main air inlets for your requirements. If you open the throttle farther you will find engine will require more air. You might also test the timing of the magneto and see that it is not too far advanced.

Momentary Stoppage and Cleaning Oil Reservoirs.

? (1.) I have a 6 h.p. twin Bat with magneto which has run some 2,000 miles. I use the machine with a sidecar attachment, and lately it has taken to slowing momentarily and then picking up again gradually. Sometimes with the sidecar it fails to pick up if on a hill. The needle of the Longuemare carburetter is the only thing that has been altered from the makers' setting, but there is a noticeable falling off in the power of the engine, as I cannot always climb a certain steep hill in my neighbourhood that I used to get up without difficulty. (2.) Shall I have to take the magneto out of the tank to clean out the oil wells?—S.A.

(1.) It is highly probable that the momentary stoppage is caused by the level of the petrol being too low. You can check this by removing the jet, and after turning on the petrol tap note the height to which the petrol rises in the jet orifice. It should come to within ½ in. of the top. If it is lower you can alter the level by moving the weight on the needle nearer to the point. The usual cause of poor hill-climbing is bad compression. Remove the cylinders of your machine, clean them, and then grind in carefully the four valves. (2.) The oil wells can be swilled out after removing the screws underneath the reservoirs. If you cannot remove these on your machine owing to the tank or other obstructions, you will have to wait until the magneto is off the machine.

Blowing Back at the Carburetter.

? I am the owner of a 6 h.p. twin-cylinder motor cycle. Could you give me any idea of the cause and remedy for blowing back at the carburetter (not firing back). When the engine is running I can feel the air being blown out; sometimes it is negligible and the running is good, but at others it is very strong, and the engine then seems to run badly. An explanation of this would help me greatly. Should the two platinum points of the Bosch high tension magneto be insulated from each other? I tried to ascertain the exact time that they separated in order to time the engine by wiring them up in circuit with an accumulator and voltmeter, but whether they were apart or not the voltmeter always showed the full voltage. The engine, nevertheless, runs perfectly as far as firing is concerned.—U 560.

Every engine blows back slightly at the carburetter. It is an inherent defect in a petrol, or, in fact, any engine, even steam engine has a certain amount of low back when the valve shuts. It is due to sudden stoppage of the flow of either gas or steam along the induction pipe. The reason it is worse at times than others is either because the throttle is wider open, or the inlet valves are out of order, i.e., they open too far. The amount of lift should be about .32in. unless they are mechanically operated, when they may open further. We think the reason the voltmeter always showed the full voltage is because you must have wired up two portions of the contact breaker, which were both electrically connected to the base plate. One point is insulated from the other by means of ebonite at back of block holding fixed point. Lamp should go out when points separate if wired correctly.

Knocking when Throttled Down.

? My engine (a 5 h.p. single-cylinder) has developed a very curious kind of metallic knocking, not at all like the ordinary knock from wrong mixture or spark too far advanced. It is not very noticeable when using a large amount of gas, but if the gas be suddenly cut off to about quarter throttle when running at a fairly high speed, the noise is most distressing. I took the engine apart and had a new bush put in on the pulley side and new piston rings, but this has not improved matters in any way. Both ends of the connecting rod are fairly tight, although it is possible to detect a slight movement by alternately pulling and pushing the piston. The noise sounds as if the piston overshot the mark and touched the top of the cylinder. Needless to say that this is really not so, in fact; but I have taken the engine down to see if there were anything loose being thrown up or down. The engine seems to have a fair amount of power on hills, but its speed is not like it was.—SONCIN.

The knocking complained of is evidently wear on gudgeon pin and connecting rod bearings. New piston rings unless turned to fit the worn grooves of the piston would not stop the knocking noise complained of, as it may arise from loosely fitting rings. The piston and cylinders or both may be worn at the top to a much greater extent than at the bottom, and in consequence when running light, i.e., with throttle practically closed, the noise is more apparent owing to the space above the piston not being filled with gas either under compression or being fired. The compressed gas and explosions tend to press the worn parts together and prevent noise. Directly the gas is reduced to a minimum rattling commences.

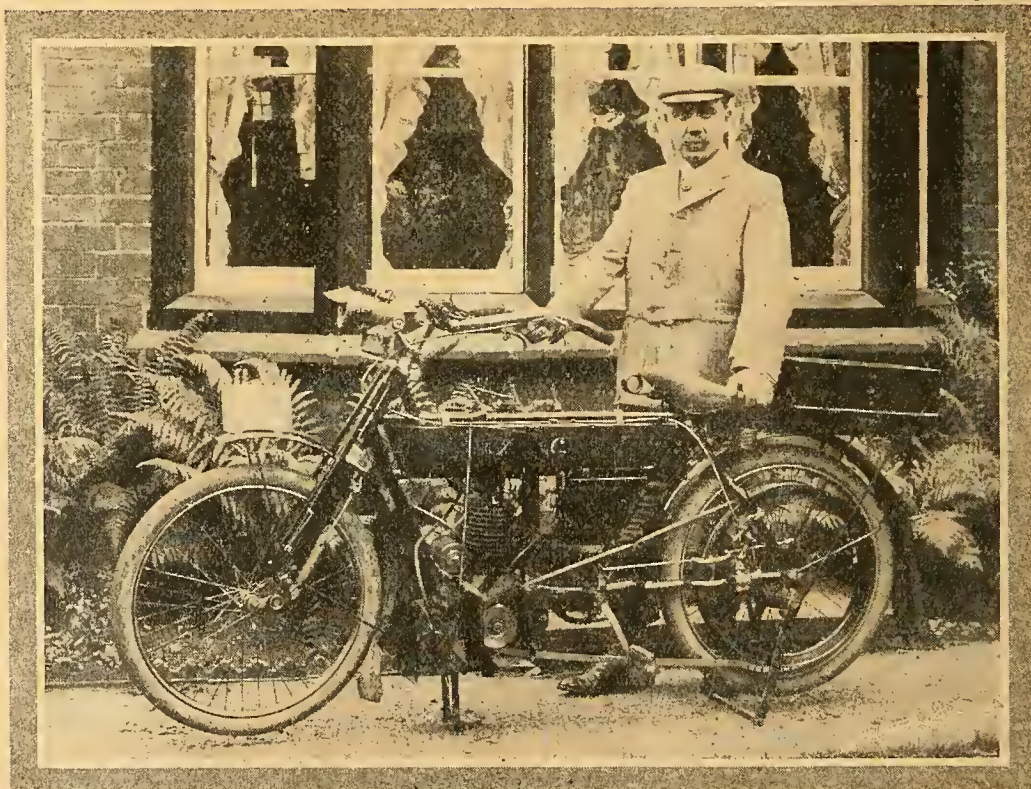
Acetylene Generators and Nail Catchers.

? (1.) Please give me your opinion of the Model E Auto-clipse generator? I cannot quite understand the principle upon which it works. I find that in two days the whole charge is generated without the lamp being lighted. I have followed directions. I find when turning tap on the water bubbles out at the hole in top of generator for some little time. I suppose this hole is the safety valve. (2.) The clips for the generator are only suitable for attaching under the saddle on the seat tube. Is this a safe place, and should I have any trouble with gas tubing? I have three pump clips and threaded the tube through these to keep it in position. (3.) Are the nail pullers any use, as I have been troubled with picking up several nails lately? I noticed one in Messrs. Gamage's catalogue—the Bull Dog. Would these be suitable for a motor cycle? Also which would be the best place to fix them up?—W. F. RIDGE.

(1.) The generator in question works on the diving bell principle; that is to say, the carbide is immersed in the water, and the gas as soon as it is generated by its own pressure automatically forces the water away from the carbide, so preventing further decomposition of the carbide. As soon as the gas generated has been consumed the water again attacks the carbide, and a further supply of gas is generated, and so on. The bubbling you hear when the generator is first put into action is probably caused by the air escaping through the safety valve. (2.) The best place to carry the generator is on the seat tube with the aid of the special clips provided. (3.) As nail pullers those you mention are quite satisfactory, but as they rest continually on the tyre they are rather soon worn out.

Round-the-World Tour on a Motor Cycle.

THE accompanying photograph is that of an enthusiastic motor cyclist, Mr. Reuben Mawson, of Birmingham, who is undertaking a lengthy business tour with the aid of his L.M.C. machine. Mr. Mawson is at present visiting Canada, and will go from there to Tasmania, New Zealand, and Australia, calling at all the important cities and towns en route. At the rear of the machine is fitted a telescopic metal sample box, in which are carried samples and other matter in connection with Mr. Mawson's own business. In addition he will make arrangements with colonial firms who may feel disposed to handle the machine he rides, which is made by the Lloyd Motor and Engineering Co., 132, Monument Road, Birmingham. The L.M.C. is an ordinary standard touring model, provided with very strong tyres and a few extra sundries which are likely to prove useful on such a long journey. It is further proof of the reliability of motor cycles when colonial travellers make use of them for lengthy tours.



Mr. Reuben Mawson, who is making a business journey round the world with his L.M.C. Motor Bicycle.

MOTOR BICYCLES FOR SALE.

HALIFAX.—1908 $\frac{3}{4}$ h.p. Rex de Luxe, two-speed, Roc clutch, twin wheel, ball bearing engine, handle-bar control, 53 guinea model; £35.

HALIFAX.—1908 5 h.p. twin Tourist Rex, magneto; owner going abroad; £35; a splendid opportunity.

HALIFAX.—1908 Rex, $\frac{2}{4}$ h.p., magneto, very low, little used, condition excellent, easy starter; £19 19s. — Halifax Motor Exchange, 16, Westgate, Halifax.

TWO-CYLINDER Motor Cycle, cost £50 three months ago; owner going abroad; will accept £35.—Greenwood, Portland Place, Halifax.

TRIUMPH, magneto (late 1906), Osborne four-speed and free engine, new tyres; accept £19 10s., excellent condition.—18, St. Malo Road, Wigan.

1907 N.S.U., $\frac{3}{4}$ h.p., Rich's tubes, new inch belt, spare pulley, valves, belt, etc., new condition; £19 10s.—Parker and Co., Lune Street, Preston.

BARGAIN.— $\frac{4}{2}$ h.p. Twin Minerva, as new, very low, only run 1,500 miles, Modele de Course tyres; £26 10s., or offers.—186, Derby Street, Bolton.

1 $\frac{1}{2}$ h.p. Werner, front drive, good running order; reason for selling, bought stronger; £6, or offers.—Cottam and Buller, West Bradford, near Clitheroe.

MANCHESTER Motor Exchange.—Agent for Phoenix, Quadrant, Ariel, etc.; any make supplied and your old machine in part payment.—Foxwell Gray, 262-4, Deansgate, Manchester.

MANCHESTER.— $\frac{3}{4}$ h.p. 1907 Model Minerva, in perfect condition; an absolute bargain for £16.

MANCHESTER.—5-7 h.p. Twin Peugeot, Chater-Lea fittings, magneto, very low and fast; £23.

MANCHESTER.— $\frac{3}{4}$ h.p. Phoenix Cob, two speeds, starting handle, free engine, cannot skid, run under 1,000 miles; £25.

MANCHESTER.— $\frac{2}{4}$ h.p. F.N., compression marvellous, brass tank, very reliable machine; £12.

MANCHESTER.—3 h.p. Humber, run very few miles, equal to new, 19in. frame, very fast and light; £14.

MANCHESTER.— $\frac{2}{4}$ h.p. Minerva, reliable, £7 10s.; $\frac{2}{4}$ h.p. Humber, good machine, £7; $\frac{2}{4}$ h.p. Quadrant, very reliable, £7. — Foxwell Gray, 252-264, Deansgate, Manchester. Phone, 404.

1908 Triumph, Goodrich, Palmer, spare Goodrich, searchlight, two generators, three belts, Middlemore saddle, Brooks seat, engine and magneto spares, full kit; £39; any test.—Holdsworth, Butcher, Burnley.

LIVERPOOL (Rex Agency).—Before buying your new mount come and have a look at our machines. The largest stock of new and second-hand machines for fifty miles round; anything taken in part payment.—F. C. Jones and Co., 3, Redcross Street, Liverpool.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chester Road, Old Trafford.

3 h.p. Phelon-Moore, two speeded, Beeston Humber, Bosch magneto, 26in. Palmer tyres, spare Hermetic tyre, and new Rich's tube, Sthenos carburetter, footboards, stand, tubular carrier, lamp, horn, many spares, splendid order; £24.—Macintyre, East Had-don Villa, Redcar.

$\frac{3}{4}$ h.p. Magneto N.S.U., XI'all spring forks, Peter-Union tyres, charged with Miraculum, separate generator lamp, horn, tools, and stand, all in very good condition and little used, the lot for £30, or near offer; new Continental Model de Course cover, 26 by 2, 30s.; Rich detachable tube, 26 by 2, 10s.; new F.R.S. searchlight and generator, 30s.; old Triumph frame, for inclined engine, including tyres, stand-carrier, and two powerful brakes, what offers?—Smith, Wakefield Road, Horbury.

BOOTH'S SPICY OFFERS

SIX $\frac{2}{4}$ h.p. REX FEATHERWEIGHTS,
1908 models, nearly new, probably run 200 miles, low built, high tension magnetos, climb hills as good as some $\frac{3}{4}$ h.p. models,
£19 19 0 each, or exchange.

FIVE NEW TWIN ANTOINES,
 $\frac{5}{4}$ h.p., 1908 models, low built, $\frac{2}{4}$ in. tyres, latest handle-bar control, smart and powerful machines, suitable for sidecar work, going at a second-hand price,
£25 0 0 each, or exchange.

FOUR $\frac{5}{4}$ h.p. REX-DE-LUXE,
1907 models, fitted with magnetos, Roe clutch, twin tyres, spring forks, spring seats, cost £50 0 0, ideal sidecar machines, handle starting,
£27 10 0 each, or exchange.

THREE $\frac{3}{4}$ h.p. REXES,
1907 models, spring forks, low built, good tyres, good hill-climbers and smart-looking machines,
£16 16 0 each, or exchange.

SIX 5 h.p. TWIN REXES,
beautiful machines, fitted with spring forks, low built, 26in. wheels, will take a sidecar anywhere,
£17 17 0 each, or exchange.

SEVEN 1906 $\frac{3}{4}$ h.p. REXES,
low built, spring forks, 26in. wheels, Longuemore carburetters, climbs steep hills, very reliable,
£15 15 0 each, or exchange.

EIGHT $\frac{3}{4}$ h.p. REXES,
very low built, both feet can be placed on the ground while seated in the saddle, 26in. wheels, Longuemores,
£11 11 0 each, or exchange.

OTHER RICH BARGAINS.
6 h.p. Twin REX, 1907, magneto £19 19
5 h.p. Twin VINDEC, 1907, magneto 29 10
 $\frac{4}{2}$ h.p. Twin MINERVA, magneto 25 0
 $\frac{4}{2}$ h.p. Twin MINERVA, spring forks 19 19
5 h.p. Twin G.B., magneto 25 0
6 h.p. Twin REX and sidecar 22 0
6 h.p. Twin PHANOMEN, 1908, new month ago, Nala two-speed, magneto, spring forks, fan cooled, only been 200 miles, cost £66 42 10
 $\frac{3}{4}$ h.p. TRIUMPH, 1907 32 10
4 h.p. ROC, magneto, free engine 25 0
4 h.p. ADTOINE, magneto, two speeds ... 20 10
Four-cylinder F.N., magneto 19 19
 $\frac{3}{4}$ h.p. ARIEL, M.O.V., low 14 14
4 h.p. ADTOINE, M.O.V., low 14 14

LIGHTWEIGHTS.
3 h.p. HUMBER, £11; $\frac{3}{4}$ h.p. CLARENDON, £11 10s.; $\frac{3}{4}$ h.p. EXCELSIOR, £10 10s.; $\frac{3}{4}$ h.p. REX, £10 10s.; $\frac{2}{4}$ h.p. BUCHET, £9 10s.; $\frac{1}{2}$ h.p. MINERVA, £8 15s.; $\frac{1}{2}$ h.p. MINERVA, £6 15s.; $\frac{2}{4}$ h.p. REX, £8 15s.; $\frac{2}{4}$ h.p. JAP, £8 10s.; $\frac{2}{4}$ h.p. KERRY, £10 10s.; 2 h.p. HUMBER, £8 5s. Push cycles taken in exchange.

TRICARS.
4 h.p. HUMBER, w.c., two speeds £15 15
5 h.p. QUADRANT, two speeds 19 19
4 h.p. BAT, fan cooled 19 19



CORONET VARIABLE SPEED PULLEY.

14/- each.

Special Terms to the Trade.

Standard makes can be had without sending old pulley for pattern.

The screwed flange is securely held in any position by a simple yet ingenious contrivance that distinguishes it as the most improved pulley made.

GRIPSKIN BELTING.

Scientifically made from selected parts of hides. An efficient belt at a popular price. Outlasts two rubber belts. Correct angle, perfect drive, non-stretching. We send on approval on receipt of P.O. 9in. 9d., 1in. 10d., 1in. 1/-, 1in. 1/1.

Special Terms to the Trade.

Booth's Motor Exchange,
CORONET WORKS, WADE ST., HALIFAX.
Telephone 198V.

MOTOR BICYCLES FOR SALE.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

REX Tourist, $\frac{3}{4}$ h.p., 1908 model, magneto, new and unused; offers, cash or exchange.—Parker, Melbourne, Derby.

£9.—Humber, 3 h.p., excellent condition, climb anything; cost £65; ridden for one season only.—123, Seaview Road, Liscard.

1908 Triumph, new in May, perfect condition, spares, including lamp; cash £38; buying car.—Richards, Sunnyside, Shrewsbury.

150 Lbs., Low built, 4 h.p. Antoine engine, 24 Dunlops, handle-bar control, 1in. Watawata, perfect condition; £20. — 10, Meadow Road, Sale, Cheshire.

HUMBER Motor Cycle, 3 h.p., free engine clutch, low build, condition as new, very powerful machine; £15.—Pritchard, Briar Cottage, Julian Road, Ludlow.

6 h.p. twin Rex, cantilever seat, footrests, Rich's tubes, Clincher A Won covers, plenty of spares, excellent condition; £21.—W. H. D. Priest, Claremont Street, Old Hill, Staffs.

h.p. Antoine, Chater-Lea No. 6, Continental tyres, two copper torpedo tanks, Shamrock belt, B. and B. carburetter, footboards; £21.—Peacock, Rake Lane, New Brighton.

2 $\frac{1}{2}$ h.p., Liberty, Chater-Lea frame, Longuemore carburetter, Continental front (unpunctured), Palmer back, engine fitted with one of the best and latest five-speeds and free engine pulleys; genuine bargain, 12 guineas.—100, Uttoxeter New Road, Derby.

TRIUMPH, $\frac{3}{4}$ h.p., late 1907, very little wear, magneto, with cover, a most beautiful machine, like new, not scratched, unpunctured, and absolutely reliable, complete with powerful horn, gas lamp, separate generator, spare exhaust valve (complete), spare belt, sparking plugs, and usual tools; 30 guineas, no offers; seen and tried any time.—Douglas Noble, 55, George Street, Altrincham.

MADISON Co.'s Bargains. Motor Cycle.—First-class motor cycle, $\frac{3}{4}$ -4 h.p. White and Poppe, 1908, mechanical inlet, latest pattern, 2in. patent non-skid, pump, Lincon belt, Longuemore, exceptionally well arranged, tank combination, adjustable Brampton's sliding seat, trembler and accumulator, acetylene 50 c.p. lamp, horn, and pump, carrier, and stand, faultless; £13 15s., cost does not represent quarter its value; can be ridden away.—Madison, Woolrych Street Works, Derby.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

TRIUMPH, 1908, only two left; £48.—The Victoria Garage and Electrical Co., Coventry.

FAIRY Lightweight, two cylinders, $\frac{2}{4}$ h.p., perfect condition; £14.—Birt Morris, Bourne.

TRIUMPH, 1908, new tyres, shop-soiled only; £45.—The Victoria Garage and Electrical Co., Coventry.

3 h.p. Humber, belt drive, complete; £14 10s.—The Victoria Garage and Electrical Co., Coventry.

3 h.p. Clarendon, new, £21; Zenith bicar, two-speed, perfect order, very fast, £25.—The Victoria Garage and Electrical Co., Coventry.

3 $\frac{1}{2}$ h.p. N.S.U. Motor Cycle, convertible, host of extras; £30.—601, The Motor Cycle Offices, Coventry.

2 $\frac{1}{2}$ h.p. Noble, in good order; £11 10s.—The Victoria Garage and Electrical Co., Coventry.

5 h.p. Twin Alcyon, spring forks and pillar, magneto; £22.—E. Turner, The Grove, Sutton Coldfield.

$\frac{3}{4}$ h.p. Rex, in excellent condition, new belt and accumulator.—Kent, 24, St. Ann's Well Road, Nottingham.

TWIN Roc, 5-6 h.p., open frame, as new; £47; property of Miss Hind.—Roc Motor Cycle Works, Birmingham.

MOTOR BICYCLES FOR SALE.

ZENITH Bicar, two-speed, free engine, perfect order; £25.—The Victoria Garage and Electrical Co., Coventry.

23 h.p. Humber Motor Cycle, recently overhauled, spares; £10.—G. H. Wait and Co., London Road, Leicester.

TRIUMPH, 1908, slightly soiled very little used; £43.—The Victoria Garage and Electrical Co., Coventry.

3 h.p. Rex, splendid running order, new Prested accumulator; best offer.—Scoullall, Tiffield, Towcester.

MINERVA, 3½ h.p., 1907, excellent condition; £18; write for particulars.—No. 78, The Motor Cycle Offices, Coventry.

31 h.p. Minerva, M.O.V. valves, splendid condition; £14.—The Victoria Garage and Electrical Co., Coventry.

REX Motor Cycle, 3½ h.p., aluminium finish, in good order, fast and powerful; bargain, £9 10s.—12, Bull Ring, Birmingham.

F.N. four-cylinder Motor Cycle, magneto ignition, as new; £28.—12, Bull Ring, Birmingham.

31 h.p. Triumph, 1907, splendid condition; £30.—Sewell, 4, Wilford Lane, Nottingham.

TWO 1908 Rocs, 4 h.p., soiled only, as used at Newnham, £40 each to clear; also 4½ h.p. Minerva, £18.—A. W. Wall, Ltd., Birmingham.

31 h.p. Rex, handle-bar control, beautiful condition, very low built, climb anything; bargain, £16.—67, King Richard Street, Coventry.

REX de Luxe, twin-cylinder, free engine, magneto, twin tyre, perfect, not ridden 100 miles, as new; sacrifice £26.—22, Victoria Terrace, Leamington.

REX, 3½ h.p., good condition, tyres almost new, one small accumulator; will ride reasonable distance; £10.—A. Maw, Wellington House, Gainsborough.

QUADRANT, 3½ h.p., June, 1907, magneto, footboards, spring forks, guaranteed perfect, all spares and accessories; £25.—Jas. Bate, 8, Monument Road, Birmingham.

3 h.p. Twin Rex, magneto, cantilever, new, guaranteed perfect, not run 200 miles; £30; exchange 2½ h.p. magneto, cash.—Taylor, 261, High Street, Stirchley, Birmingham.

TRIUMPH, 1908, specially finished, not ridden 300 miles, absolutely as new, fully equipped with spares, etc.; sacrifice £40, exceptional bargain.—45, Parade, Leamington.

3 h.p. Genuine Chater-Lea, in new condition; £35, cost £60, will exchange for single stone diamond ring and good jewellery £40 value.—67, High Street, Henley-in-Arden.

FAIRY Lightweight 1908, magneto, spring forks, pedal brake, as new, lamp, hand, bag, tools; cost recently £38, bill down; £26 15s.—Wilson, 131, Holly Road, Sandsworth, Birmingham.

ARIEL! Ariel! Ariel!—For immediate delivery, the 2½ h.p. lightweight; write for catalogue and full particulars; also 3 h.p. and 5 h.p. twin-cylinder models; a few h.p. and 5 h.p. twins at clearance prices. Ariel Works, Bournbrook, Birmingham.

FOR Sale, 1907 Twin Vindec Special, £26; 1908 Woodman, special, 3½ h.p., £15.—Woodmans, Peterborough.

FOR Sale, new 1908 3½ h.p. Vindec Special; £38 10s.—Hardie, Lincoln Road, Peterborough.

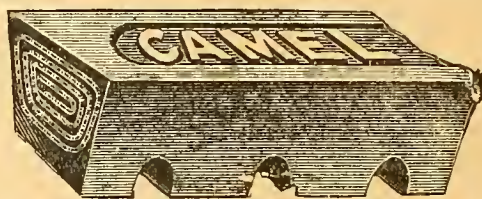
BAT, 6 h.p., low spring frame, magneto in tank, new May, 1907, tyres good, Brooks on-skid on back, good Lucas horn, brand new F.R.S. lamp, generator, machine splendid condition, been well looked after; reason got car, spare Goodrich and Palmer, katawata; £32 10s.—Campion Garage, Market Place, Loughborough.

BARGAIN.—1908 Triumph, 3½ h.p., perfect order, magneto, Palmer cord tyres, with Miraculum inside, Whittle belt, two oilbags, extra tools, lamp, horn, spares, Palmer cord cover and tube, Gloria belt, be case, plugs, valve, platinum points, etc., also waterproof and overalls; £38 the lot.—Mayo, 16, Meriden Street, Coventry.

Cash. Exchange. Extended Payments.

YOU HAVE YOUR CHOICE.

2½ h.p. F.N. Lightweight, magneto ignition ..	£18 0
1907 Magneto Twin REX	19 19
3 h.p. N.S.U., M.O.V., vertical, 26" wheels ..	15 0
3½ h.p. REX (1906), Rex spring forks	15 15
3 h.p. FAFNIR, spray, Palmers	12 0
2½ SINGER, vertical, magneto, 26" wheels ..	10 0
5 h.p. Twin KERRY, very low	19 0
5½ h.p. Twin REX, very good	19 0
3 h.p. TRIUMPH, 26" wheels	19 0
2 h.p. MINERVA, M.O.V.	8 0
2½ h.p. KERRY, low, 26in. wheels	10 0
4 h.p. Twin GARRARD-MAXFIELD	1 0
3½ h.p. DUX, vertical, M.O.V., sprav	10 0
3 h.p. EXCELSIOR, very good puller	10 0
3½ h.p. 1905 REX, M.O.V.	13 0
3 h.p. REX, vertical, spray, trembler	10 0
3 h.p. NOBLE, spray, vertical, M.O.V.	10 0
2½ h.p. PEOCK, vertical, spray, 26" wheels ..	11 0
2½ h.p. R. and P., vertical, spray, 26" wheels ..	10 0
3 h.p. REX, spray	10 0
3½ h.p. REX, 22in. frame	11 0
3 DE DION, vertical, low	10 0
6 h.p. Twin REX and sidecar	23 0
7-9 h.p. ROC, Peugeot engine, Roc two-speed gear and clutch, 1908 machine	39 0
4 h.p. ROC, magneto, Roc clutch	25 0
5-6 h.p. REX DE LUXE, magneto, Roc clutch ..	27 10
3½ h.p. Four-cylinder F.N., magneto	23 0
5½ h.p. REX DE LUXE, clutch, twin tyres ..	24 0
4 h.p. ANTOINE, 1907, magneto	19 0
4½ h.p. Four-cylinder DURKOPP	23 10
55/- cash and good push bike for any of these.	
2 h.p. UNIVERSAL ..	£8
1½ h.p. ROTHWELL ..	£8
1½ h.p. MINERVA ..	£8
1½ h.p. BAYLISS ..	£8



Rubber and Canvas V Belting. Embodies all good points of other rubber belts without their drawbacks. "A distinct improvement."

NOTE.—The prices are between 33% and 50% less than other makes. Good rubber belts need not be dear. Send cash for sample length on approval.

¾" 9d., 1" 1/-, 1½" 1/4, 2" 1/8 per foot. Any length cut. Fasteners 6d. each.

TRICARS, &c.

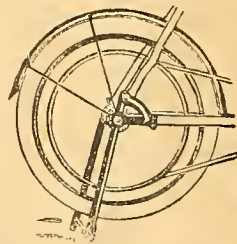
5½ h.p. ROVER Tricar, Antoine engine	£22 0
4 h.p. BAT, spring frame, 26" wheels	18 0
8-10 h.p. Twin REXETTE	47 10
5 h.p. REXETTE, two speeds	29 0
4½ h.p. REXETTE, water-cooled	25 0
4½ h.p. QUADCAR, water-cooled, two speeds ..	16 0

SIDE AND FORECARS.

Rigid sidecar, quite new, 26" wheels	£5 0
Smart Forecar, 26in. wheels	4 10

ODD BARGAINS.

Osborne Four-speed Gear, fits Triumph	£2 15
Brown & Barlow Carburetter, Bowden control, new	1 5
Magneto covers, quite new, perfect	2/6
Osborne Four-speed Gear, 1908, fits Rex	3 9
Osborne Free Engine Clutch	1 10
Motor Cycle Frame, inclined	25/3
Bloo saddle	12/6
Labon clutch, fits Triumph	37/3



Lycett's Lightning Stands for 24in., 26in., or 28in. wheels, per pair 4/9

CLINCHER COVERS.

Heavy "A Won" quality with name on.

26 × 2 18/6	26 × 2½ 19/6
26 × 2½ 23/-	28 × 2½ 23/-

3/- allowed for old cover.

Genuine Continentals.	Genuine Continentals.
Cover. Tube.	Cover. Tube.
26 × 2 24/- 9/6	28 × 2 25/- 10/-
26 × 2½ 25/6 10/-	28 × 2½ 27/3 10/6
26 × 2½ 29/6 11/-	28 × 2½ 29/9 11/3

3/- allowed for old Covers, 2/- for old Tubes.

Send for Price List of Accessories. Pounds saved.

E. FARRAR,

ALBION WORKS, SQUARE ROAD, HALIFAX.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 3½ h.p., 1907, magneto, 1908 carburetter, handle-bar control, lamp, horn, and spares, condition perfect; 30 guineas.—Fred Percival, Long Causeway, Peterborough.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

31 h.p. Rover, excellent condition, as new; £18; any trial here.—Hope, Jeweller, Newmarket.

2 h.p. Clement-Garrard, two-speed gear, splendid condition, spares, accessories; exchange good bike and cash.—Davis, 16, Fairfax Road, Bedford.

1907 3 h.p. Triumph, perfect order, XI'all spring forks, F.R.S. lamp, and generator, new coil, two accumulators voltmeter, and tools; £20, no offers.—Preston, Wroxham Norfolk.

1906 3½ h.p. Rex, spring forks, new Continental covers and tubes, Model de Course back, large brass lamp and generator, spares, etc., good condition; £14.—E. Fordham, Hall Farm, Little Shelford Cambs.

4½ h.p. Twin Minerva, 2½in. tyres, ¾in. belt, two accumulators, two brakes, spare valve, good as new, will romp up Birdlin, a winner in the Cambridgeshire July Trial; £19 15s. cash.—P. Wallis, Barnabas Road, Cambridge.

TRIUMPH Engine, 2½ h.p., Chater-Lea frame, specially low built, 1908 Brown and Barlow carburetter, tyres, belt, etc., all perfect, total weight 126 lbs., will do 42 miles per hour.—Photo and particulars, Wallis, Greer, 157, Mill Road, Cambridge.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

F.N. 2½ h.p., magneto, spring forks, new Palmer tyres, good running order; £15.—Hopkins, Alveston House, Ledbury.

3 h.p. Triumph, new cylinder, recently overhauled at Triumph Works, in excellent condition, several spares, three belts, Advance variable pulley; must sell, £20.—Mackenzie, 4, Queen's Parade, Tenby, Wales.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

23 h.p. Minerva, 1908, as new, not ridden 50 miles; £27 10s., or near offer.

3½ h.p. Quadrant, magneto ignition, 1907, hardly used, perfect condition, headlight, separate generator, bell, horn, Brooks spring seat, cut-outs; a bargain, £32 10s., or near offer.

21 h.p. Excelsior, surface carburetter, Palmer back tyre, Clincher front, in good order; £8, or near offer.

4½ h.p. De Dion Car, seat four, in good running order, lamps, tyres in good condition, genuine bargain; sale or exchange, £30, or near offer.

5-6 h.p. Stirling Panhard, horizontal engine, dogcart body, three speeds and reverse, brand new gears, lately painted, tyres as new, wheel steering; sale or exchange, £25, or near offer.

8 h.p. Rover, 1907 type, seats four, splendid order, hood, screen, lamps; £170, or near offer.

13 h.p. Werner; £5.

THE above cycles are to be seen at W. J. Randall's Garage, 3, High Street, Andover.

VINDEC Special, 2½ h.p., in good running order; £9.—Heybourn, Motors, Maidenhead.

3½ h.p. Quadrant Motor Cycle and sidecar; £25, or sell separately.—Brain, Sutton, Eynsham.

LIGHTWEIGHT N.S.U., new, spring forks; 32 guineas.—N. Fairbank, Bulford Camp, Salisbury.

FOR Sale, 2 h.p. Motor Cycle, in running order; £4 10s.—31, Wescott Road Wokingham.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

1 h.p. Rex, long bars, and sidecar, £18;
2 h.p. Humber, £8 10s.—Hyde, Stow-
n-the-Wold.

MOTOSACOCHE Lightweight, new, perfect,
guaranteed not been 100 miles; £22 10s.
—Heybourn Motors, Maidenhead.

FAIRY Lightweight, 2½ h.p., new; cost
with spares and fittings £31, take £22.—
—Castleigh, Cookham Rise, Berks.

3 h.p. Barnsley, tyres nearly new, Wata-
wata, lamp, etc., good working order;
—Kingston, Long Ashton, Bristol.

2 h.p. Fairy Lightweight Motor Bicycle,
twin-cylinder engine, good order; £12
—Willway and Sons, Ltd., Bristol.

h.p. Peugeot Twin-cylinder Engine, prac-
tically new and in perfect condition;
—Willway and Sons, Ltd., Bristol.

h.p. Roc, two-speed, splendid condition;
full investigation, trial; winter price.
—No. 675, The Motor Cycle Offices, Coventry.

h.p. Peugeot Motor Bicycle, Chater-Lea
frame, complete with sidecar, first-
class order; £30.—Willway and Sons, Ltd.,
Bristol.

05 3½ h.p. Rex, good running order, ac-
cumulators, stand, etc.; push bike
taken part payment; what offers?—Naylor,
—Ilbrook, Eastleigh.

h.p. Mabon, 26 by 2½ tyres, high tension
magneto, in excellent condition through-
out, Longuemare carburetter; cheap, £9 10s.
—W. S. Squire, 4, Sunny Bank, King's Road,
Newbury.

FOUR-CYLINDER F.N., 4½ h.p., had very
little use, studded rear tyre, perfect
order; 30 guineas, single-cylinder magneto
could be taken in part payment.—Heybourn,
Maidenhead.

08 Rex 2½ h.p. Featherweight, condition
absolutely as new, in excellent run-
ning order, and able to climb anything, ac-
cessories; £20, or offer.—Apply, Stafford,
Peckham's Garage, Southsea.

1 h.p. 1908 Triumph, standard machine,
in perfect condition, Palmer cord
rear, Dunlop front tyres, spares, including
union cover, run 200 miles, tools, horn, etc.;
—Box No. 681, The Motor Cycle Offices,
Coventry.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent,
and Sussex.

SPECIAL Clearance of new, shop-soiled,
and second-hand motor cycles.

ONE only shop-soiled Kerry, 3 h.p., Clin-
cher A Won tyres; reduced price, 21
guineas, usual price £34.

ONE only Second-hand Twin Vindec
Special, Peter-Union tyres, Goodrich
non-skid on back wheel, Simms-Bosch mag-
neto ignition, complete with all spares, re-
duced price, 31 guineas, cost £60.

ONE only 1908 Shop-soiled twin Minerva,
3½ h.p., spring forks, magneto ignition;
reduced price, £37.

ONE only 1908 Shop-soiled Twin Minerva,
spring forks; reduced price, £39.

ONE only, Mills and Fulford castor wheel
sidecarriage, can be fitted to any mo-
tor cycle; reduced price £10 15s., usual price
£12 12s.—Hunt's Motor Dept., 104, Newgate
Street, London, E.C.

1 h.p. Centaur, free engine, resilient fork.
—8, Ashenden Road, Clapton, N.E.

08 Twin Magneto Rex, new; £30.—Ande-
son Bros., Hermon Hill, South Wood-
ford.

3 h.p. F.N. Motor Cycle, in good condition;
£9 10s.—Sevenoaks Motor Co., Seven-
oaks.

8.—3 h.p. Antoine, good running order,
long bars.—134, Highgate Road, Kentish
Town.

07 4 h.p. Roc, military model, magneto,
clutch, almost new, unscratched; £25.
—Below.

FOUR-CYLINDER F.N., magneto, spring
forks, long bars; cheap, £19 19s.—White,
41, Skelbrook Street, Wandsworth.

3 h.p. Werner, good going order, spares;
£7 10s. — P., 79, Sunderland Road,
Forest Hill.

Offers Wanted.

CASH or EXCHANGE.

Let us deal with you if at all
possible.

ARIEL, 3 h.p., brand new, perfect .. £29
REX, 5 h.p., 1907 model, blue finish £13
REX, 3½ h.p., 26" wheels, very low .. £12
MINERVA, 4½ h.p., 2½" tyres..... £23
N.S.U., twin, two-speeds, magneto. £27
SAROLEA, 5 h.p., very low, new tyres £23
WERNER, 3½ h.p., twin, good condit'n £17
ARIEL, 3 h.p., B. & B. £13
MINERVA, 3½ h.p., M.O.V., £16
VINDEC, 2½ h.p., mag., spring forks. £16
VINDEC, 2½ h.p., spring forks. £10
CLARENDON, 3 h.p., vertical, Peter

Unions £11
REX, 3 h.p., 50-guinea model £10
BAT, 3½ h.p., spring frame..... £19
REX, 3½ h.p., two speeds £14
QUADRANT, 3 h.p., spring forks £12
BAYLISS, 3 h.p., special price £8
N.N., 2½ h.p., splendid puller..... £12
HUMBER, 2½ h.p., very fine mount.. £10
CLYDE, 2½ h.p., magneto £15
GIVAUDAN, 2½ h.p., perfect, non-skid
rear £15

LIGHTWEIGHTS.

£11 ZEDEL, 2 h.p. £11
£11 LLOYDS, 2 h.p. £11
£7 QUADRANT, 2 h.p. £7
£8 MINERVA, 2 h.p. £8
£7 JAP, 2½ h.p. £7
£7 HUMBER, 2 h.p. £7
£8 MINERVA, 2½ h.p. £8
£10 ARIEL, 2½ h.p. £10

50/- down and 5/- per week secures:

3 h.p. EXCELSIOR £11
2 h.p. SINGER £9
2½ h.p. JAP £11
3 h.p. REX £10
2 h.p. ORMONDE £3
2 h.p. WERNER £10
2½ h.p. MINERVA £10
2½ h.p. CUNARD £12
2½ h.p. LLOYDS £11
2½ h.p. HUMBER £8

ACCESSORIES.



RIP BOXES.

The finest extant for carrying tubes or belts. Try one
on approval. A quality, 7/6; B quality, 4/6.

BELT BOXES.

Hold nine feet. Any size easily fitted. A quality,
8/6; B quality, 5/6. Trade terms on request.

TUBES—Fully guaranteed

6 x 2in. 5/6 28 x 2in. 6/6
26 x 2½in. 6/6 28 x 2½in. 7/-
26 x 2½in. 7/6 28 x 2½in. 7/6

Approval.

TUBES (Butt-ended).

You cannot do better than try one. Money returned
if not perfectly satisfactory.

20 x 2in. 7/6 28 x 2in. 7/6
26 x 2½in. 7/9 28 x 2½in. 7/9
26 x 2½in. 8/3 28 x 2½in. 8/3

MAUDE'S MOTOR MART,

Powell Street, HALIFAX.

National Telephone 433.

MOTOR BICYCLES FOR SALE.

STAMFORD HILL.—3½ h.p. Brown, H.T.
magneto, Palmers, horn, lamp, tools,
right up to date; £20.

STAMFORD HILL.—5-6 h.p. Twin Rex, can-
tilever seat, spring forks, 50-guinea
model, splendid condition; £18 10s.

STAMFORD HILL.—5 h.p. Twin Hamilton,
footboards, B. and B. twin carburetter,
fast racy machine, splendid order; £15.

2½ h.p. Rex, B. and B. carburetter, excel-
lent machine, in perfect condition,
lightweight; £7.

2½ h.p. Humber, light machine, Longue-
mare, grand hill-climber, fine condi-
tion; £7 10s.

3 h.p. Trent, long bars, swan-neck seat-
pillar, splendid condition; £11.

STAMFORD HILL.—3 h.p. Automotor Mon-
arch, girder forks, trembler, Longue-
mare; grand bargain, £7 10s.

STAMFORD HILL.—Colossal sacrifice: 3
h.p. Automotor Monarch, Longuemare,
2½ h.p. Bradbury, perfect, complete, grand
powerful machine; £10 15s.—128, High Road,
South Tottenham.

3 h.p. Minerva, Chater-Lea frame, splendid
order throughout; £12.—Jeweller, Sel-
sey, Sussex.

3½ h.p. Hulbert-Bramley, Minerva engine,
Chater-Lea fittings, low frame, per-
fect order; bargain, £16.—Below.

KERRY, 2½ h.p., 1904 type, in perfect con-
dition; bargain, £12.—The Hulbert-
Bramley Motor Co., 96, Upper Richmond
Road, Putney.

EXCELSIOR, 3½ h.p., all accessories; £6, or
good exchange.—16, Empson Street,
Bromley, E.

3 h.p. Ariel, up-to-date, unscratched, Dun-
lops, perfect order; £8 5s.—129, Ley
Street, Ilford.

2 h.p. Quadrant, in good running order;
bargain, £6.—S. 8, Queen's Road, Stone-
bridge, Willesden.

F.N., 1½ h.p., good condition, bag, tools,
spares, horn, lamp; £18.—349, West End
Lane, Hampstead.

£10.—2½ h.p. Excelsior, excellent condition.
—Particulars, Toby, 9, Sydney Street,
South Kensington.

QUADRANT, 2½ h.p., F.N. carburetter, new
condition; must sell; £9 10s.—9, Chan-
try Road, Brixton.

2½ h.p. Zedel, low and fast, good condition;
£13.—Particulars, B., 71, Winkfield
Road, Wood Green, N.

3½ h.p. Triumph, 1907, standard; £29; ex-
change magneto lightweight.—R., 73,
Birkbeck Road, Enfield.

1 h.p. Genuine Brown, almost new, in
first-class running order; £16.—W.H.,
15, Radlix Road, Leyton, E.

3½ h.p. Antoine, Chater-Lea frame, Palmer
and Dunlop tyres; £10; running
order.—T. Vigar, Caterham.

2½ h.p. Kerry, good condition, fast, good
hill-climber; £12, or near offer.—61,
Ceres Road, Plumstead, Kent.

£9 15s.—3 h.p. Motor Bike (Ascot), complete
and perfect; bargain.—4, Yeoman's
Row, Brompton Road, London.

1908 Motosacocche, accumulator ignition,
condition as new; £19 10s.—8, Barrett
Street, Manchester Square, W.

BROWN, 3½ h.p., Dunlop tyres, spring seat-
pin, splendid order; £11 15s.—A., 8,
Herndon Road, Wandsworth.

K.D. 1½ h.p. Set, nearly new; £8, or fitted
to £13 13s. Humber bicycle, £13 13s. lot;
photo.—Darke, Draper, Sutton.

5 h.p. Twin Vindec Special, in splendid
condition; £28. — Bramble, Florence
Villas, London Road, Faversham.

3½ h.p. M.M.C.-Excelsior, excellent condi-
tion, fast, reliable, low; £9 15s.—55,
Nightingale Road, Clapton, N.E.

3½ h.p. Minerva, almost new, late 1907, all
accessories; £18, good cycle part pay-
ment.—5, Heath Street, Hampstead.

2½ h.p. Humber, tyres almost new, good
climber, going order; £9, offers. —
Martin, 26, Egmont Road, Surbiton.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

31 h.p. Humber, splendid condition, very powerful; bargain, £12 10s.—Colville Works, 9, Linden Arcade, Chiswick.

41 h.p. Twin Hamilton, light and fast, not run 800 miles; offers wanted.—Seen at Wauchope's, 9, Shoe Lane, London.

31 h.p. Bradbury, new engine bar flywheels, and new carburetter (B.B.); £12, or offer.—31, Queen's Road, Wimbledon.

31 h.p. Humber, free engine, minus front wheel; bargain, £7 10s.—G.W., 149, Sandringham Road, Dalston, London.

21 h.p. Quadrant, fine condition and order; only wants seeing; £7, bargain.—16, Northumberland Avenue, Wanstead.

31 h.p. Excelsior, new Palmer tyres, perfect running order; £13 13s.—Fowle, 41, Bell Street, Edgware Road, London.

5 h.p. Twin Kerry, spares, and 1908 ten guinea Montgomery sidecar; £28.—Roberts, 32, Strafford Road, Barnet.

4 h.p. Roc, free engine, magneto, splendid condition; £25.—Write, or call after 6.30, B., 48, Rostrevor Road, Fulham.

21 h.p. Bradbury, Longuemare, trembler, in good going order; £8 10s.—James Clegg, 59, Beckenham Road, Beckenham.

TRIUMPH, Tourist Trophy, nearly new, Goodrich non-skid tyres, £5 of spares.—Apply, 182, Green Street, Forest Gate.

23 h.p. F.N., a racy little machine, in sound condition and perfect order; £12 10s., bargain.—Bunting, Wealdstone.

23 h.p. Kerry, a genuine bargain, perfect condition; only wants seeing; £10.—Norman, 35, Church Road, Tottenham, N.

29.—2½ h.p. Humber, low, brass tank, long bars, Longuemare, tyres and condition as new.—17, Landeroff Road, E. Dulwich.

TWIN Antoine, 6 h.p., perfect condition, very powerful, long and low; £19 10s.—Apply, 6, Chatsworth Road, West Norwood.

41 h.p. Twin Minerva, in good condition, two accumulators, accessories; £20.—H.J., 69, Shakespeare Road, Herne Hill, S.E.

5 h.p. Twin Griffon, magneto, as new, £25; 2½ h.p. Auto, Chater-Lea, new tyres, running order, £9.—Smith, plumber, Wivenhoe.

21 h.p. Swift, genuine, long bars, low, tyres, etc., perfect condition; bargain, £8.—104, White Horse Street, Limehouse.

31 h.p. Triumph, 1907, silver cup and medal winner, perfect running order, spares; nearest £33.—30, Ferncroft Avenue, Hampstead.

1908 73 by 76 Buchet, nearly new, Chater throughout, spring forks, take sidecar anywhere; £20.—31, Sebert Road, Forest Gate.

QUADRANT, 3½ h.p., spring forks, Palmers, thorough order; sacrifice for £17 10s. quick sale.—Lionel Danby, 28, Ellen Avenue, Purley.

TRIUMPH, 3 h.p., two accumulators, perfect condition, with tools, and spares; £16; after 7.—1a, Torbay Road, Kilburn, London.

£10.—2½ h.p. Matchless, Minerva engine, M.O.V., just been overhauled, re-enamelled, and plated.—Motor, 79, Canning Road, N.

3 h.p. Mitchell, good running order, F.N. carburetter, trembler coil; must sell; first £5 10s. cash.—39, Wellesley Road, Leytonstone.

31 h.p. Perry throughout, good order, Longuemare, Basse-Michel, long handles, low seat; £8.—78, Boundaries Road, Balham.

11 h.p. Humber-Minerva, with stand, new Prested accumulator, etc., in going order; £5 10s.—Wheeler, Denmark House, Hythe, Kent.

3 h.p. Bradbury Cycle, condition as new, long bars, splendid hill-climber; 11 guineas.—35, Davenant Road, Upper Holloway, London.

BARGAIN.—3½ h.p. Kerry, splendid condition, spring forks, climb anything; £13. lowest.—Anderson Bros., Hermon Hill, South Woodfield, N.E.

CASH OR CREDIT.

Terms and exchanges to suit requirements.

TWINS—Offers Wanted.

6 h.p. Twin Rex, £17 17s. or £4 and '07 Single Rex, or £8 and '05 Single Rex, or level exchange with Single Magneto Rex.

SPECIFICATION.—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

5½ h.p. N.S.U., magneto, new, 1908 ..	£52 0
5 h.p. Twin VINDEC, magneto ..	35 0
5½ h.p. REX DE LUXE, soiled ..	35 0
6 h.p. Twin REX, blue lines ..	17 17
5½ h.p. Twin REX, spring forks ..	17 17
5½ h.p. REX DE LUXE, magneto ..	27 10
Twin REX, blue lines, new tyres ..	18 18
6 h.p. Twin REX, non-skids ..	18 18
5½ h.p. Twin REX, magneto, 1907 ..	23 10
4-5 h.p. Twin ALCYON, two speeds ..	20 0
5 h.p. Twin SAROLEA, long frame ..	18 18
6 h.p. Twin ANTOINE, R.O.M. ..	22 0
Twin CLEMENT, spring forks ..	14 0
5 h.p. Twin ONAWAY, very low ..	19 0
6 h.p. Twin ANTOINE, spring forks ..	22 0

SINGLES—Offers Wanted.

3½ h.p. N.S.U., magneto, new, 1908 ..	£42 0
3 h.p. SINGER, H.T. magneto ..	20 0
3 h.p. TRIUMPH, magneto ..	24 10
3 h.p. TRIUMPH, spring forks ..	21 0
3½ h.p. Magneto REX Racer ..	25 0
3½ h.p. REX, 1907, 2½ in. tyres ..	17 17
3½ h.p. 1906 REX, spring forks ..	15 0
3½ h.p. Magneto REX, soiled ..	21 0
3½ h.p. 1906 REX, spring forks ..	15 0
3½ h.p. REX, spray, fine climber ..	11 10
2½ h.p. Magneto REX, 1908, soiled ..	22 0
3½ h.p. MINERVA, M.O.V. ..	16 10
3 h.p. GIVAUDAN, nearly new ..	16 0
3 h.p. QUADRANT, spray ..	13 0
3 h.p. LLOYD'S, 26×2½ in. Palmers ..	13 10
4 h.p. ANTOINE, Longuemare ..	16 0
2½ h.p. MINERVA, fine condition ..	13 10
2½ h.p. CLYDE, magneto ..	15 0
4 h.p. ANTOINE, 26×2½ in. tyres ..	16 10
3½ h.p. SIMMS, magneto, 2½ in. Palmers ..	17 10
3½ h.p. QUADRANT, 1906 ..	18 10
3½ h.p. CENTAUR, free-engine ..	16 0
2½ h.p. F.N., special frame ..	12 10
3 h.p. HUMBER, spray ..	10 10
3 h.p. FAFNIR, very low, spray ..	13 10
3½ h.p. REX, 22 in. frame ..	11 10
2½ h.p. MINERVA, 26×2 in., spray ..	11 10
3 h.p. BROWN, spray ..	12 10
3 h.p. M.M.C., spray ..	10 0
3½ h.p. EXCELSIOR, spray ..	10 10
2½ h.p. COVENTRY EAGLE ..	10 0
3½ h.p. Two-speed REX ..	13 10
2½ h.p. F.N., light, low ..	12 0
2½ h.p. CLEMENT, very low ..	11 0
2½ h.p. KERRY, spray, low ..	10 10
2 h.p. RALEIGH, spray ..	8 0
2½ h.p. ROYAL, vertical, spray ..	7 15
2½ h.p. SINGER, magneto ..	8 10
1½ h.p. MINERVA, spray ..	5 10
2½ h.p. EXCELSIOR, trembler coil ..	8 0
2 h.p. HUMBER ..	6 10
2 h.p. PEUGEOT Lightweight ..	9 10
2 h.p. Magneto SIMMS ..	6 10

TRICARS.

4½ h.p. W.C. BRADBURY ..	£37 10
5½ h.p. QUADRANT Carrette ..	35 0
5½ h.p. REXETTE, W.C., two speeds ..	35 0
REX, Mills-Fulford ..	13 0
Twin REXETTE, W.C., two speeds ..	47 10
5 h.p. HUMBER, open frame ..	35 0
REX, Phoenix Two-speed ..	18 10

"PERFECTION" LEATHER V BELTING.—
½ in. 9d., ½ in. 10d., ½ in. 1/-, 1 in. 1/1.

"SERRATRIX" RUBBER CANVAS BELTING.
Best on test.—½ in. 9d., ½ in. 1/-, ½ in. 1/4, 1 in. 1/8 per foot.

SPECIAL 2½ in. CALMON COVERS, fit 26×2 in. rims, 17/9; 28×2 in. tubes, new, 4/9; new Peter Union tubes, 24×2½ in., 5/6.

High-class machines wanted for spot cash.

The Halifax Motor Exchange,
16, Westgate, Halifax.

Telephone—766.

Telegrams—"Perfection."

MOTOR BICYCLES FOR SALE.

3 h.p. Scout, guaranteed perfect; £7 15s.. very powerful.—C. Strutt, 124, Dennetts Road, S.E.

TWINS.—Minerva, 4½ h.p., Rex, 5½ h.p., both in grand order, no further praise necessary; £25 and £18 respectively.—Bunting, Wealdstone.

1908 6 h.p. Twin Jap, magneto, Matchless built, Dunlops, Shamrock belt, not ridden 400 miles, perfect; £31.—77, Mitcham Road, Tooting.

31 h.p. Brown, splendid condition, tyres as new, thoroughly reliable, powerful hill-climber; £19.—No. 674, *The Motor Cycle* Offices, Coventry.

F.N. 1½ h.p. Lightweight, brand new, in case; sacrifice for quick sale, £29 10s.; ordered not to ride.—Box 682, *The Motor Cycle* Offices, Coventry.

TRIUMPH-MINERVA, 1½ h.p., surface, 2 amp. accumulator, 2 in. Dunlops; £5; appointment.—George, 21, York House, High-bury Crescent, N.

6 h.p. N.S.U., two-speed, latest model; £36, or exchange latest 3½ h.p. Triumph or Vindec and little cash.—Roberts, 10, Grove Place, Hampstead.

31 h.p. Brown, 1907, magneto, non-skid, adjustable pulley, Millennium stand, just overhauled; £22.—Gates, 33, Connaught Road, Stroud Green.

23 h.p. Minerva, Chater-Lea, three-speed, variable pulley, Dunlop tyres, nearly new; £18.—A. Baker, 66, Willesden Lane, Kilburn, London, N.W.

HUMBER, 3½ h.p., in splendid condition, brand new Dunlop tyres and tubes, also spares; £12.—Badenoch, 36, Gideon Road, Lavender Hill, London.

COVENTRY Humber, 3½ h.p., very fast, good hill-climber, new condition; £14; Longuemare; must sell; owner bought car.—68, Cathles Road, Balham.

23 h.p. Genuine Zedel; £13; Barlow carburetter, new coil and accumulator, good Palmers; no time.—Geeves, builders, 19, Neckinger, Bermondsey.

2 h.p. Lightweight, Dunlops, F.N. carburetter, Nilmelior, Dermatine, clean going order; £8 10s.—Randall, 2, Elizabeth Terrace, High Street, Wanstead.

31 h.p. Brown (Royal Star), splendid order, £13 10s.; Mabon clutch, to fit, £2; best Liberty art cane rigid sidecar, £5 10s.—189, Bowes Road, New Southgate.

BAT, 2½ h.p. genuine De Dion engine, carburetter and silencer, condition as new, all accessories; £17 10s., or near cash offer.—Osborne Works, Forest Hill.

FOR Sale, 3½ h.p. Linon Motor Cycle, climb any hill, long bars, swan neck pillar, most reliable machine; 15 guineas, lowest.—141, High Street, Merton, S.W.

ZENITH Bicar, 50 guinea model, two-speed gear, new, but shop-soiled; a great bargain, £39.—Zenith Motors, Ltd., 119, Stroud Green Road, London, N.

1906 Rex, spring forks, new tyres, Palmer cord back, spares, stand, lamps, Wright's footrest; £15 10s., bargain.—Townsend, 162a, Dalston Lane, London.

FOUR-CYLINDER F.N., 4½ h.p., quite up to date, splendid condition throughout; any trial; magneto, all tools; £26.—36, Moyser Road, Streatham, London, S.W.

31 h.p. Riley, new condition, studded tyres, Brooks B100, Prested, girders; £16, or lower power and cash; offers.—Daws, 240, Albany Road, Camberwell, London.

3½ h.p. Rex, complete with accessories, only had 12 months' wear; owner going abroad; accept £15, or highest offer.—Apply, Lieut. Joyce, Bell Hotel, Sandwich.

TRIUMPH, 1908, magneto, with cover, Hella lamp, Autoclipse generator, horn, all spares; £40; little used.—Geo. Hall, 25, Hornsey Rise Gardens, London, N.

£12.—3 h.p., light, low, long, footboards, Longuemare, excellent machine, reliable, in daily use; seen any time; photo id. stamp.—Bott, 291, High Road, Ilford.

TRIUMPH, 3 h.p., accumulator, excellent condition, N.A.B. spring, new Continentals, two pulleys; owner going abroad.—B. M. Allan, 104, King's Road, Brighton.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

TRIUMPH, 3 h.p., good condition, lamp, horn, tools, spares; £15.—Glencross, Forth, Devonport.

GENUINE 2 h.p. Minerva, perfect; any trial; accessories; £11.—Attree, Myrtleberry, Lynmouth, N. Devon.

TRIUMPH (magneto), 1907, delivered March, 1908, guaranteed good working order, same tyres, still in good condition, £31; spare magneto, complete, £3 10s.—Hoyle, St. Austell.

SECTION X.**Scotland**

h.p. N.S.U., magneto, 26in. wheels.—Hastings, 30, Primrose Street, Alloa.

h.p. Midget Bicar, very light and low, in first-class running order, and ready for road, spares and tools; £15.—T. Craddock Walker, accountant, 179, West George Street, Glasgow.

EDINBURGH Exhibition, Industrial Hall, Stands 126 and 127; finest exhibition of motor cycles ever shown on any one stand, from May till October.—Alexander's Motor Exchange, Lothian Road.

EDINBURGH.—Vindees, Quadrants, Rexes, Adlers, Moto Reves, Ariels, Zeniths, Minervas, Griffons, Nortons, N.S.U., Advances, Rocs, etc., in stock, and to be seen at Alexander's Motor Exchange, Edinburgh.

h.p. Centaur, new Palmer cords, new 21 Derivative belt, newly re-bored and re-bushed throughout, very fast and reliable, with lamp, horn, and all accessories; £16; can be seen at any time.—Allan, 28, Smith Street, Ayr.

TRICARS FOR SALE.

SINGER, 6 h.p.; trial given; £45.—D., 112, Victoria Avenue, Cliftonville, Margate.

TRIUMPH, late 1907, handle-bar control, condition as new; a bargain, £33.—Below.

h.p. De Dion Lotorette, two-seater, sloping back, three speeds and reverse, splendid order; £50.—Below.

h.p. Rover, late 1907, special body, Cape hood, lamp, etc.; nearest offer £100.—Below.

WOLF Featherweight Motor Cycles, new, £15; engine sets, complete, £10.—Below.

h.p. Humber, two seats, hood, screen, perfect order; £40.—Below.

ANGLO-SAXON Motor Co., 31, Newgate Street, London.

h.p. Lagonda Tricar, in first-class condition; £60.—Manning, Ashford, Middlesex.

HUMBER Tricar, 3½ h.p., free engine, offers.—Particulars, Osborne, Tamworth Street, Lichfield.

h.p. Rexette, coach-built, good condition; £33, or part exchange for small car. Weston, Kirkstall, Leeds.

h.p. Minerva Tricar, in excellent condition, cane seat; £12.—G. H. Wait and Co., London Road, Leicester.

h.p. Coventry Eagle Tricar, in good running order; must sell, £9 10s. Ash.—65a, Pearl Road, Walthamstow.

ROVER Tricar, 4½ h.p., two-speed, water-cooled, wide seat, perfect condition; £34.—Gore, Birchfield Road, Redditch.

REXETTE, 5 h.p., water-cooled free engine, two speeds, coach-built body; accept £18 10s.—35, Whitall Street, Birmingham.

MANCHESTER.—5 h.p. Humber coach-built open frame tricar; first offer over £2 10s.—Foxwell Gray, 262-264, Deansgate, Manchester.

h.p. Ormonde Tricar, fast and reliable, complete with accessories, coach-built front; £21.—"Richmond," Matlock Road, Brighton.

h.p. Quadrant Tricar, two speeds, carriage built, just overhauled; £20, or offer.—Macpherson and Son, Engineers, Wokingham.

WATER-COOLED Tricar, 4½ h.p. M.M.C. engine, Chater-Lea fittings, in thorough order; £25.—Dowglass, 96, Upper Richmond Road, Putney.

1908 Motor Cycles.**Second-hand, for sale.****FIRST CHEQUE SECURES, SUBJECT TO BEING UNSOLD.**

1½ h.p. **LIGHTWEIGHT F.N.**, magneto and spring forks. This machine is just as new; only been on the road 300 miles. There is nothing to distinguish this machine from new, except that the tyres are muddy. Price £22.

WAUCHOPE'S, 9, Shoe Lane, Fleet Street, E.C.

3½ h.p. 1908 **MINERVA**, magneto ignition, standard model, including lamp, horn, Shamrock non-skid and spares, spring forks, barrel tank. Machine is as good as new in every detail, except that it has done about 500 miles. Price £23.

WAUCHOPE'S, 9, Shoe Lane, E.C.

2½ h.p. 1908 **FAIRY** Lightweight, horizontal engine, magneto ignition, magneto in tank, new two months ago, no signs of any wear, spring forks. Price £22.

WAUCHOPE'S, 9, Shoe Lane, E.C.

2½ h.p. 1908 **GRIFFON**, bevel driven, magneto in tank, Zedel engine, spring forks, as new. £25.

WAUCHOPE'S, 9, Shoe Lane, E.C.

1½ h.p. **MOTOSACOCHE**, magneto ignition, 1908 model, spring forks, property of a naval officer, good as new. £25.

WAUCHOPE'S, 9, Shoe Lane, E.C.

3½ h.p. 1908 **MINERVA**, accumulator, in first-class condition. £23 10s.

WAUCHOPE'S, 9, Shoe Lane, E.C.

3½ h.p. **PHENIX COB**, two-speed gear, handle starting, magneto, spring forks, lamp, horn, pan seat, open frame, condition as new. £28.

WAUCHOPE'S, 9, Shoe Lane, E.C.

2½ h.p. **Rex** lightweight, 1908 model, splendid condition. £19.

WAUCHOPE'S, 9, Shoe Lane, E.C.

1907 MOTOR CYCLES.**All 1907 Machines.**

5 h.p. **ROC**, magneto and free engine clutch fitted with Peugeot twin 5-6 h.p. engine, handle starting, rubber-studded tyres to both wheels, round tank, not ridden 500 miles, condition absolutely as new. 30 Guineas.

WAUCHOPE'S, 9, Shoe Lane, E.C.

4 h.p. **BAT**, J.A.P. engine, 1907 model, sprung back and front, used in the London to Edinburgh run, engine has no sign of use. £26 10s.

WAUCHOPE'S, 9, Shoe Lane, E.C.

5 h.p. **VINDEC SPECIAL**, Truffault magneto, 1907 model Roc two-speed gear and free engine, rubber-studded back tyre, in good condition throughout; an ideal machine for passenger work. £38.

WAUCHOPE'S, 9, Shoe Lane, E.C.

5½ h.p. **REX DE LUX**, twin back wheels, magneto, free engine clutch, excellent condition for second-hand machine. £25.

WAUCHOPE'S, 9, Shoe Lane, E.C.

5-6 h.p. **PEUGEOT**, Truffault forks, good order, powerful machine, twin engine. £23 10s. at

WAUCHOPE'S, 9, Shoe Lane, E.C.

4 h.p. **J.A.P.** throughout, engine and frame, very powerful, low frame, long bars. £17 10s.

WAUCHOPE'S, 9, Shoe Lane, E.C.

3½ h.p. **GIVAUDAN**, in Chater-Lea frame, low-built machine, particularly sound and reliable, £17 10s.

WAUCHOPE'S, 9, Shoe Lane, E.C.

3½ h.p. **MINERVA**, used but little and carefully, no signs of wear. £19.

WAUCHOPE'S, 9, Shoe Lane, E.C.

2½ h.p. **F.N.**, very serviceable English bicycle parts. £12 10s.

WAUCHOPE'S, 9, Shoe Lane, E.C.

8 h.p. **BUCHET**, Auzanne's engine, very fast, £23 10s.

WAUCHOPE'S, 9, Shoe Lane, E.C.

3 h.p. **N.S.U.**, magneto ignition, 26in. wheels, free engine clutch, a sound machine and powerful. £14.

WAUCHOPE'S, 9, Shoe Lane, E.C.

Also a large and varied assortment of Motor Cycles from £6 10s. Send for list to

200 MOTOR CYCLES
TO SELECT FROM.
WAUCHOPE'S
THE WORLD'S
LARGEST DEALER
TELEGRAMS: OPIFICER, LONDON.
TELEPHONE NO. 5777, HOLBORN.

TRICARS FOR SALE.

4½ h.p. **Stevens** Tricar, two speeds, coach-built front, good condition; trial; £15, no offers.—Knibb, 50, Beaconsfield Road, New Southgate.

6 h.p. **Humber** Tricar, condition almost new; any trial; photo; nearest £30 gets it; owner going abroad.—Grimshaw, Read, near Blackburn.

3½ h.p. **Fafnir** Tricar, **Phoenix**, two-speed, w.c., coach-built, ready to drive away; bargain, £25.—East Ham Garage, High Street South, East Ham.

4½ h.p. **Open Frame** Water-cooled Wheel steering **White** and **Poppe** Tricar, Chater fittings, lamps, tools, etc.; £22.—St. Mawes, Brighton Road, Purley.

4 h.p. **Automotor** Tricar, extra front wheel, **Palmer's**, spare tubes, accumulators, many accessories; £24; offer; trial.—1, Townley Road, E. Dulwich, S.E.

PHENIX Trimos, special offer, new, shop-soiled, and second-hand Trimos; write for particulars; giving away prices.—Gray, 262-264, Deansgate, Manchester.

QUADRANT Carrette, 6 h.p., latest model, perfect condition, lamps, spares, etc.; sell or exchange 6 h.p. late **Jap-Bat** and cash.—64, Honor Oak Road, London.

RILEY Tricar, 9 h.p., twin, 1906, three speeds and reverse, new condition, 700 by 80 tyres, climb anything, lamps, spares; £52 10s.—175, Entwisle Road, Rochdale.

BIG Bargain.—**Rex** 3½ h.p. coach-built tricar, just been thoroughly overhauled, and in splendid condition, with spares; sacrifice £12 10s.—P. Croydon, Felixstowe

TRICAR, 4½ h.p., w.c., J.A.P., Chater frame, clutch, two-speed, in splendid condition; cost £100, £30, cash offers; photo.—Harris, confectioner, Feltham, Middlesex.

3½ h.p. **M.M.C.** Chater-Lea Tricar, magnificent hill-climber, fast, comfortable, reliable as clockwork; £18, or exchange.—Motor, 86, Colvestone Crescent, Dalston London.

3½ h.p. **Raleighette** Tricar, water-cooled, two speeds, all in perfect order, tyres as new, unpunctured, spares; £32, bargain.—47, Heathwood Gardens, Old Charlton, Kent.

4½ h.p. **Riley** Tricar, water-cooled, two speeds, coach-built forecar, bucket back seat, several spares, good running order; £25, for quick sale.—Hildred, Coningsby.

4½ h.p. **Aster**, water-cooled head, Chater-Lea frame, free engine, two speeds, in perfect order; no reasonable offer refused.—Toby, 9, Sydney Street, South Kensington.

REX Tricar, 3½ h.p., just overhauled, new crank pin, rings, bushes, pulley, belt, powerful; trial; £17, or close offer, or exchange motor bike.—Chapman, 15, Bickley Road, Leyton.

LAGONDA Tricar, 10-12 h.p., 1907, three speeds, reverse, little used since thorough overhaul by makers; £90, or near offer; owner buying car.—Clapham, Moor House, Staines.

QUADRANT, 5½ h.p., 2½in. **Palmer's**, Craven carburetter, extra powerful brakes, completely overhauled, several improvements; will sacrifice greatly.—Bray, Ecclesfield, Sheffield.

SINGER Tricar, 9 h.p., two-cylinder, brand new in March; listed £145, will take £90; spare studded back tyre, lamps, and tools included.—Apply, Jones Roberts, 17, Brook Green, W.

PHENIX Trimo, 3½ h.p., two speeds, **Palmer's** tyres, coach-built forecarriage, recently overhauled and plated, perfect condition; £28.—Seen, North London Garage, Corsica Street, London, N.

5-6 h.p. **Twin** Tricar, **Rex** engine, **Osborne** four-speed gear and free, coach-built forecarriage, sprung frame, wing mudguards; photograph; £30, or offer.—Cogan, Duston, Northampton.

REXETTE, 8-10 h.p., twin-cylinder, three-seater, twin rear wheel, headlight, side lamps, spare tyres, grand touring motor, two speeds, equal new; sell, great bargain, £42.—12, Bull Ring, Birmingham.

TRICARS FOR SALE.

31 h.p. Humber Tricar, basket seat; £17 10s., or offer.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

SALE, 5½ h.p. Lagonda; exchange motor cycle with cash, or sidecar.—Particulars, 11, Sheldon Street, Leicester.

4½ h.p. Humber, two-speed, w.c., ideal touring machine; £20.—C. Wayman, Field Cottage, Dennetts Road, S.E.

9 h.p. Riley, perfect, non-skid, magneto; £70; would take good twin cycle and cash.—Shepherd, Gloucester House, Bath.

4½ h.p. Humber Tricar, two-speed gear, water-cooled, coach-built front seat; £22 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

6 h.p. Fine Rexette, wheel steering, water-cooled, two speeds, clutch, etc., as new; cost £110, accept £32; trial, photo.—98, Pot-ternewton Lane, Leeds

4 h.p. Humber Tricar, water-cooled, two speeds, free engine, coach-built body, good running order; £10 10s.—Walter Brown, Warboys, Huntingdon.

5 h.p. Humber Tricar, open frame, very little used, brass lamps, tools, spares; bargain, £37.—Hibbard, 48, Donoughmore Road, Boscombe, Hants.

ROVER 4 h.p. Tricar, free engine, two speeds, water-cooled, in splendid condition; must sell; 20 guineas.—Cuthbert, 736, Holloway Road, London.

4½ h.p. Humber Tricar, two speeds, water-cooled, coach-built front seat; £22 10s., or offer; motor cycle part.—Wheeler, Easebourne, Midhurst, Sussex.

31 h.p. Triumph, two-speed gear, free engine, water-cooled, Fafnir engine, pan front seat; £22 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

LAGONDA Tricar, 10-12 h.p., water-cooled, in splendid running order, with spares and tyres, as new; £50.—Zenith Motors, Ltd., 119, Stroud Green Road, London, N.

h.p. Antoine, Chater-Lea frame, wide forecar, Castle trembler coil, lamp, footboards, reliable; £15, or near.—65, St. Bees Street, Moss Side, Manchester.

12 h.p. Lagonda, water-cooled, coach-built, wheel steering, three speeds, as good as new except paint; £40, offers, gas engine, dynamo.—Hadland, Buckingham.

4½ h.p. Twin Minerva and Phoenix fore-carriage, wicker body, numerous spares, new 1907; £30.—Anderson, 7, Theberton Street West, Liverpool Road, London.

£10 10s.—3½ h.p. Singer, open frame, Fit-all two-speed, Simms-Bosch magneto, machine requires tuning up and new basket; seen any time.—142, Lewisham High Road, New Cross.

31-4 h.p. M.M.C., coach-built, long springs, footboards, large foot gong, Brooks B100 saddle; 50 miles trial; fitted new tyres, new accumulator, and engine; bargain, £18 10s.—679, The Motor Cycle Offices, Coventry.

TRICAR, Bowden, 2½ h.p. F.N. engine, two speeds, chain drive, spare chain, valves, piston rings, plugs, and all necessary spanners, in running order; £18; seen by appointment.—Write, W.D., 78, Avondale Road, Croydon.

EXCELSIOR Runabout, 4 h.p. M.M.C. engine, in good condition, tyres perfect, pan seat, with box in front, suitable for traveller; £17, or with basket chair, £22.—Zenith Motors, Ltd., 119, Stroud Green Road, London, N.

5 h.p. Rexette Tricar, water-cooled, sprung back and front, two-speed gear, coach-built, open frame, wheel steering; price £25, lowest cash, motor cycle taken in part payment.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

6-8 h.p. Stevens Tricar, water-cooled engine, three speeds and reverse, Chater-Lea open frame, two bucket seats, wheel steering; £35, take up-to-date motor cycle in part payment.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

TRICAR, 9 h.p., w.c., Jap, guaranteed new, Chater-Lea 6 frame, and radiators, three-speed gear, car tyres, coach-built, lamps, etc.; will sell £55, or exchange for twin motor cycle and cash; trial willingly.—359, St. James's Road, Old Kent Road.



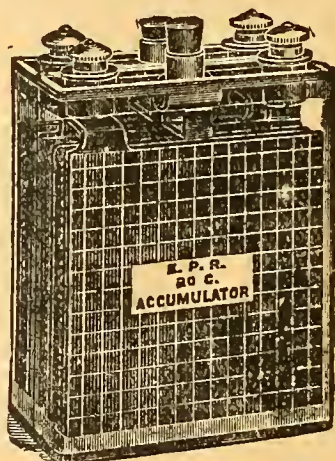
Accumulators

UNSPILLABLE 1908 TYPE.

Read what a private rider says (*Motor Cycle*, July 15th, '08, letter No. 3414) when answering a letter from another reader of the *Motor Cycle*, who does not use "E.P.R." accumulators.

"If your correspondent will try 'a couple of 'E.P.R.' unspillable accumulators, I think his troubles will be at an end. If he cares to do so, he can put them in his tank upside down, but he will get 'no acid trouble. Unlike most of 'the unspillable type, they contain 'no jelly. I have had two in use 'for some considerable time, and 'find them excellent."

No. 20c. 4 x 2½ x 6in. "Acid type," 14/6.



No. 20c /08. 4 x 2½ x 6in. "Unspillable," 17/6.

We make these unspillable accumulators in all sizes from 5 to 50 amp. capacity. All unspillable types are sent out fully charged and ready for use. No loose acid to shake out. Full instructions with every cell. All batteries, whether usual type or unspillable, fitted with "E.P.R." non-corrosive terminals.

A FEW SIZES ARE LISTED HERE.

		"Acid type."	"Un-spill."
The "Fleet"	4 volt 5 amp.	6/6	7/6
	3½ x 1 x 4½		
No. 19c	3½ x 2 x 6	10/6	13/6
" 16c	3½ x 2½ x 5½	13/6	16/-
" 20c	4 x 2½ x 6	14/6	17/6
" 30c	3½ x 2½ x 6	18/6	21/-
" 40c	4½ x 4½ x 6½	25/-	28/6

REPAIRS.—We make a speciality of treating old and damaged batteries. We can either repair and make them equal to new, or else allow their value in part exchange for new "E.P.R." cells. Send for new catalogue and terms.

NOTE.—All repair work guaranteed. Minerva accumulators cannot be repaired.

Richford and Co.,
ACCUMULATOR SPECIALISTS,
153, FLEET STREET, E.C.
Established 1876.

TRICARS FOR SALE.

HANDSOME Tricar, 3½ h.p. M.M.C. engine, two-speed, fan-cooled, wheel steering, excellent condition; examination willingly; good reasons selling; £22 10s.—9, Methuen Road, Bournemouth.

5 h.p. Peugeot Twin, fan-cooled, Chater-Mills-Fulford, Palmer cord back, Continental front, variable pulley, very fast climb anything, just overhauled by makers; £27.—8, Sebert Road, Forest Gate.

EAGLE Tricar, 4½ h.p., water-cooled De Dion engine, two speeds and free handle starting, open frame, wheel steering, car tyres, splendid condition; cheap.—Linfoot, Ramsgate, Stockton-on-Tees.

1907 5-6 h.p. Twin Rex Triette, absolutely perfect throughout; expert examination specially invited; fast, very powerful thoroughly reliable, 2½in. tyres.—Triette, 86 Colvestone Crescent, Dalston, London.

5½ h.p. Water-cooled Tricar, two-speed coach-built, tools and spares; trial; £32; 5½ h.p. Rex Triette, complete, basket front, very fast, as new, £32.—The Victoria Garage and Electrical Co., Coventry.

5-6 h.p. Twin Antoine Tricar, two speeds handle starting, Chater-Lea through-out, Palmer back, Clincher front, very fast climbs nearly anything top gear, powerful brakes; £25.—22, Halons Road, Eltham.

5-6 h.p. Phoenix Trimco, magneto, water-cooled, two speeds, studded tyre back faultless, new from makers last month cost £105, sell for cash £75, with index numbers, licence.—Nero, c/o Post Office, Saul Gloucestershire.

h.p. Clement-Garrard W.C. Tricar, sprung all round, worm drive, three-speed Palmer cord tyres, Grose non-skid on back just overhauled and put into thorough repair; £35, or near offer.—No. 672, The Motor Cycle Offices, Coventry.

9 h.p. Riley, winner of recent reliability trial, three speeds and reverse, perfect condition throughout, many improvements and extras, new car tyres; any trial; £7 or very near offer; small car part payment.—Lankester, Highwood, Kingston Hill.

PEUGEOT 7 h.p. Twin-cylinder Tricar open frame, wheel steering, two speed chain drive, all non-skid tyres (studded); £30, or exchange level for high grade motor cycle, magneto ignition. Motor, 54, Pier Avenue, Clacton-on-Sea.

6 h.p. w.c. Humber Tricar, coach-built open frame, bucket seats, wheel steering, two speeds, in first-class order, new Hans Renold chain, underscreen, spare tools, two lamps; £35, or offer, motor cycle part payment.—Sharpe, 17, Jockey Lane Wallasey.

1908 6 h.p. Singer Tricar, three speeds forward, reverse, water-cooled, coach built, perfect order, wheel steering, tyres practically new; any expert examination and trial; lamps, horn, spare tube; price 90 guineas, cost £130, new March.—T. B. Foxwood, the King's Own Regiment, Fleetwood.

GREAT Sacrifice.—Allday's 3½ h.p. tricar aluminium coach-built body, spare front wheel and forks for use as motor cycle, engine just overhauled by maker fitted with Osborne four-speed pulley at starting handle; owner purchased car what cash offers?—C. Porter, Coleford, Gloucestershire.

RILEY Tricar, 5 h.p., two speeds, free engine, water-cooled, wheel steering, open frame, bucket seats, accumulators, lamp spares, £35; also spring framed Bat motor cycle, 2½ h.p. genuine De Dion engine and carburetter, etc., in excellent condition; £1 offers wanted immediately; letters only. Lloyd, Rosemary, Bexley.

SIDECARS AND FORECARS.

SIDECAR, rigid, perfect condition; £2 10s.—33, Huron Road, Balham.

FOR Sale, Liberty sidecar, 26in. wheel good order; £3.—Hildred, Coningsby.

MILLS-FULFORD Latest Forecar, less seat bargain, £2.—31, Sebert Road, Forest Gate.

RIGID Sidecar, condition as new; £3 18s.—W. Dornin, 25, Rochford Street, Gosport.

SIDECAR, coach-built, good condition; or close offer.—Heybourn, Maidenhead.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

SITUATIONS WANTED.

WELL Educated Young Man (21), motor cyclist, resident Midlands, wishes to travel for good accessory firm.—No. 677, *The Motor Cycle Offices*, Coventry.

VERTISER, 28, of good address, seeks situation with motor cycle or accessory firm, had practical workshop experience in cycle, motor cycle, and car trade; circulars.—Down, c/o 2a, Angell Road, Luton.

BUSINESSES FOR SALE.

CYCLE and Motor Business; bargain; twin motor bike part exchange.—673, *The Motor Cycle Offices*, Coventry.

80 buys business, lease and everything. Brighton Road, exceptional agreement; safe; going abroad.—Particulars, Box 1, *The Motor Cycle Offices*, Coventry.

SMALL Motor Cycle Business for sale, main London and Hastings Road; no opposition, plenty of room for extensions; reason sale more capital needed.—No. 664, *The Motor Cycle Offices*, Coventry.

ACCUMULATORS.

CCUMULATORS, celluloid; speciality, 22 amp. hours, 10s.—17, Landcroft Road, Dulwich.

CCUMULATOR, brand new Castle, 40 amps.; cost 38s. 6d., take 27s. 6d.—17, 240, Albany Road, Camberwell, London.

HE Famous Ajax Accumulator, absolutely the finest it is possible to make; see advertisement in spring number "The Motor Cycle"; specially protected terminals; 20 p. size will run 2,000 miles with Volttoo.

CCUMULATORS Repaired promptly, any make; reasonable charges, best work; estimates given; full value for your old accumulator in exchange for our new "Mayfair" accumulators; special 15 amp., 6d.; 20 amp., 15s.; guaranteed one year. Tellos, 49, Hertford Street, Mayfair.

CCUMULATORS, London made throughout and fully guaranteed, the best value at the lowest price, in the following sizes: 6 amp., 4½ in. by 1½ in. by 5 in., price 6d.; 10 amp., 2½ in. by 2½ in. by 5 in., 8s. 6d.; 15 amp., 4 in. by 2 in. by 5 in., 10s.; 20 amp., 4 in. by 2 in. by 5½ in., 11s. 6d.; 40 amp., 4 in. by 4 in. by 5½ in., 18s. 6d.—Osborne Works, West Hill, London, S.E.

OLTTOO Coils work on 2 volts; 2,000 miles on one charge with Ajax 20 amp. accumulator. Prices: Plain, 15s. and 21s.; mblers, 30s.; send for lists. The famous Ajax accumulator, absolutely the finest it is possible to make; special protection of terminals; 20 amp. 6½ by 2½ by 4½, 17s. 6d.; special size to order in 36 hours; send lists of all electrical motor accessories.—The Ajax Electrical Engineering Co., 291, Ch Road, Ilford, E.

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IDIUM "Champion" Contacts, any parts fitted; returned same day; 1s. 3d. each.

IDIUM "Champion" Contacts, warranted pure; trimmers for polishing iridium, no filing required.

IDIUM "Champion" Contacts.—Williams, 16, Wellington Street, Woolwich. Magneto screws refitted with iridium, 1s. 3d. h.

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EBRON, prices 2s. 6d. each rivet fitted; special trimmers, for polishing Jebron, remittance with order ensures prompt attention; write for particulars and testimonials; too numerous to publish.

EBRON Magneto Screws, complete for Bosch magneto, DA2 and DAV, will fit contact breakers, 5a, 5b, 5c; 5s. 6d. pair; old screws refitted with Jebron, 2s. 6d. each, all to new.

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A PERFECT BELT HOOK.

Only two pieces.

Wide bearing
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Spring steel.

Oil
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Design reg'd.
Patent
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Detaches instantly.

Price 1/- each

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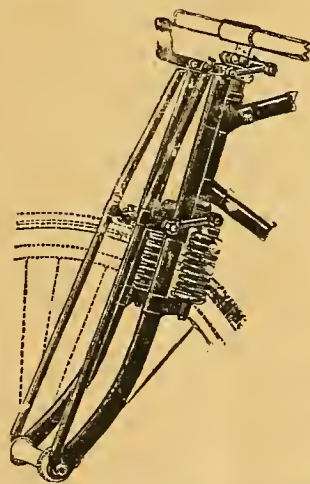
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24" x 2"

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24" x 2½"

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14/-



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22/-

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Please write for Special List, with full prices and particulars of all sizes, together with instructions and hints. Your OWN TUBE CONVERTED. Write for prices.

COUPLINGS.

SET Unito Couplings for sale, new; offers. —Hiley, 169, Cowbridge Road, Cardiff.

ENGINES.

BOOTH.—New 5 h.p. water-cooled Antoine, M.O.V., £8 5s.; 4 h.p. w.c. Aster, £4.

BOOTH.—5 h.p. w.c. Avon, M.O.V., £5 7s. 6d.; 3½ h.p. Automotor, £3; 3 h.p. Alldays, £3.

BOOTH.—2½ h.p. Noble, M.O.V., £3; 2½ h.p. Noble, £2; 2½ h.p. De Dion, £2 10s.; new twin Antoine, £8 5s.

BOOTH.—3 h.p. Simms, complete with magneto, carburetter, silencer; £6 5s.; exchanges entertained.—Booth's Motor Exchange, Wade Street, Halifax.

2½ h.p. Noble Engine, good order; bargain; only 35s.—17, Mildmay Street, Lincoln.

KERRY Engine, 3½ h.p., two speeds, for tricar; £4.—104, Carhouse Road, Doncaster.

3 h.p. Kelecom, Longuemare, spares, perfect; £4 10s.—14, Glencoe Avenue, Seven Kings, Ilford.

5 h.p. twin Sarolea, new, R.O.M. commutator; £9; by appointment.—54, Grove Road, Holloway.

1904 3½ h.p., or 1906 twin, or other Rex engine wanted; cash.—Hubbard, Sarum Hill, Basingstoke.

2½ h.p. Engine, complete with silencer and pulley; £2.—P. Hubbard, 97, Bristol Street, Birmingham.

h.p. Quadrant Engine, perfect condition; £3 10s., near offer.—2, Upper Kennington Lane, London.

4-5 h.p. Simms Engine, brand new, water-cooled, Simms-Bosch magneto, £11; 2½ h.p. Whiteley engine, 45s.—Below.

3½ h.p. 1906 Rex engine, £4 10s.; 2 h.p. 32 Quadrant, 35s.; 3 h.p. Quadrant, £3 10s.; 2½ h.p. Minerva, £3 10s.; 2½ h.p. Quadrant engine sets, 25s. each to clear.—Farrar, Square Road, Halifax.

3½ h.p. W. and P. Engine, nearly new, £4 10s.; 10s.; Longuemare carburetter for same, 15s.—Horner, 23, Burley Road, Leeds.

2½ h.p. Genuine De Dion engine and silencer, guaranteed sound; £3; approval; deposit.—Edw. Irving, 13, Lowther Street, Penrith.

3½ h.p. Minerva engine, complete with 32 Longuemare carburetter, practically new, air-cooled; what offers?—Huggett, 85, Bridge Street, Warrington.

DOUBLE-CYLINDER 6-8 h.p. Engine, with clutch, suitable for tricar; £8 10s. cash, a bargain; seen any time.—S., 115 Boundary Road, St. John's Wood.

4½ h.p. Water-cooled N.S.U. Engine, with 42 two-speed gear, carburetter and silencer, complete; £6 15s.—Wauchope's, 9, Shce Lane, Fleet Street, London.

6 h.p. Givaudan Engine, fitted with silencer, cut-out, contact, Longuemare H. carburetter, spare valves and pulley, good order; £4, or offer.—Mee, 47, Wilmot Road, Leyton.

1½ h.p. Minerva Engine, coil, carburetter, 14 silencer, exhaust pipe, oil tank and pump, piping, two Bowden controls; 60s., or cash offer.—Lambert, Electricity Works, Walton-on-Naze.

6 h.p. Twin Engine, boxes, carburetter, coils, and accumulators, £8 10s.; Charter-Lea frame, tank, belt, new wheels, fittings, £3 10s., or offers.—B., 71, Winkfield Road, Wood Green, N.

TYRES.

MAUDE'S.—Fully guaranteed tubes, 26 by 2 in., 6s.; 2½ in., 7s.; 2½ in., 8s.; 28 by 2, 7s.; 2½, 7s. 6d.; 2½ in., 8s.; approval willingly.

MAUDE'S.—Covers, 26 by 2 in., 16s.; 2½ in., 17s. 6d.; 28 by 2 in., 17s.; 2½ in., 18s.—Maude's, Powell Street, Halifax.

MAUDE'S Butt-ended Tubes.—Why not try one on approval? Note especially the low prices: 26 in. and 28 in. by 2 in., 7s. 6d.; 26 in. and 28 in. by 2½ in., 7s. 9d.; 26 in. and 28 in. by 2½ in., 8s. 3d.—Maude's, Powell Street, Halifax.

PAIR New Genuine Continental Covers, 26 in. by 2 in., beaded; 13s. 6d. each.—14 Southgate Street, Bishop Auckland.

TYRES

BOOTH.—200 genuine 26 by 2½ Clincher A Won covers, 17s. 6d. each; approval.

BOOTH.—Large stock of Continentals, rubber studded, Shamrocks, Goodrichs, Palmers; list free.

BOOTH.—Before buying tyres send for our bargain list; we specialise in tyres.

BOOTH.—28 by 2 Calmons, 13s. 6d.; Royalty covers, 26 by 2, 12s. 6d.; 24, 13s. 6d.; beaded or wired.—Booth's Motor Exchange, Wade Street, Halifax.

BEADED Cover, leather non-skid, 26 by 2½, new; 30s.; approval.—85, St. Stephen's Road, Hounslow.

ONE 750 by 85 Heavy Clincher Cover, and one new Michelin tube to suit; 40s. lowest.—P. Hubbard, 97, Bristol Street, Birmingham.

700 by 85 Heavy Clincher Covers, type 2, brand new, faultless goods; 37s. 6d. each.—Farrar.

CLINCHER Covers, heavy, A Won quality, with name on: 26 by 2, 18s. 6d.; 26 by 2½, 19s. 6d.; 26 by 2½, 23s.; 28 by 2½, 23s.; all ribbed non-skid treads; approval on receipt P.O.; 500 various tyres in stock; no waiting.—Farrar.

RUBBER Studded Covers, 26 by 2, 25s. 6d.; 26 by 2½, 29s. 6d.; 26 by 2½, 35s.—Farrar, Square Road, Halifax.

650 by 65 Clincher, fitted Wilkinson non-skid, 30s., as new; exchange 3in. belt, B100, footrests.—J. Rhodes, Selwyn Gardens, Cambridge.

26 by 2 Genuine Clincher Motor Cycle Covers, brand new, names on; 16s. 6d. each.—Lomax Tyre Co., Great Charles Street, Birmingham.

HALIFAX.—Special 2½ Calmon tyres, fit 26 by 2 rims, 17s. 9d. each; new 28 by 2 tubes, 4s. 9d. each; 24 by 2½ Peter-Union tubes, 5s. 6d.—Motor Exchange, Westgate, Halifax.

B. and **S.** Leather Punctureproof Bands are easily placed inside your cover, and really do stop punctures; give one a trial, you will be pleased with them; 2s. each; post free, 2½in. wide.—Barton, Meeting House Lane, Peckham.

REPAIRERS.

CRACKED Water Jackets of motors successfully repaired by Lea's metallurgical process.—Lea and Son, engineers, Runcorn.

RELIABLE Repairs.—Re-boring and new piston from 12s. 6d.; pistons from 6s. 6d.—Gas Engine and Motor Works, Forest Hill, S.E.

£5 any motor cycle we cannot repair.—Whites, 22, Brook's Alley, bottom of Bold Street, Liverpool. Lubricator cylinder and magneto oils.

CAR and Motor Cycle Repairs.—Cylinders re-bored, new pistons fitted, gears, bearings, valves, etc.; prompt delivery.—Mastin and Smart, Bedford. Established 1889.

RUSEL Valves, cast-iron headed, have no screwed end to break at; same strength throughout; any engine; 3s. 6d., postage 3d.—Broadhurst, 13, Stafford Street, Leicester.

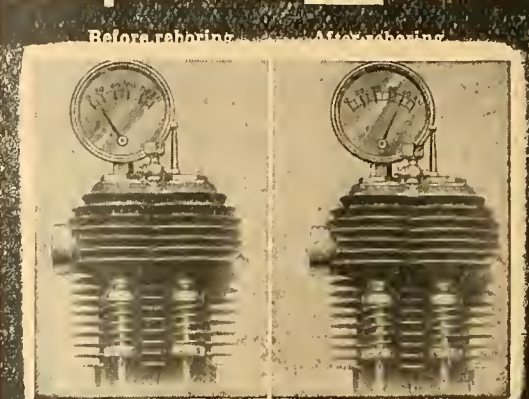
IGNITION Coils and Magnetos Repaired, any make; accumulators repaired and charged; best work; moderate charges; quotations.—Glover Bros., Electricians, Coventry.

TO West of England Motorists.—Car and motor cycle repairs, prompt and reliable; cylinders re-bored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Works, Bridgwater.

BIRMINGHAM.—Repairs of every description. Valves, pulleys, any make; frames cut down; accumulators charged and repaired; ideas carried out; prompt attention.—Priest and Williams, 66, Bishop Street.

REPAIRS and Overhauling.—We have the finest repair works in London for motor cycles, with up-to-date machinery; estimates free; new cylinders for any make of engine, pulleys, valves, gears, and all replacements; send for our new booklets, with prices.—Laystall Motor Engineering Works, 27 and 29, Laystall Street, Rosebery Avenue, E.C.

Compression means Power



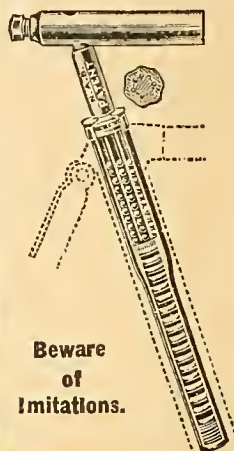
We re-bore your cylinder and fit new piston complete with rings and gudgeon pin. Please send for our new repairs booklet, giving prices for this work.

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AUTOMOBILE REPAIRERS,

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If you find you've the hump,
Through the bicycle bump,
And you're sad—and, what's
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Try the real **N.A.B.**
You will hail it with glee,
And in comfort you'll ride
evermore.



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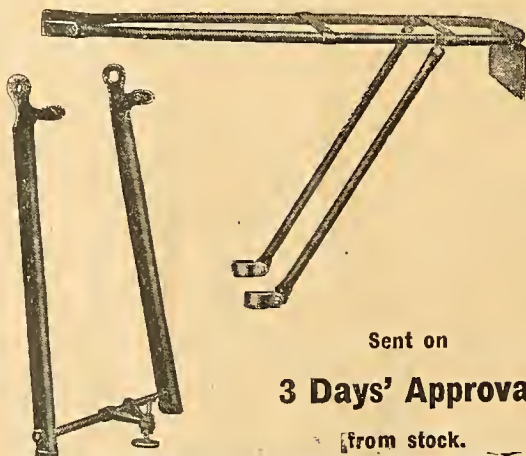
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PREMIER Tubular Stands and Carriers fit all makes of motor cycles. Say what make your machine is and our Stand and Carrier **SHALL FIT IT.** They are having an immense sale and all users are pleased with them.



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EXPERT Motor Cycle Repairers; accessories, oil, spirit, and grease.—Geo. Hughes and Co., 85, Duke Street, Liverpool.

EXCHANGE.

EXCHANGE, Prize Breed Bulldog for side car.—33, Verona Street, Battersea, S.W.

EXCHANGE Engine, 2½ h.p. F.N., for higher power.—Harris, 108, Bennerley Road, Battersea Rise.

5 IN. S.S.C. Treadle Lathe, £12, fittings, exchange good lightweight.—Blakeway Sudbury, N.W.

EXCHANGE, Twin Decauville Car, as new for 1908 Triumph.—Freeman, Market Place, Margate.

TWO-SEATER Stanley Car, excellent order for fast motor bike.—No. 676, The Motor Cycle Offices, Coventry.

23 h.p. Werner, faultless condition; exchange jewellery, etc.—W. Ferris, 20 Brunswick Square, S.E.

ARIEL, 3½ h.p., for 1908 Motosacoche, cash adjustment.—Smallwood, 2, Park Road Bearwood, Birmingham.

ONE Vertical Boiler, 3½ h.p., 60 lbs. pressure, exchange motor cycle or lathe.—Westoby, South Kelsey, Lincoln.

EXCHANGE, Two Motor Cycles, 3½ h.p. Minerva, 3 h.p. Rex, for good tricar.—Whitaker, Green Street Green, Orpington.

EXCHANGE 4 h.p. tricar for any light machinery, motor cycle, frame, or anything useful.—315, Heywood Road, Liverpool.

BRASS De Dion petrol and oil tank, with two-way pump, for Longuemare carburetter for 3½ h.p.—Motley, High Street Pinner.

EXCHANGE 6 h.p. Rexette, two speeds water-cooled, seats three, for motor cycle and cash.—10, Little Toll Street, Nottingham.

EXCHANGE, Smart 5 h.p. Two-seater Car for powerful bicycle or screw-cutting lathe, or will sell very cheap.—Slocombe, 12 Aubert Park, Highbury, N.

EXCHANGE, Ladyback Chater-Lea Tandem nearly new, for 3½ h.p. motor bike Minerva preferred, or sell £11.—Regan, 47 Ellington Street, Barnsbury.

6 h.p. Rexette, seats three, w.c. engine, two speeds, complete; exchange for 3½ h.p. magneto cycle, or sell.—Baxter, Lyndhurst Shooter's Hill Road, Blackheath.

ABSOLUTELY New Continental Non-ski tyre, 26 by 2½; cost 38s. 9d.; exchange for 24 by 2½ same make, or sell for 30s. 6d.—Millard, Dinnington, Rotherham.

23 h.p. Chater-Lea, Palmers, good running order; exchange with cash for 3½ h.p. or sell £10; letters only.—19, Trenvill Avenue, Fulham Road, Birmingham.

EXCHANGE 3 h.p. Ariel cycle, condition as new, for lower power, or lady-bac tandem and cash, or sell £22; also Brow and Barlow carburetter, 10s.—23, Gran Parade, Highgate, N.

EXCHANGE, for good motor cycle or tricar, new high-class furniture, any description, direct from works, valued whole sale.—Furniture Manufacturer, 9, French Place, Shoreditch, London.

EXCHANGE 7-8 h.p. car, two bucket seats, two speeds, in splendid running order, three brass lamps, spares, tyres good; tricar preferred.—Asquith, Peterborough Terrace, Undercliffe, Bradford, Yorks.

EXCHANGE, 5 h.p. new Twin Motor Cycle long handle-bars, B. and B. carburetter, Bowden brake and exhaust lifts, ridden 30 miles, for tricar.—Weston, 147, Pembroke Road, New Southgate, London, N.

EXCHANGE, for £7 cash and good push cycle, 3 h.p. White and Poppe, Chater-Lea long low frame, new back tyre, fine hill climber, simple, reliable machine.—"A.T.S." 86, Colvestone Crescent, Dalston, London.

EXCHANGE, for good Pedal Cycle and cash, 3½ h.p. Humber, absolutely perfect condition, engine and all parts equal to new, flies up hills, perfectly reliable.—Motorist, 9, French Place, Shoreditch, London.

EXCHANGE.

31 h.p. Helens Motor Cycle, with Osborne **32** free engine clutch, in splendid order, for Drummond or other good make lathe for power.—Swinburn, Chester-le-Street.

PREMIER Road Clearer, new, loud and penetrating, cost 12s. 6d., also spring seat pillar, for butt ended tube, carburetter, or Brooks saddle.—Allen Jones, Beddgelert.

EXCHANGE, 6 h.p. w.c. open frame tricar, wheel steering, two-speed, sprung back and front, for 5 h.p. Rex de Luxe, with Roc clutch and Rex two-speed, and little cash, or offers.—127, Salisbury Avenue, Westcliff-on-Sea.

3 h.p. Raleigh-Fafnir, spring handle-bars, Advance pulley, governed engine, handle-bar control, exceptionally easy starter, in splendid condition; exchange higher power.—A. W. Read, 119, Derby Street, Burton-on-Trent.

EXCHANGE 3½ h.p. Clarendon, latest, low model, as new, ridden only 50 miles, guaranteed perfect and faultless; cost £37 10s., take lower power and cash, or cycle and cash.—Oswald House, Queen Victoria Road, Coventry.

WANTED.

TRIUMPHS wanted, 1907 or 1908, for spot cash.—Rey, 5, Heath Street, Hampstead.

1908 Sidecar, 3in. belt, Lucas Acetyphot.—George, 11, Liverpool Road, London, N.

CRANK Case and Connecting Rod, 2½ h.p. Clyde engine.—Bryce, Gateside, West Kilbride.

WANTED, Twin Bat, good condition; cheap for cash.—Sevenoaks Motor Co., Sevenoaks.

A PHOENIX Tricycle Attachment, without seat, tyres good.—Nicholls, Rock Villa, Llanfairfechan.

WANTED, Worn Covers and Tubes, 800 by 85, 810 by 90, 815 by 105.—Stimpson, Stratford-on-Avon.

WANTED, good Sidecar; will give gent's 10-guinea pedal cycle, new.—Farrar, Square Road, Halifax.

WANTED, Four-cylinder F.N., any condition; must be cheap for cash.—5, Heath Street, Hampstead.

WANTED, twin engine, stand, belt, and coil; see Exchange.—Harris, 108, Batterley Road, Battersea Rise.

WANTED, Motor Cycle, exchange Provident ballot bond for £250, £13 paid in.—51, Magpie Hall Road, Chatham.

WANTED, Pair Rex 1904 pattern girder forks, must be sound and cheap.—5, Wavendon Avenue, Chiswick, London.

WANTED, Rigid Sidecar, good make, will exchange gent's cycle, cost £8 8s.—P. Hubbard, 97, Bristol Street, Birmingham.

ENGINE, 6 to 8 h.p., water-cooled, twin M.O.V. Antoine, with magneto, preferred.—Dixon, The Glen, Leatherhead, Surrey.

WANTED, good sidecar (fit Triumph); exchange Watson 12X Prism Binoculars (value £6 10s.)—36, Carter Street, Walworth, S.E.

6 h.p. Rover or De Dion Car, give 3½ h.p. White and Poppe motor cycle value £20, and £30 cash.—Box 606, The Motor Cycle Offices, Coventry.

WANTED, new or second-hand petrol engine, 2-3 h.p.; any type, in good working order.—No. 289, Robertson and Scott, Edinburgh.

GOOD Single-cylinder for very powerful twin Rex, guaranteed. Give cash adjustment for up-to-date magneto machine.—Box 619, The Motor Cycle Offices, Coventry.

WANTED, for Export, landaulets, quadricycles, and 4½ h.p. genuine De Dion voitures; must be cheap and in sound running order.—Mazza, 66, Aldermanbury, London.

CLEMENT, 2 h.p., wanted, in exchange for road racer, frame built by Chater-Lea, reversible bars, two sprockets, 1½ Palmers, new condition, cash adjustment.—71, Fox Lane, Palmer's Green.

W. & R. J. LONDON.

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White's Economiser

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Only
4/-
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ENSURES INSTANT STARTING AND GREAT SAVING OF PETROL

TRY ONE IF YOU WANT TO:

- (1) Start the instant you drop the exhaust.
- (2) Run dead slow, without misfiring, and throttled right down.
- (3) Save petrol; (In recent consumption test, the winner's rate worked out at 178 miles to the gallon with a 3 h.p. machine fitted with the above contrivance.

Now made to fit LONGUEMARE, MINERVA LONGUEMARE, and REX LONGUEMARE CARBURETTORS.

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"ELECTARY" Combined belt & tyre carrier

Takes spare tube and Belt:

No Metal parts to injure tube, and no rattling. In solid leather, to fit on top, or side of luggage carrier, or on girder forks.

Price complete 6/6

W. & R. JACOBS,

39c, KING WILLIAM STREET, LONDON, S.W.

Phone 7930 Wall.
Tele: "Electary," London.

W. & R. J. LONDON.

The RICH DETACHABLE

AGAIN IMPROVED IN MANUFACTURE.
THE ONLY PERFECT DETACHABLE AIR TUBE.

		SAVES TIME			
26in.	28in.	EXTRA THICK		26in.	28in.
1½ 8/6	9/-			2½ 20/-	22/-
2 14 -	14/6			2½ 25/-	27/-
2½ 14/6	15/6			3 35 -	38/-
2½ 15/6	16/6			3½ 38/-	40/-
3 22/-	28/-			24in 6d. less.	

PATENTED AT HOME AND ABROAD.
Your own tubes converted.

The great success of this seasons reliability trials has been through the use of the Rich Detachable Air Tubes—as admitted by riders themselves—punctures causing only five minutes delay by replacing another tube.

Any defective joint replaced or repaired free of charge within 9 months of purchase.

Write for Booklet.
The Rich Detachable Air Tube Co.,
Patentees, CRAWLEY, Sussex.
Agent for India—F. B. STEWART & SON, Poona.

WANTED.

BROWN Cylinder, 3½ h.p., wanted, perfect.—3, Hillsborough Road, East Dulwich.

5-6 h.p. W.C. Engine, good make; approval.—14, Glencoe Avenue, Seven Kings, Ilford.

TRICAR, 7 h.p. w.c.; part exchange 3½ h.p. a.c., Oppermann three-speed.—Leigh, Ash, Dover.

WANTED, Brooks B100 or XI'all motor saddle.—Wilsania, 30, Charles Street, London, S.W.

H.F. New Pattern Car or Baby Vulcaniser, methylated spirit.—Snowden, Kingsgate, Broadstairs.

WANTED, good magneto machine, good condition, any make; spot cash.—Pettty, dentist, Halifax.

TRIUMPH Wanted, cash, or exchange Phoenix quad and cash.—Motorist, 52, Gregory Boulevard, Nottingham.

WANTED, "Motor Cycles," first four month, August, September, 1907, all 1906.—M. Hall, Malverne, Swanage.

WANTED, Longuemare carburetter, four-cylinder coil, 920 by 120 tyre, also Stepney.—313, Coldharbour Lane, S.W.

TWO-SEATER Car, 8-10 h.p., in thorough order, in exchange for 4½ h.p. De Dion tricar, and cash.—Liversidge, Brentford.

WANTED, 5 h.p. tricar, two speeds; exchange 3½ h.p. coach-built Rex and cash.—Lawton, Hitchman Street, Fenton, Staffs.

WANTED, Triumph, F.N., Vindec, or other good make; no fancy price given.—Full particulars to Engineer, 4, Northfield Avenue, Ayr.

POWERFUL Mirror Lens Motor Cycle Searchlight and generator; Powell and Hammer and Acetyphot lamps for sale.—Firemaster, Arbroath.

LOW Power Motor Bicycle, any condition; cheap, cash; approval, deposit system; send full particulars.—3, Mortlake Terrace, Victoria Road, Southsea.

6 h.p. Tricar, two speeds, free engine, water or fan-cooled, must be in good condition; trial required; lowest price and full particulars.—72, Dacre Road, Plaistow.

WANTED, good Motor Cycle or Tricar, exchange new high-class furniture, any description, valued wholesale, direct from works.—Furniture Manufacturer, 9, French Place, Shoreditch, London.

WANTED, motor cycle (tricar), second-hand, 6 h.p., Raleighette type, with forecarriage, open frame, two speeds, and free engine.—Price and particulars to H. Edge, Bardsley, near Leeds.

PAIR Sidelights and headlight wanted, for tricar; also good silencer, 6 h.p. engine; will exchange new electric buzzer and horn, complete, for anything useful, or sell 7s.—Hudson, King Street, Newcastle-on-Tyne.

THE Proprietors of the patent rights of R.O.M. synchronised contact breakers are prepared to accept offers for the rights to manufacture in France; write for particulars.—Continental Motor Co., 32, Rosebery Avenue, E.C.

SIDECARS wanted; give new cycles, three-speed Sturmey-Archer gears, level exchange; wanted also Drummond or other S.C. lathe, gramophone; reasonable cash price given for good motor cycles.—Booth, Wade Street, Halifax.

MISCELLANEOUS.

TANKS of all kinds made to order.—Doggett, metal worker, 65, Turnmill Street, London.

QUADRANT Loop Frame, with front forks and 20in. handle-bar; 32s. 6d. each.—Farrar.

LONG Motor Handle-bars, 21in., 4s. 9d.; heavier gauge, 5s. 6d.; well plated three sizes.—Farrar.

DOUBLE-TWIST Cow-voiced Horns, 4s. 9d.; large size, 6s.; new Lycett's B toolbag, 6s.—Farrar.

PREMIER Accumulators, Rex size 12s.; send for price list; pounds saved.—Farrar, Square Road, Halifax.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

ENGINES Re-bushed throughout from £1, not £4, as stated last week.—Tufnell and Co.

CYLINDERS Re-bored from 5s.—Tufnell and Co.

PISTONS Supplied new from 7s. 6d.—Tufnell and Co.

INGS from 9d.—Tufnell and Co.

CONNECTING Rods from 7s. 6d.—Tufnell and Co.

INLET Valves from 1s. 6d., not 2s. 6d., as stated last week.—Tufnell and Co.

EXHAUST Valves from 2s. 6d.—Tufnell and Co.

PULLEYS for any motor.—Tufnell and Co.

TRIUMPH, Brown, Fafnir, 4s. 9d.—Tufnell and Co.

EX, Antoine, Kelecom, 5s. 9d.—Tufnell and Co.

EDION, M.M.C., 6s. 9d.—Tufnell and Co.

BOVE 4½ in. Diameter, extra 9d.—Tufnell and Co.

XLES, cranks, spindles, handle-bars, seat-pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed.—Tufnell and Co., 527, High Road, Weymouth.

WHIPCORD Breeches, latest cut; 10s. 6d.—J. C. Savage, 119, Donegall Street, Belfast.

HEADS for Motor Cycles, 45s.; portable.—Stevens, 82a, Leighton Road, Kentish Town, London.

VERALL Leggings, 3s. 11d. pair, post free.—Fielding, St. George's Square, Wychen Bridge.

ODFREY and Applebee.—2½ h.p. Peugeot, 26 in. wheels, spray, good condition, lightweight; £7 10s.

ODFREY and Applebee.—1904 Rex, 26 in. wheels, Vauxs carburetter, Dunlop tyres, grand condition, engine just been reshed; £6 5s.

ODFREY and Applebee.—3½ h.p. Minerva tricar, Palmer cord tyres, coach-built front, Kent two-speeds; £9, or first reasonable offer secures.

ODFREY and Applebee.—26 by 2½ Moseley heavy covers, brand new, 18s. 6d.; 26 by 2½ h.p. Minerva engine, perfect order, £3 15s.; 24 by 2½ extra heavy and new Peter-Unions, £1; Shamrocks, brand new, 24 by 2, 15s.

ODFREY and Applebee.—26 by 2½ Palmer cord tyres and tubes, very little used, 20s., tubes 5s.

ODFREY and Applebee.—A.G. adjustable pulleys, 15s.; A.G. magneto covers, 3s.; handle-bar watches, with clip, 5s. 6d.

ODFREY and Applebee.—Chapman's double blast fan, new, 12s. 6d.; Heretic cover and tube, 26 by 2½, 15s.

ODFREY and Applebee.—Any make of machine supplied, exchanged, or bought.—9, Church Hill, Walthamstow.

WHIPCORD Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, 10, Longton, Staffs.

EW Voltmeter and Ammeter combined, cost 10s. 6d., 5s. 6d.; approval; deposit.—Knight, Beau Street, Bath.

ELT Rim Brakes, flexible cable, hand applied, easily fitted, stop anything; 8s. usual price 15s.—Slack's Garage, Stockport.

VALVE Lifters, complete with hand levers and flexible cable, easily fitted, 4s. 11d., usual price 9s. 6d.—Slack's Garage, Stockport.

EVERYTHING made in Tanks and Radiators except a fortune; write for prices. A. Phillips, 112, Lynton Road, Berrandsey.

OWDEN Valve Lifters, 6s. 9d., usual price 10s.; Vim stands (starts like free engine), 6s. 3d., usual price, 17s. 6d.—Slack's Garage, Stockport.

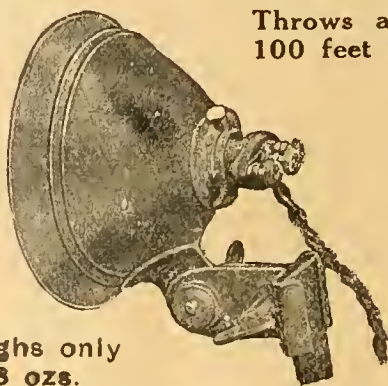
The "GLARE."

ELECTRIC HEADLIGHT.

Patent applied for.

Throws a light
100 feet ahead.

Consumes
only
½ amp
at 4
volts.



Weights only
8 ozs.

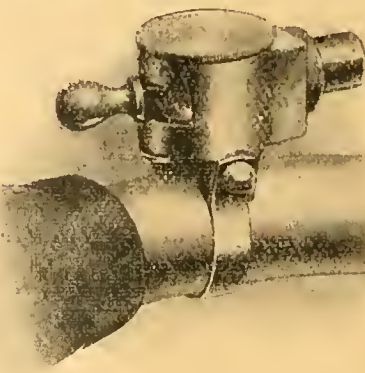
Price only 10/6.

This is not a toy. No amount of talking will convince. You really must see and try one before you will believe. Money refunded if not what we state. Ask your agent for particulars or write to us direct. We are still making our Variable Speed Pulley as introduced by us five or six years ago. This must be a good thing or we should not have so many imitators. Try one of our Adjustable Handlebar Lamp Brackets if you have trouble with yours breaking. They fit any machine. When ordering kindly state whether for ½ in. or 1 in. bars.

Tele.: 207x.

J. W. GREENWOOD, Ltd.
PORTLAND PLACE WORKS, HALIFAX.

LEICESTER PATENT SWITCHES.



One way, 5/-

Two way, 6/-

The only Perfect Switch.

—X—

Ask your dealer for them, or write to Sole Makers:

WATHES & CO., Ltd.,
HIGH STREET, LEICESTER.

Lists and trade terms on application.

VALVES ALL SIZES 1/6
PISTON RINGS ALL SIZES 2/6
REBORING PISTON 12/6
CYLINDERS 10/6 VARIABLE 8/6
GEARS CUT. REBUSHING. NEW PARTS
PLEASE GET OUR LATEST LIST FREE
THE MARSH MANUFACTURING CO. CLIFFE ROAD, SHEFFIELD.

Genuine Birmingham "QUADRANTS."

A large stock of parts still to be cleared.
Write for latest list.

REG. SAMSON,
232, LADYWOOD RD., BIRMINGHAM.

MISCELLANEOUS.

DUST Screens for Tricars and Sidecars, fitted in ten minutes; illustrated particulars of patentees.—Taylor's, Motor Works, Edmonton.

COACH-BUILT Forecar Body, brand new (painted green), 50s., cost double; our spring fork attachments, new, fit anything, plated, 9s. 6d., carriage paid, usually 16s.—Above.

15 Amp. Lithanode, 12s. 6d.; 26 by 2½ Palmer cord, 25s.; two tubes, 26 by 2½, 15s.; all practically new.—Mee, 47, Wilmot Road, Leyton.

5 S. and upwards, separate generator headlights; new 10 amp. Premier accumulators, 8s. 6d. each; post free.—262, Deansgate, Manchester.

MILLERS' Cetolite Lamp, separate generator, cost 15s. 6d., sell 8s.; large horn, as new, 5s.—Ernest Porter, Edwardsville, Treharris, Glamorgan.

LARGE Oval Hooded Lamp, separate generator, good condition, 12s. 6d.; Brooks B100, good, 9s. 6d., post free.—Braithwaite, 41, Regent Street, Oxford.

2 h.p. De Dion Engine and Silencer, 35s.; two accumulators, 5s. 6d. each; New Hudson tank, 6s. 6d.; all good condition.—13, Baythorne Street, Bow.

CLEARANCE Sale.—Millennium stands, 7s. 6d., usual price 20s.; Vim flexible cable rim brakes, 5s. 6d., usual price 12s. 6d.—Slack's Garage, Stockport.

GAS Engine, Ideal, ¾ h.p., Thompson dynamo and switchboard, seen running, all new; £14 (half cost); exchange tricar or twin.—Paxman, Tewkesbury.

SIMMS - BOSCH four-cylinder magneto, several plugs, cost 3s. each; "Footprint" car tool kit, new; offers.—Daws, 240, Albany Road, Camberwell, London.

ALVASTON Bargains.—4 h.p. Godiva oil engine, as new, complete with water tank, oil vessel, etc.; cost £34, accept £15 10s., guaranteed perfect order, fine engine.

ALVASTON Bargains.—Genuine 8 h.p. Rover cylinder, perfect, as new, guaranteed sound; 50s.

ALVASTON Bargains.—Stepney wheel, 810 by 90 mm., with grooved Dunlop, perfect, nearly new; clearance £3 10s., worth double.

ALVASTON Motors.—Brand new 50 volt 6 amp. charging dynamo, drum armature, excellent machine for garage; accept £4 10s., cost £9; perfect order.—Alvaston Motors, Alvaston, Derby.

26 by 2½ Lomax Detachable Non-skid, 10s.; 20 amp. Pearson's accumulator, new, 10s.; wanted, high tension magneto, single.—Farren, 214, Belgrave Road, Birmingham.

3 h.p. Givaudan engine, fitted with silencer, cut-out, contact, Longuemare H. carburetter, spare valves and pulley, good order; £4, or offer.—Mee, 47, Wilmot Road, Leyton.

BLUE Drill Overalls, 5s. 6d. per suit; better quality, sateen finish, five packets, 7s. 6d.; send full height and chest measurements.—Windsor, Manufacturer, 46, Park Place, Leeds.

TWIN Trembler Coil, Fuller's Syntonic patent, new, only used six weeks, changed machine for magneto, cost 50s., sell 30s.; voltmeter, cost 10s. 6d., sell 3s. 6d.—W. C. Norman, 9, Middle Hillgate, Stockport.

MAIN-HILTON Stand-carrier, 26 in., 4s. 6d.; Sphinx spring pillar, new, 4s. 6d.; two Brown pulleys, 2½ h.p., 2s. 6d., 2s.; 20 a.h. accumulator, 4s.; lot 12s. 6d.—Paxman, Tewkesbury.

THREE-SPEED free engine pulley, positive and reliable action, light, neat, durable, no end thrust, guaranteed, simple to fit; patent applied for.—New Nonpareil Motor Fittings, Ashtree Road, Starchley, Birmingham.

SOLID Value for Hard Cash for motor cycles and accessories; lowest prices in the trade; all latest novelties in lamps, swan-neck seat pins, long handle-bars, footrests, free engine pulleys, spring forks, belts, tyres, covers, etc.; write p.c. for 250 pp. illustrated list.—Metropolitan Machineists' Co., Ltd., M.C. Dept., 75, Bishopsgate Street Without, London, E.C.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

BOOTH.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

BOOTH.—Double twist horns, deep tone, 4s. 9d.; large leather toolbags, 5s. 6d.

BOOTH.—500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget trembler coils, 17s. 6d.

BOOTH takes your old coil in part payment; part with troublesome coils.

BOOTH.—Fuller accumulators, 20 amp., 17s.; Rex type, 16s.; Minerva, 16s.; Midget, 16s.

BOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fuller's.

BOOTH.—Long motor handle-bars, 21in., 4s. 9d.; heavier gauge, 5s. 6d.; best plating.

BOOTH.—Silent silencers, for engines to 5 h.p., very efficient, no back pressure; 3s. 3d.

BOOTH.—50 pairs XI'all spring forks, N.A.B. seat-pillar, 5s. 6d.; Ariel coupler, 10s.

BOOTH.—New Antoine frame, with wheels, belt rim fitted, two cable brakes, mudguards; £4 19s. set, low built.

BOOTH.—Gas lamps, separate generators, powerful, light, well plated, 5s. 3d.; mica plugs, 1s. 1d.

BOOTH.—Pocket voltmeters, very handy and reliable, 4s. 1d., usually 10s. 6d.

BOOTH.—Box of brass terminals, 10d.; Du-cellier car headlight, 25s., cost £5.

BOOTH.—Motor Frame, wheels, and tyres, suitable for 2 h.p. inclined engine; 40s.

BOOTH.—200 best quality magneto covers, 2s. 3d. each, usually 5s. 6d.; new L.T. magneto, 20s.

BOOTH'S Motor Exchange. Coronet Works, Wade Street, Halifax. Telephone, 198Y.

FAFNIR Cylinder, 75 mm., little used; £1.—119, Derby Street, Burton-on-Trent.

MODEL H. Longuemare Carburetter, suit 8-12 h.p.; 20s.—Bray, Ecclesfield, Sheffield.

NO. 6 and 7 Genuine Chater-Lea Frames; special low prices.—313, Coldharbour Lane, S.W.

STANLEY-DELMATINE two-piece belts, 3in., 6s.; 3in., 7s.; 3in., 8s.; 1in., 9s.; carriage 5d.—Whitaker, Green Street Green, Drington.

FOR Sale, water tank, with radiators, suit tri-car, 12s.; 8ft. 6in. of 1in. fishback belt, 3s.; 19in. belt rim, for lightweight, 1s. 6d.; all in perfect condition.—13, St. Nicholas Street, Coventry.

BRAND New 2½ h.p. Advance Engine, complete, set lugs, for low frame, £4 15s.; 1 h.p. Ormond, running order, £4 10s.—Letters, The Laurels, 40, Westbury Road, Forest Gate, E.

CHAPMAN Fan, 10s.; separate generator lamp, 7s. 6d.; pair long handle-bars, 3s.; swan neck seat pin, 2s. 6d.; 2½ h.p. Kerry, in new condition, £9 10s.—25, The Gardens, Peckham Rye, S.E.

TWO-SPEED Gear, fit Ariel lightweight, 20s.; also two pulleys, 3in., 2s. 6d. each; half gallon Vacuum B., 1s. 9d.; air tube, 26 y 2, new, 5s.; tarpaulin cover, 8ft. by 5ft., 1s.—12, Highborne Street, Upper Armley, Leeds.

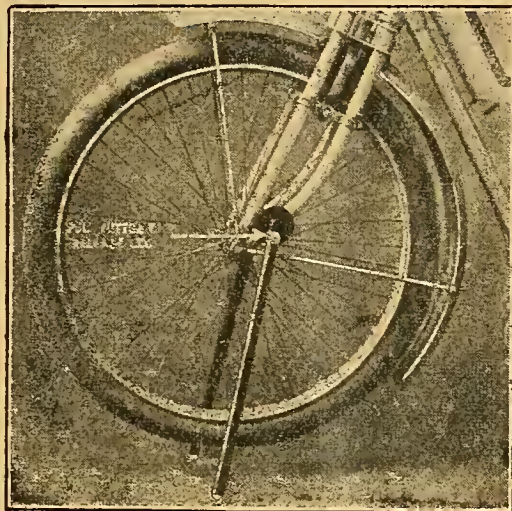
READERS having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium, 1d. per word, minimum 9d.—Address, "Photography and Focus" Offices, 20, Tudor Street, London, W.C.

SWAN-NECK Saddle-pillars, 2s. 6d.; long handle-bars, any pattern, 4s.; torpedo tanks, with pump and fittings, 12s. 6d.; tanks from 5s.; any pattern to order; reliable repairs and alterations.—Arrow Motor Works, Victoria Road, Peckham, S.E.

ARTICLES for Sale.—Main-Hilton carrier-stand, 4s. 6d.; De Dion silencer, 4s.; 1000cc two-cylinder trembler coil, 8s.; tank and radiators, 23in. by 9½in. by 3½in., 12s. 1d.; two-cylinder plain coil, 6s.; De Dion carburetter, 21s.; other sundries for sale.—2, Lewisham High Road, New Cross, S.E.

AT LAST. The "R.O.M." Patent Front Wheel Stand.

Facilitates mending punctures in front tyre, and if necessary the whole wheel can be easily removed when "R.O.M." stand is used.



Stand in position.

(Note "R.O.M." patent ball ends: by this means the machine can be easily moved in any direction in the garage, even with front wheel out.)

This stand is automatically locked when out of position, and cannot shake down. By means of the "R.O.M." patent eccentric action, the legs come close in to the mudguard when out of action, and yet spread well out when in use, thus securing an absolutely rigid support for the machine.

Price (to fit any machine) .. 14/6 per pair.
Illustrated list free. Prompt deliveries.

NOTE.—We are special agents for Shamrock, Goodrich, Palmer Cord, and Clincher Tyres.

10s. for your old cover (any condition), in part payment for new Shamrock and Goodrich rubber studded and Palmer Cord tyres.

The NEW CLINCHER RUBBER STUDDED NON-SKID

(as used in the late End-to-end Record).

One size, 26x2½ .. 40/-
7/6 allowed for your old cover in part payment.

New Clincher extra heavy covers fitted with Shamrock or Goodrich rubber studded bands (ensures ½in. thickness of tread).

Prices, 26x2, 2½, 52/-, 55/-, 68/6 (7/6 allowed for your old cover in part payment). 5/- allowed for your old cover in part payment for any other make of tyre. Shamrock or Goodrich rubber studded non-skid bands fitted to your own cover, 21/-. Heavy Bates non-slipping band, 13/-. Extra heavy Bates non-slipping band, 15/-. Pullman Puncture proof leather non-skid band, 17/6.

These prices include fitting in all cases. Time taken, about three days.

Our New Tyre List free on application.

R. The only contact breaker Really suitable for twins with accumulators and coils. Ensures permanent synchronism.

O. R.O.M. means—more power, easier starting, smoother running. Illustrated list free.

The CONTINENTAL MOTOR Co.,
32, Rosebery Avenue, LONDON, E.C.

Phone, Holborn, 1513. Telegrams, "Bromitch," London.

IN ADDITION TO TYRES

GNAVITER

I.R. and CANVAS BELTING.

Best British Make.

3in. .. 9d. per foot. 3in. .. 1/- per foot.
3in. .. 1 3 " " 1in. .. 1/6 " "

Plain or Serrated. True and deep section.

Sole Agents, Wholesale and Retail:

DEFIANT NON-SKID TYRE Co.,
1, Furnival Street, LONDON, E.C.

MISCELLANEOUS.

TORPEDO Tank, complete with all fittings, for oil and petrol; 15s.—Green, 14, Avondale Road, Peckham, S.E.

BROOKS Patent Anti-vibratory Motor Saddle, nearly new; cost 39s., price 15s. 6d.—Houfton, Chemist, Alfreton.

GENUINE Simplex spring fork attachments, plated (brand new); 9s. 6d. pair; carriage paid.—Mitchell, 22, Leghorn Road, Plumstead, S.E.

POWELL and Hanmer and Lucas Acetylene photo motor cycle lamps; cheap; wanted, separate generator lamp.—Fire-master, Arbroath.

BULL'S-EYE Lenses.—Cut and polished glass, 3in., 3½in., 3¾in., 1s. 9d.; 3½in., 2s.; 4in., 2s. 6d.; 4½in., 3s.; 4¾in., 3s. 6d.; 5in., 4s. each; carriage paid.—Payne, 149, Metchley Lane, Harborne.

CLINCHER A Won, 26 by 2, nearly new, 12s. 6d.; two 15 amp. Minerva accumulators, good condition, 5s. 6d. each; twin plain box coil, 10s. 6d.—Amos, 11, Lammas Street, Nottingham.

BRAND New Pair Tricar Tubes, Lloyd's free engine clutch, 2½ h.p. De Dion pattern engine, 2½ h.p. Centaur-Humber carburetter; what offers? — Particulars, A. Moyse, Kessingland.

MOTOR Driving for Beginners.—Read "A Catechism of the Motor Car," containing about 320 questions and answers explaining the construction and working of a modern motor car, by J. H. Knight, price 1s. 6d. net, of all booksellers.

MONTGOMERY Sidecar, latest 1908, not run 100 miles, cost £12 12s., take £10 to clear; Ormond frame and tank, 5s.; pair 28in. built wheels, 6s.; spring handle-bar, 4s.; spring seat-pillar, 2s.; F.N. carburetter, 4s.—Burdett, Northampton Road, Market Harborough.

SHAMROCK Belt, 3in. (new), 9s. 6d.; Advance adjustable belt pulley, fit Triumph, 10s. 6d.; Triumph exhaust valve (new), 3s. 6d.; inner tube, 26 by 2½, 4s. 6d.; pair Bosch platinum points (new), 4s. 3d.; magneto cover (Triumph), 2s.—45, Parade, Leamington.

PAIR of Minerva spring forks, new, £2; L.A.C. spring forks, 15s.; pair Wright's footrests, 10s. 6d.; 13½ steering wheel, aluminium centres, 8s. 6d.; complete steering column for tri-car, with levers and wheel, £1 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

A. and H. CLARKES' Bargains.—Non-trembler coils, usual price 12s. 6d., clearance 7s. 6d.; sparking plugs, usual price 1s. 3d., clearance 1s., three for 2s. 6d.; ditto, usual price 1s. 6d., clearance 1s. 3d., three for 3s. 3d.; Alpha test lamps, usual price 3s. 6d., clearance 2s. 6d.—A. and H. Clarke, Coventry.

LONDON Auto Co., Union Road, Clapham, S.W., agents for Chater-Lea frames and fittings, and all makes of engines; No. 6 frames, £2 18s. 6d.; girder forks, 15s. 6d.; long handle-bars, 3s. 9d.; wheels, 30s. per pair; torpedo tanks, 8s. 6d.; low quotations for all other parts; illustrated frame and engine lists stamp.

21 h.p. Vaf Engine and carburetter, £2; 2½ plain coil, 4s.; 26 by 2½ Clincher, beaded, 6s.; 28 by 2 wired Dunlop, 6s.; B.S.A. frame, for vertical engine, complete with 26in. wheels, tyres and tubes, handle-bars, chain wheel and cranks, £2; 2½ h.p. Smith and Dowse engine, £2.—Stevens, 4, Goldhawk Mews, Shepherd's Bush.

21 h.p. Engine with pulley, contact breaker, 35s.; Longuemare carburetter, 10s. 6d.; stand-carrier, 5s.; low frame, with tank, oil pump, levers, pedalling gear, 21s.; trembler coil, 12s. 6d.; Brown silencer, 3s. 6d.; 26 by 2 wheel, complete, 15s.; Singer tank, 4s. 6d.; Lightning stand, 3s.; Jack-noskid, 10s.—Darke, Draper, Sutton.

JAP Multiple Plate Clutch, new, fit any engine, cost £5 10s., 50s.; Jap patent drip lubricator, 7s. 6d.; new Jap twin contact breaker, complete, iridium points, 10s.; rubber covered footboards, nearly new, cost 30s., plated edging, 8s.; back Bowden brake, perfect, 6s.; new 4 h.p. silencer, quiet, plated, 6s.; 2½ h.p. aluminium silencer, 2s. 6d.; twin plain coil, perfect, 10s.; charging dynamo and water motor, cost £4, 30s.; all above guaranteed perfect.—Longford, Uddingston.

MISCELLANEOUS.

UTOGENOUS Welding.—Send that broken casting to the Alvaston Motors, Derby, to be welded by patent process; metal reunited.

UTOGENOUS Welding.—Costly castings saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, and a thousand other things.

UTOGENOUS Welding.—Wonderful results. Broken flanges, lugs, brackets, etc., all amenable to our process; send part to-day; quotations on sight.

UTOGENOUS Welding.—Alvaston Motors, Derby. Telephone, 1, Alvaston.

LUGGAGE Carriers of every description. —Send for particulars, Advance Motor Mfg. Co., Northampton.

BARKER'S Iron Cement, for cracked cylinders and defective castings; 1s. tin.—34, Oxford Road, Worthing.

TREMBLER Coil, 10s.; 20 amp. accumulator, 6s.; new gas lamp, 12s.—80, Palatine Road, Stoke Newington.

DRUMMOND T.S.C. Lathe, complete, with chucks and tools, etc. (all brand new); £12 4s.—J. Richmond, 111, Larkhall Lane, S.W.

GENT'S 18ct. Gold Keyless Chronograph Stop Watch, cost £15, take £6 15s.; approval.—Holloway, 21, Wakefield Street, East Ham.

FRAME, with tanks and back wheel, fitted Phoenix two-speed and free, chain drive, suit 5 h.p. twin, or single; pair C.L. handle-bars, £4.—Haydon, Twyford, Berks.

10 Amp. Accumulator, 4s. 6d.; 40 amp. Pfuger accumulator, 15s.; 8ft. 3in. Dermatine belt, new, 9s. 6d.; 28in. by 2in. Clincher cover, beaded, 8s.—31, Herongate Road, Wanstead.

LONGUEMARE G. Carburetter, suit 3½-4½ h.p., 7s. 6d.; Minerva belt, 6s.; trembler coil, perfect, 8s. 6d.; 26 by 2½ Bates tube, unused, perfect, 7s.; Peter-Union 24 by 2½ tube, unused, 6s.—Mitchell, 457, Lord Street, Southport.

BARGAINS.—700 by 65 mm. Heavy Clincher, 7s.; 28 by 2 Michelin, 7s.; Kerry compartment tank, 21 by 8 = 4, 6s. 6d.; 2½ h.p. Humber engine, fitted V pulley and free engine clutch, and top tube lever, £3 15s.—Holmes, Laira Avenue, Plymouth.

DE DION Engine, 3½ h.p., water-cooled, large Longuemare carburetter, silencer, round Basse-Michel coil, 20 a.h. accumulator, all perfect, £6 15s.; tricar front seat, wicker, upholstered, Cee springs, all clips, £1.—Motor, 102, Mare Street, Hackney, London, N.E.

26IN. by 2½in. Michelin Covers, good condition, 25s. pair; one 26 by 2 wired Dunlop, fitted with punctureproof band, nearly new, 8s. 6d.; also large Lucas motor Luminator gas lamp, new condition, 10s. 6d., cost 25s.—Cress, 116, Archway Road, Highgate, N.

LATEST No. 6 Frames, £3; tanks, all patterns, from 5s.; sidecar chassis (Chater-Lea), £3 10s.; long handle-bars, 4s.; swan-neck, 2s. 6d.; all to your own requirements; machines cut down, and repairs of every description; quick deliveries.—Green Bros., 14, Avondale Road, Peckham, S.E.

4 h.p. Oracle Engine, M.O.V., perfect working order, £3 18s.; carburetter for same, 12s.; coach-built forecar body, 16s.; Simplex stand, 4s.; carburetter, about 10 h.p., £1; Palmer cover, 26 by 2, brand new, £1; ditto, almost new, 17s.; Clincher ditto, 9s.; tube, 5s.; pedalling gear, brakes, chain wheel, rubber pedals, chain, 9s.; strong front brake, 4s. 6d.; plain coil, perfect, 8s.—62, Colvestone Crescent, Dalston, London.

TRADE Direct and Save a Profit.—The Albany waterproof jackets for motor cycling, in double texture fawn paramatta, wind and rainproof, stock lengths, 38in. and 40in., chest measures 36, 38, 40, and 42in., with or without storm cuffs, all have new collar and flap. We guarantee every jacket, price 15s.; extra heavy at 18s. 6d.; send lengths desired and chest measure. Overalls to match at 7s. 6d. and 8s. 6d. We pay carriage.—G. Raws and Sons, Indianrubber Manufacturers, The Albany, Oldhall Street, Liverpool.

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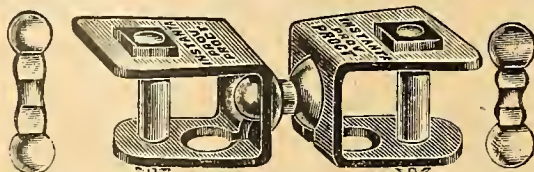
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MISCELLANEOUS.

PALMER Cord Cover, 26 by 2½, 15s.; extra heavy inner tube, 28 by 3, 8s. 6d. acetylene lamp, separate generator, 10s. 6d. heavy beaded edge tricar cover (new), 21s. spring for Triumph forks, 2s. 6d.; Oleo plug new, 2s. 9d.—45, Parade, Leamington.

STAMFORD HILL.—Two-speed and reverse gearbox, 37s. 6d.; motor cycle tank from 6s. 6d. each; A1 Clincher covers, beaded, 26-2½, 18s.; 26-2½, 19s. 6d.; 28-2½, 21s.; splined V belting from 8d. foot; 26-2½ Palmer cover, 16s., new; carburetters, Longuemare H., 18s. 6d.; 3½ h.p. spray, 12s. 6d.; 2 h.p. ditto, 9s. 6d.; 3½ h.p. Whitley, 13s. 6d.; two Kerry, 16s.; 3 h.p. Minerva, 14s.; Midge plain coils, twins, 10s. 6d.; single, 6s. 6d.; 2 h.p. Rex engine, £3 18s.; 3 h.p. De Dion, £3 ditto pattern, 45s.; 2½ h.p. Minerva engine 40s.; Clincher inner tubes, 6s. 6d. each latest motor cycle searchlight, new, complete, 25s.; 4in. steel mudguards, 1s. 9d. pair; tricar wing mudguards, 6s. 6d. pair; very large, 9s. pair; long handle-bars, drop ends, 7s. 6d.; over-back seat-pillars, besplatting, 4s.; list just ready, free.—128, High Road, Tottenham.

TRADE ADVERTISEMENTS.

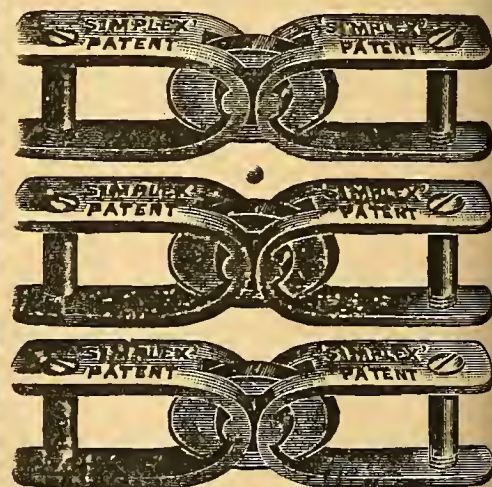
CLEMENT - GARRARD Interchangeable Parts.—The Garrard-Maxfield Motor Co., Aston Road, Birmingham.

ADJUSTABLE Pulleys, 4½in., 8s.; 5in., 9s. engine repairs, spare parts; overhauling.—Lee, Motor Engineer, 18, Somerset Road Edmonton.

N.S.U. Motors (West London District Agency). Latest pattern models in stock, two-speed gears, spare parts; liberal allowance for your motor in part exchange; deferred payments; trial runs by appointment.—Eagles and Co., High Street, Acton Telephone, 556, Chiswick.

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ADVERTISERS — Please note that Friday is the latest day we can receive advertisement copy for the following week's issue.



THE MOTOR CYCLE



Vol. 6. No. 285 CONTENTS. Sept. 9, 1908.

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Agents for the Colonies: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

Subscription Rates: Home, 6s. 6d.; Foreign, 10s. 10d.; Canada, 8s. 8d. per annum.

The Motor Cycle T.T. Race.

THE appeal for donations for the prize fund in connection with the above competition has, we regret to say, met with little response. As we pointed out a fortnight ago, the expenses in connection with the race are very great, and with the object of somewhat lightening the burden on the A.C.U. and offering some substantial reward to the entrants it is necessary to raise a certain sum of money. Several members of the Competitions Committee think that a Shilling Fund will assist the A.C.U. in providing some cash prizes. Every motor cyclist can afford a shilling, and it is not unreasonable to expect that a large number will respond to this appeal. It is such a rare occurrence for motor cycles to be allowed legally to be driven all out over a hilly and arduous course on a certain allowance of petrol, and the benefits which are certain to accrue therefrom both to the industry and the pastime are so great, that a hearty response to this moderate appeal should be made. The secretary will therefore be glad to receive the shillings of those of our readers who may feel disposed to send them. Those who are generously inclined should forward twelve stamps or a postal order for one shilling to the Secretary of the A.C.U., 18, Down Street, Piccadilly, W.

A few enthusiastic motor cyclists to whom the Fund was mentioned at a committee meeting of the A.C.U. have already subscribed their shillings. Their names are: Messrs. W. H. Wells, H. G. Cove, A. G. Reynolds, F. Hardy, V. Hart, F. Straight, W. Pratt, and J. W. Brooker. To swell the Fund we have sent one hundred shillings to the A.C.U. in addition to the small donation we have already given to the General Prize Fund.

Two-stroke Engines.

READERS will have noticed that the question of two-stroke or two-cycle engines used in competitions such as hill-climbs where the best performance is based on a formula has been exercising the minds of some competitors in recent events. The two-stroke engine differs from the ordinary type of internal combustion engine inasmuch as a charge of gas is drawn into the cylinder each time the piston descends, with the result that an explosion occurs at every revolution of the crankshaft instead of once every two revolutions.

The formula used for motor cycle hill-climbs is the $C \times T$

A.C.U., or Professor Callender's formula, $\frac{C \times T}{W}$, C being the cubical capacity in centimetres, T the time in seconds, and W the total weight of rider and machine.

Now, the question which has arisen is, should the cubical capacity of the two-stroke engine be given a fictitious figure to compensate for the additional working strokes of the engine, or should it be allowed to compete with ordinary engines on the same formula?

While this subject is under discussion, it is interesting to note that the Marine Motor Association of America, where a number of two-stroke engines are employed, uses the following formula, $\frac{A \times S \times N}{600}$,

A being area, S stroke, and N number of revolutions per minute, to arrive at the handicap. In the case of a two-cycle engine, the figure 400 is used as the divisor in place of 600. This handicaps the two-cycle engine to the extent of fifty per cent.

On a question of efficiency or arriving at the most powerful engine for a given cubical capacity, a handicap of this kind is obviously unfair. From a sporting point of view, the two-stroke, as shown by recent events, should certainly be handicapped in some form, but as motor competitions are held quite as much to prove engine efficiency and to improve the breed as to provide sport, is it fair to the designer and experimentalist who does succeed in making some improvement to debar him from the well-earned publicity? Failing some definite regulation on the subject from the ruling body, "we are as we were."

"The Autocar" Lectures.

AN announcement was made last week regarding the arrangements for holding *The Autocar* Lectures, reference to which has already been made in these columns. In all probability the lectures will be given in the following centres on the days named: Newcastle-on-Tyne, Monday; London, Tuesday; Cardiff, Wednesday; Leeds, Thursday; Manchester, Friday. The initial addresses will be delivered in each place during the last fortnight in October, and the series of eight lectures

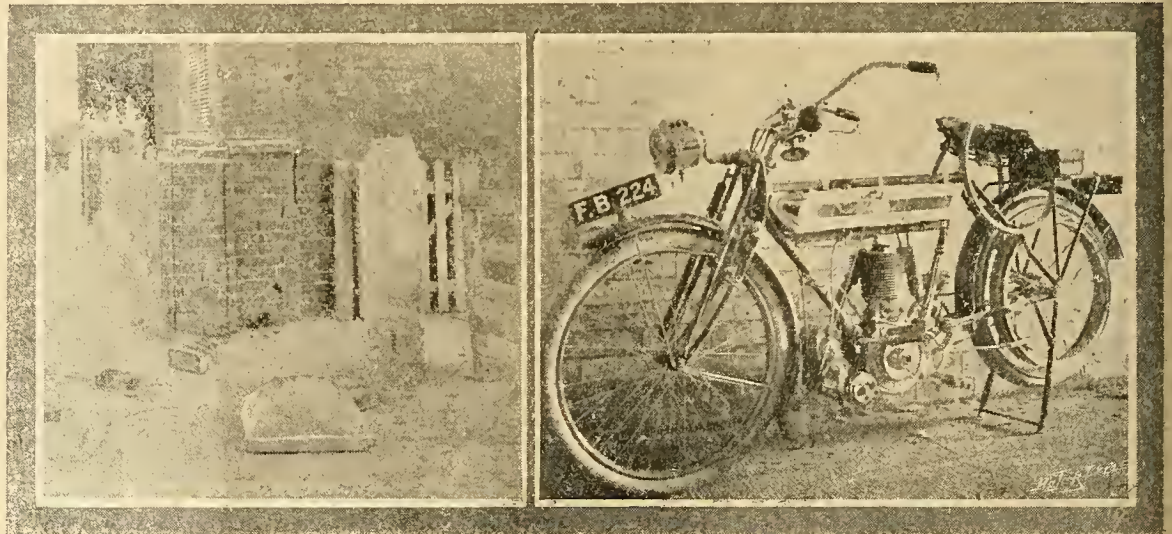
will then be continued weekly until completion. In London an afternoon lecture will be given. The lectures, although intended primarily for motor car owners and drivers, will be just as interesting to motor cyclists. Dr. Ormandy and Mr. J. H. Lester will explain such subjects as carburation, ignition, cooling, etc., in simple non-technical language. For the London series, *The Autocar* has engaged the small hall of the Queen's Hall, Langham Place, W., for the afternoon lectures at 3.30 to 5 o'clock, and evening lectures 8.30 to 10 o'clock, on Tuesday, October 13th. and the seven succeeding Tuesdays. Readers should make a note of these dates and particulars, and we invite them also to assist in making the scheme known to their friends. *The Autocar* has instituted the series of lectures with a view not only of benefiting the movement generally, but partly to counteract the harmful influence of hysterical writers in the lay press, who have already done a great deal of injury to an important industry without the slightest thought for the large numbers of workers who are interested in it, their only object being to fill the columns of their papers with sensational copy. Motor cyclists who are interested in the matter of these lectures should write to the Secretary, Lecture Department, 20, Tudor Street, E.C.

A CURIOUS ACCIDENT.

ALTHOUGH the somewhat peculiar accident which is described in the following lines is liable to happen to any motor cyclist, readers need not immediately jump to the conclusion that tyres are bursting every day, or that when they do burst the machine will perform gyrations such as are described by a correspondent—Mr. L. Milsom, of Audley Lodge, Bath. With ordinary care and frequent attention to the tyre covers, it is possible to avoid a burst unless one happens to run the wheel over a sharp piece of glass or other puncturing material, which will cut through a cover and air tube, however carefully it may be tended by the rider.

Mr. Milsom says that while turning a corner the back tyre burst (probably it was slightly deflated and the cover blew off the rim), the machine swerved, and dashed straight into the brick-built pillar shown in the illustration. In some way the machine ran up the pillar and knocked off the heavy coping-stone shown in the photograph, cracking the pillar from top to bottom. Fortunately,

the rider was separated from the machine during these manoeuvres on the part of the motor bicycle; he was thrown clear, and escaped with a bruised head and knee. The motor bicycle, strange to say, only had the

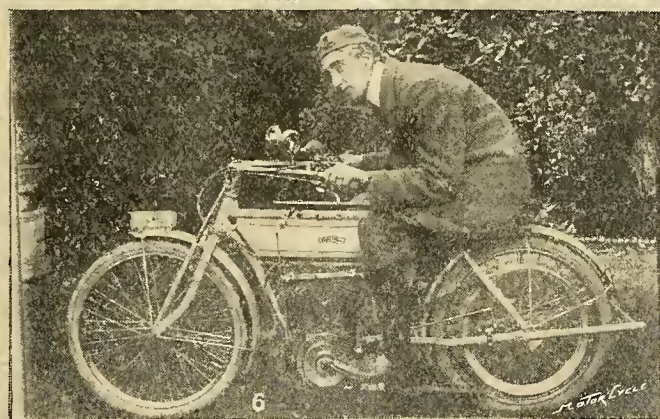
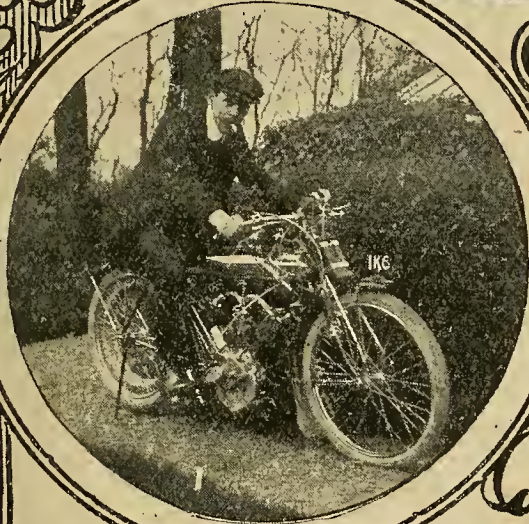


The damaged brick wall and the machine that caused the damage.

front wheel slightly buckled, the handle-bars bent, and the left footrest bent back on to the engine pulley. The lamp and engine were unharmed, even the lamp-glass remaining unbroken, as will be seen from the illustration above.

Some useful terminals for high-tension magneto cables have been sent us by Messrs. Chater Lea, Ltd., Golden Lane, E.C. The special features claimed for these terminals are that they will not come off the ball on the magneto machine, no matter at what angle they are placed. It is recommended that the cable should be large enough in diameter to be pushed over the round end of the terminal to prevent any chance of short circuiting.

We would remind owners of tricars fitted with clutches of the ordinary cone leather-covered type that it is possible to stop these clutches from slipping by inserting some cork inserts which are supplied by the British American Co., 300 to 330, Widdrington Road, Coventry. Users of leather clutches addicted to slipping would do well to communicate with the company as above. Mr. M. W. Randle has used cork inserts on his Lagonda with every satisfaction.



COMPETITORS IN THE MOTOR CYCLE TOURIST TROPHY RACE.

- | | | |
|---|---|---|
| (1) Noel E. Drury (5 h.p. Jap, accumulator ignition). | (2) W. F. Newsome (3½ h.p. Triumph, magneto). | (3) J. H. Slaughter (3½ h.p. Triumph, magneto). |
| (4) R. M. White (6 h.p. Bat, accumulator). | (5) F. Applebee (5 h.p. Rex, magneto). | (6) W. H. Wells (5 h.p. Vindec, magneto). |

My Record Ride

By Arthur W. Bentley.

(Continued from page 680.)

Although it was 2 a.m. and bitterly cold, I passed many a cheering group by the roadside, and at Wick quite a large number of well-wishers had stayed out of their warm beds in order to wish me good speed.

My machine was now travelling at a great pace, and I began to have some doubt as to whether it could stand the pressure for the whole journey; but the further I went the more did it appear to revel in its task, so I did not slacken the pace for a moment, and was quickly running ahead of schedule time.

A Narrow Escape on Berriedale.

After surmounting Berriedale I started upon that most dangerous and precipitous descent on the south side of this hill, and thus early in the proceedings very nearly extinguished my chances of finishing the run, as I almost took a header over the precipice into the sea; but, thanks to two very powerful brakes, I managed to scramble round in safety, and in a few minutes was running through Brora.

Here a very sporting amateur, whose name I do not know, had stayed up the whole night in order to ride with me, but, unfortunately, his machine, which was only a 3 h.p., could not keep the pace, and again I had no companion.

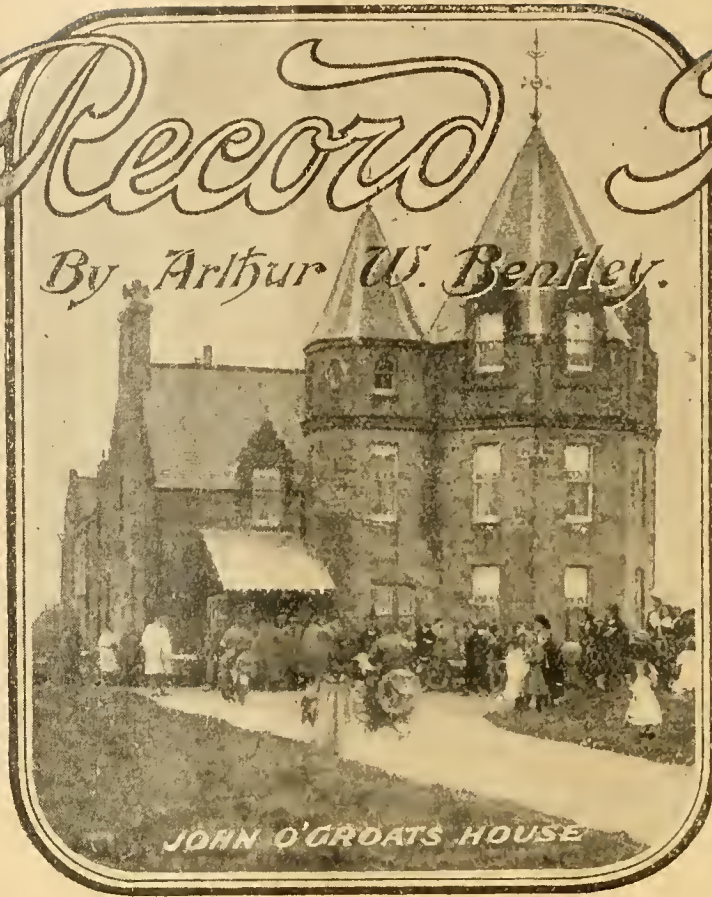
The road is comparatively easy to follow, although there are several places where one might take the wrong turning, but I was fortunate in the possession of very explicit printed instructions which Mr. B. H. Davies had kindly lent me, and by occasionally referring to these as I rode along I managed to find my way without any difficulty.

The early morning was very cold, and occasionally I ran into a smart shower of rain; but at about 3.30 things cleared up, and by the time I reached Alness (115) the sun was shining brightly, and everything was crisp and fresh.

Outside Alness I ran over a poor little rabbit which darted out suddenly and ran under my wheel. After Dingwall I had only some ten miles to cover before reaching Beaulieu (134)—the end of the first stage of the journey.

Companions on the Second Stage.

Here Mr. Lomax and my brother Horace had arranged to meet me, and I lustily sounded the horn as I ran into this quiet little village to attract their attention.



Even before I had pulled up outside the hotel they were out in the road ready for me, and, leaving my machine in their hands to fill with petrol, I hurried indoors, where a steaming hot breakfast was already laid.

After covering 134 miles close to the sea shore in the early hours of the morning, it is surprising how very hungry one feels, and I was very glad to have ten minutes clear in which to devour a somewhat hasty but none the less pleasant early breakfast. Within ten minutes, however, all was ready for a restart, and the three of us

were soon making tracks for Inverness.

A short distance outside this town we were delayed for the first time by a puncture, a large nail having penetrated the back cover, but, hastily slipping in a spare detachable tube, we continued our way; but within five miles we picked up two more villainous-looking nails, which necessitated another stoppage, and my last spare tube was requisitioned. I did not like the idea of tackling the Grampians with no spare tubes, as mending a puncture takes about double the time that replacing a detachable tube does.

Luckily for me Mr. Lomax had three detachable Rogers tubes, and, strapping these on to my tank, we were once more in full swing.

Passing over Muirtown Bridge, we soon swung round to the right into the Perth Road, and were traversing the first strip of that track which is erroneously called "the road over the Grampians."

After covering about ten miles I glanced round to see how my brother was going, and was somewhat surprised to see that he was nowhere in sight, and, suspecting that he was the victim of another puncture, I proceeded on my way without troubling further about him.

It appears, however, that in rounding an awkward turning he collided with a bridge, and was thrown heavily, but after a time betook himself to the nearest house, where he was most kindly received, and where he slept for the next three hours.

The Road over the Grampians.

A few miles further on Mr. Lomax broke his belt, and was thus put out of the running, so I completed the remainder of the ride over the Grampians alone. The roads were very greasy, and, to make matters worse, in very bad condition. Frequently I came across large patches of loose stones, but managed to hold up all right, and after covering about forty miles gradually emerged on to a considerably better surface, which

My Record Ride.—

improved very perceptibly as mile after mile was traversed.

Running through Aviemore, Kingussie, and Dalwhinnie (208½), I had now passed the wildest part of the Grampians, and began to run through more populated regions.

To this point I think I can truthfully say that the only people I had met on the road were a couple of crofters and a group of school children, so that nobody, not even the police, can possibly accuse me of having driven to the danger of the public!

At Blair Athol there was a heavy shower of rain, but in ten minutes it had all cleared away, and the clouds began to rapidly disperse.

On the whole, the weather was all that could reasonably be desired, although, as previously mentioned, the Grampians had not recovered from the previous Sunday's downpour.

Exciting Experiences.

One of the great disadvantages of running at high speeds over this road, apart from the execrable surface, is the crossing of the bridges spanning the little burns that run down the mountain sides. They are so sharp that over some of them the machine was shot clear of the road, coming down with a crash that threatened to shake every bolt and nut loose, and it says much for my machine that it stood the fearful buffeting without a murmur and without a single particle suffering thereby. Speeding along without anything of interest happening except a short sharp race with a sporting hare, I passed Pitlochry and Dunkeld (251), and, opening the throttle a little wider, ran into the bonny city of Perth two precious hours ahead of time, having traversed the 266½ miles in very good time, considering all things. I was within my time-table, and that was comforting.

Leaving my machine in the hands of Mr. Pople, who was meeting me here after winning a gold medal in the London to Edinburgh run, I enjoyed a most sensible meal.

The inhabitants of Perth seemed to scent something in the wind, and just as I came out of the hotel somebody out of the small crowd that had gathered round my machine presented me with the best apple I have tasted for many a long day.

During the night time later in the ride, when I was very faint from want of food, this apple was remembered, and made just all the difference to me.

A Glorious Run after Perth.

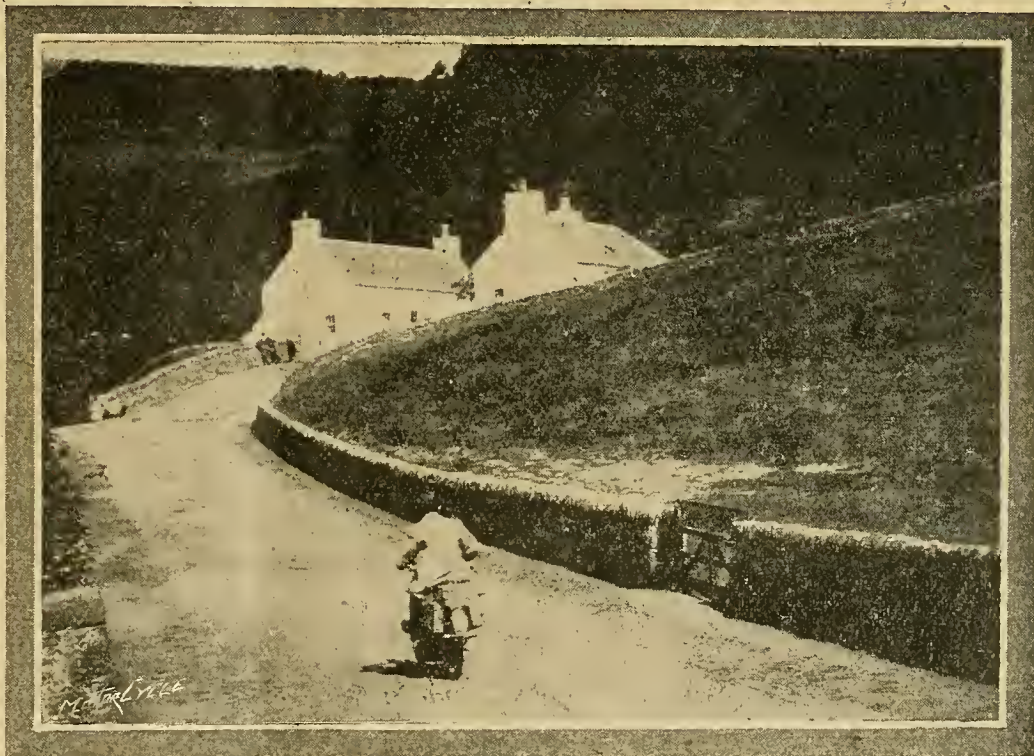
Within ten minutes we were off once more, and with Mr. Pople acting as pilot, we were soon out of Perth, and leaving the granite sets and tramlines behind, were running through that glorious stretch of country that lies between Perth and Auchterarder. Although it is quite true that one does not really appreciate the scenery in a run like this, it is none the less true that your spirits considerably rise when you are passing through beautiful country, and correspondingly fall when you are traversing some of the dirty grimy country along this route.

As Mr. Pople was mounted upon a first class machine, we travelled at a very good pace, but, of course, took matters somewhat quietly through the numerous villages and towns. What a pity some children look upon the road as their natural and exclusive playground, and consider the best sport imaginable is to run in front of your machine, sending cold shudders down your backbone and causing your fingers and foot to hover nervously in the vicinity of your brakes. Except for these anxious moments how much safer and pleasanter motoring would be.

The sun had now made its appearance in real earnest, and after we had passed through Stirling (301), the heat became somewhat oppressive, clad as I was in waterproof clothing.

Through Denny, Cumbernauld, Newhouse, and Newmains we sped without a hindrance, and in a short time turned into that splendid stretch of road leading to Lockerbie, along which it is possible to ride at any speed without the least danger.

Passing through Crawford Inn and Beattock Bridge (373), we had got within a few miles of Lockerbie when my machine suddenly ceased firing, and for the first



The acute corner at the foot of Berriedale which required negotiating very carefully. The wall on the roadside can be seen doubling back upon itself.

time something was amiss with the engine. We found the exhaust valve was broken, so we slipped a spare valve in, and, notwithstanding this delay, ran into Lockerbie two and a half hours ahead of schedule. Outside the King's Arms Hotel it appeared to us that practically the whole population of Lockerbie had gathered, and it was with some difficulty that we managed to make our way into the dining room, leaving my machine outside to be filled up by another amateur motor cyclist (whose name unfortunately I do not know) who had consented to pilot me down to Wigan.

The food at Lockerbie was rather too heavy to be palatable, and as I knew that food would be ready for me at Wigan, and that I should have a sit down meal at Whitchurch (the only one I had scheduled), I did not worry, and proceeded after eating several bananas and drinking several cups of coffee. The next stage was to Wigan (132 miles). If only I had realised how

My Record Ride.—

my arrangements were to fall through, that heavy meat pie would have somehow or other found its way whole into my pocket!

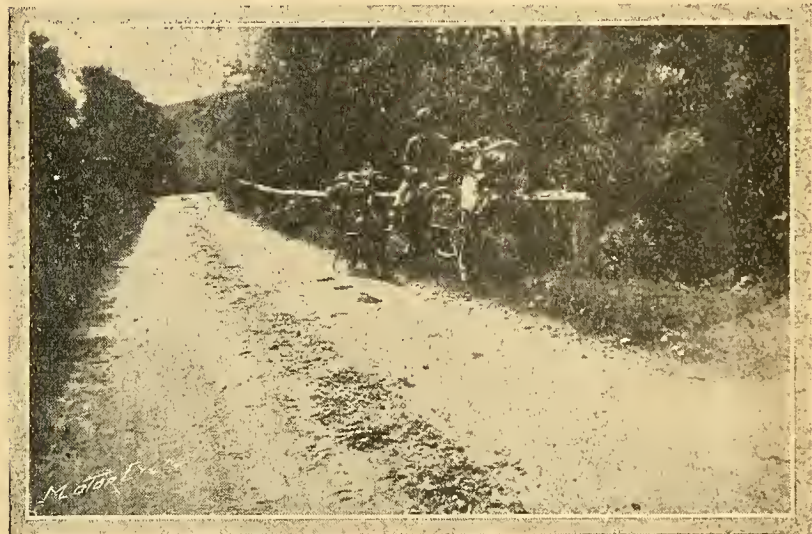
Saying good-bye to Mr. Pople, I made my way carefully through the crowd, and once clear of the town was out on the road to Ecclefechan, which was soon left behind, and in a few minutes entered upon the last few miles of the journey through dear bonnie auld Scotland.

Through Gretna Green and with a final farewell roar I was over Sark Bridge and across the border and entering upon the long run through England.

Slowing down through Carlisle, I came upon that fast stretch of road beyond, and hopping along in fine style, ran through Penrith out on to the twenty-six miles run over Shap into Kendal.

In the Best of Spirits.

The evening was beautifully fine, my machine, as usual, was pulling splendidly, and I was feeling gorgeously fit, though a trifle hungry, and to add to it all I was over two hours ahead of schedule, and consequently in the best of spirits, and I can never



On the Grampians. Two motor cyclists waiting to accompany me on part of the ride.

remember having felt happier and more contented with the world in general than I did as I romped up the long hill on to the top of Shap and away down the other side.

About half-way down the south side of this hill I crossed over the half-way mark of my ride, thoroughly satisfied with this first portion, and devoutly praying that the next 450 miles would prove as satisfactory as the first stretch had been.

Shortly after passing Kendal I received warning of a police trap, and as these warnings were renewed at short intervals all the way into Lancaster, I bestowed benediction on the police, and reluctantly throttled down to a ridiculously low speed considering the open state of the road.

Five minutes in Lancaster for a mug of warm soup and a couple of bananas to fortify me, and I commenced the eighty-four miles run into Whitchurch, where I knew a good sit-down dinner would be awaiting me.

Daylight was now fast failing, so I made the most of it and kept up a good pace through Garstang and Preston, and in a few minutes had pulled up in Wigan to light lamps before starting on the last forty-four miles to Whitchurch.

I had up to now only partaken of what might be termed very light refreshment, such as eggs, bananas, and milk, at Beaulieu, Perth, and Lockerbie, and by now the pangs of hunger were making their presence felt in no uncertain manner. Moreover, I began to feel very tired, and looked forward with much satisfaction to my one and only sit-down meal which I knew must even now be in course of preparation, and as I bowled along I cheered myself by the thought of the tempting dishes that would be spread for me, and which would put new life into my famished body.

Through Warrington and Tarporley I sped, and now upon the last fourteen miles. How long they seemed; it appeared to me that ages had elapsed ere I discerned the lights of Whitchurch twinkling in the distance, looking like so many little beacons guiding me on to my much-needed rest and refreshment.

Whitchurch at last! Sounding the horn loudly as I ran into the town shortly after midnight, three hours ahead of time, I rode up to the door of the hotel with a great sigh of satisfaction.

What did it mean that there were no lights in the hotel? I was rather disappointed to find nobody there to greet me, no hands to take my machine from me, and no apparent preparation for my arrival; but thinking that they had not heard me arrive, I again sounded my horn, and as this produced no result I dismounted and beat vigorously upon the door of the hotel. Absolute dead silence reigned for some minutes, but at last I heard steps inside, and with much fumbling of locks and bolts the door was half opened, and a voice asked me what I was wanting!

An Awkward Fix.

On stating the nature of my wants, and asking whether my pilot was ready for me, I was informed that neither was a meal ready, nor was there anybody in Whitchurch expecting my arrival. The door closed, and I sat down to think what my best plan would be.

For some inexplicable reason my plans had fallen down at the most important place of the whole run—in fact, at the most critical stage of the whole affair—and for a few minutes I sat there, too absolutely miserable and wretched to know what to do.

Here was I at 12.30 on a pitch dark night, literally ill from want of food. A light rain was falling. I was totally ignorant of the road, and, to add to my misery, my lamps would scarcely keep alight at all.

At that moment I would have given everything I possess in this world (not much, it is true) for, firstly, a meal and, secondly, a real good pilot, but as both were out of the question, I slowly rose to my feet, and with a sinking heart started my trusty little friend off out of the town, and in under two minutes we were enveloped in the inky blackness of the night, which my two lamps did little to brighten.

Creeping slowly along the dark lanes and stopping frequently in order to read the signboards, I made my way laboriously along for some twenty miles or so, when I began to have a very strong presentiment that I had left the right road, and that I was now in some unknown region.

To make matters worse, one lamp struck work altogether, and the other seemed as if it intended to follow suit very shortly, and as no amount of coaxing made the least difference to either of them, I continued my ride more or less in complete darkness.

(To be continued.)

OCCASIONAL COMMENTS.

By "IXION."

Audible Warnings.

In the course of my motor cycling experience I must have tried practically every form of road clearer ever invented, even including those diabolical echo-wakers which are worked by the exhaust. The most effective in a gentlemanly way that I have tried is the little "develine" whistle, or mouth syren. A mouth whistle is not particularly convenient for solo use, but it is ideal for passenger work, as it can lie on the passenger's lap till need arises for its use. I do not pretend that it is audible either to a drowsy carter or a driver of a rattling mineral water cart, but it is a sure means of giving notice of one's approach to most drivers of vehicles in time for the overtaken one to draw aside without compelling you to declutch, switch off, or change gear. No driver of a passenger motor cycle should be without one. Drivers of solo machines should eschew the deep booming type of hooter, and use a horn possessing a note that is high without being thin—no easy combination to discover.

Petrol Levels.

My budget of motor papers this week has included quite a collection of hints about the petrol level in the jet of a spray chamber. One useful tip is a reminder that the petrol level cannot be accurately ascertained if the jet be a very fine one, such as employed on a 2 h.p. or 2¾ h.p. engine, for in such narrow orifices as these capillary action is set up, and a bead of spirit will tip the jet, even if the real level be half an inch down the thin tube. Another tip I do not remember to have seen in print before was originally imparted to me by a rider who used a 7 h.p. Peugeot engine geared very low on a belt-driven tricar. As originally adjusted, this engine ran very hot, probably owing to being over-driven. He finally cured the trouble by setting the level of spirit in the jet exceedingly low. His theory was that this adjustment reduced the consumption of petrol, and assisted the atomisation of the spirit by causing it to hit the spraying cone at a far higher velocity than was obtained with the usual level. The one drawback to the notion is that it is difficult to obtain a start with this adjustment, and frequently it was even necessary on the tricar in question to inject liquid petrol into the valve box. But with the engine once started, this adjustment probably gives a more homogeneous mixture, and hence cooler and more efficient running. In my own experiments, this particular adjustment seems to give improved results with the short inlet pipe favoured by certain makers, but to be of very little benefit when it is long.

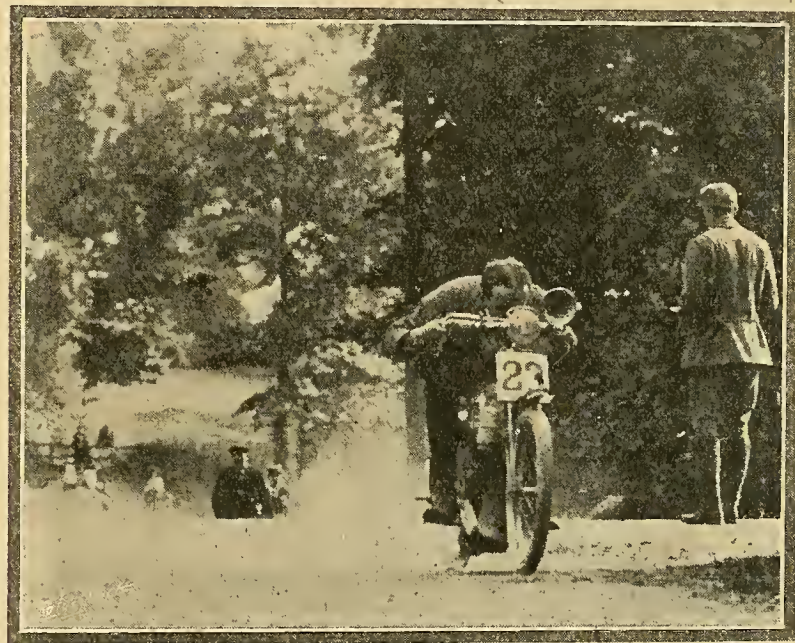
A Quick Cure for Choked Jets.

I was riding a lightweight the other day, when bad running set in, followed by a total stoppage, all the symptoms pointing to choked jet. I was rather in a quandary, as I had practically no tools with me, and the jets of this particular carburetter are not specially accessible, and so remarkably small that no ordinary wire or reamer could enter them. It occurred to me that I might clear the jets by putting the machine on the stand, injecting a liberal dose of petrol into the cylinders, and starting the engine on this liquid petrol. I made one attempt in vain, as the engine had gummed during my thinking bout, but this preliminary essay freed the pistons, and on the second attempt the experi-

ment succeeded. The petrol injections provided sufficient explosive mixture for the engine to fire a few times, and just as it seemed inclined to die away the fierce suction cleared both jets, and in a minute I was taking the road again, without having dismounted my tiresome carburetter. The tip is worth applying to any engine when the jet is not accessible.

Fracture of Two-piece Valves.

I much regret to differ from Mr. G. Gray about the attachment of cast-iron heads to nickel steel stemmed exhaust valves. There is no guarantee that when a machine is out of order the valve will not be submitted to almost as great a heat as was originally employed to shrink an iron head on to a steel stem. Every fracture of a screwed head valve from which I have

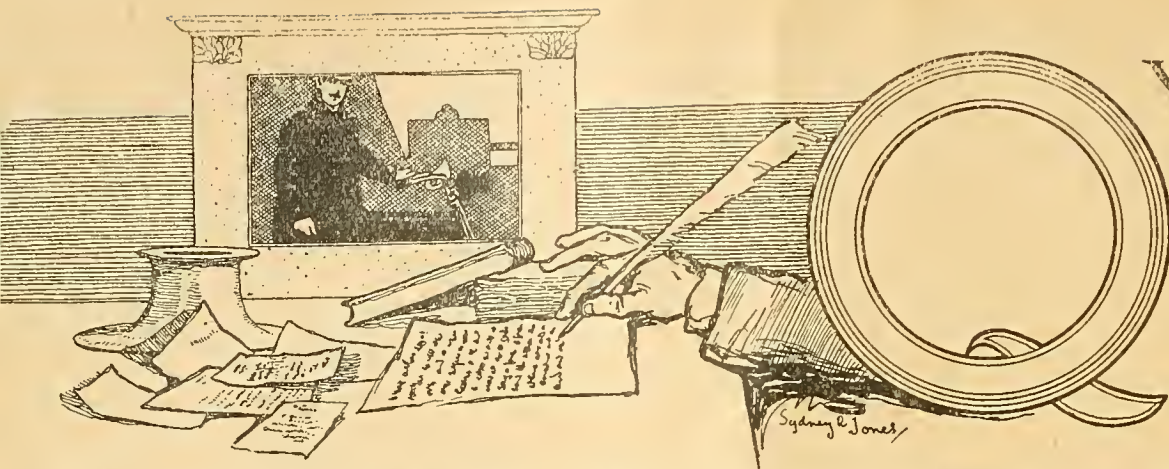


E. Stubbs (3½ h.p. Rex) at the cross roads near the foot of Newnham Hill in the Coventry M.C. Climb. The spectators breasting the rise in the background give a good idea of the steepness of the gradient at this point.

suffered—and their name is legion—has occurred where the thread begins, at the point where the stem enters the head. This strain has been successfully resisted by a valve I had made with the stem bedded into the head for a little distance before the thread began. Two-piece valves ought to be made thicker in the shoulder than one-piece valves, and if this is done, and the stem countersunk into the head a little before the thread commences, the screwing method of attachment is perfect in practice.

A Good Tyre.

For winter riding I have always been a Palmer devotee, and think their ribs, with the deep channel between, the best anti-grease device I have yet struck. I am now using a pair of 2¼ in. Palmer Cord tyres on 2 in. rims on quite a heavy machine, and they seem to have solved my tyre problems. The Palmer has a very thick tread, very stiff side walls, and is almost skid-proof. I believe it would be far more widely fitted were it not for an ancient fable that it just nicks into a tramline. To get any tyre of less than 2½ in. section in dead register with a tramline usually spells a fall, and no motor cyclist worthy of the name would commit such a blunder. I consider my present pair of tyres quite equal to anything I have tried in their standing up qualities.



QUESTIONS & REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and, whether intended for publication or not, must be accompanied with a stamped addressed envelope for reply.

Touring Abroad.

Can you give me some advice as to taking a motor cycle abroad? I mislaid the Motor Union circular which appeared in a recent number of *The Motor Cycle*, and not knowing the secretary's address have not been able to learn anything from that quarter.—O.C., Chiswick.

The address of the secretary of the Motor Union is 1, Albemarle Street, London. There is also the Auto Cycle Union—secretary's address, 18, Down Street, Piccadilly, W. Either of these societies will provide you with a pass on coming a member. The pass will enable your machine through the customs, and you will only have to pay a *permis de circulation*, price 6d.

Preparing for a Tour Abroad.

My machine is a 1908 Triumph. (1.) Would it be difficult or unnecessary to fit a secondary-ignition of coil and battery to ensure absolute reliability? (2.) Could the present magneto contact make and break be employed by somehow cutting out the magneto in the change? (3.) Can you offer a simpler solution than the above of my machine not starting unless I run it along at a great pace? (beyond dirt in carburetter and choked feed pipe). (4.) How often on my machine would you say I should clean and examine, and how often replace platinum points? (in mileage). (5.) How often (roughly in mileage) grind valves, and how often clean off carbon on top of piston? (6.) How long are piston rings supposed to last, and do you consider it necessary to carry one as spare when machine is touring abroad?—C.F.N.

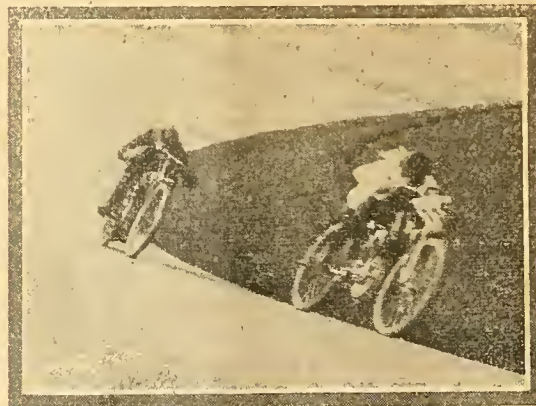
It would be most difficult and quite unnecessary to fit supplementary ignition to your bicycle. (2.) Not without altering the magneto considerably. (3.) First of all, see that the magneto points are clean and separating about 1 mm., that the sparking plug is a good one, and that the points are not more than .4 mm. apart, and then see that the air is almost entirely shut off when attempting to start, especially in bad weather. Half the trouble in starting is due to too much air when the engine is first started over compression. Always flood the carburetter

before attempting to start. (4.) The platinum points will probably last out the machine if you are careful to see that the condenser connections are clean and give a firm contact between the steel spring and brass cover and the screws holding on the said spring. (5.) About every 1,200 miles. (6.) It is impossible to say. If of the right material they last for thousands of miles. It would be rather a good plan to carry one when touring abroad, as spares are difficult to obtain.

Motor Cycling for Health.

My non-motoring friends tell me that motor cycling is bad physically, and that no one pursues that pastime for any length of time. What can you say about that?—M.H., Edinburgh.

Persons who have not tried motor cycling cannot tell whether it is bad physically or otherwise, therefore they are not in a position to judge. The best answer we can give you to this query is to refer you to a series of articles published in *The Motor Cycle* entitled



F. Toman (2½ h.p. Laurin and Klement) leading in Heat I. of the Tourist Handicap at the A.C.U. Race Meeting at the Stadium on the 22nd ult.

"Motor Cycling for Health," being the opinions of medical men who are actual users of motor cycles. The first of these articles was published on May 6th, and we are sending you a copy of the paper for that date. If you can succeed in converting any of your non-motoring friends sufficiently to induce them to read this article we should be obliged if you would circulate it. Erroneous impressions of this nature should be easily removed when the opinions of medical men are given.

Weak on Hills and High Petrol Consumption

I recently bought a second-hand motor cycle (1907 Quadrant) supposed to be 3½ h.p. I cannot get more than sixty miles to the gallon. I use as little petrol as possible, and drive with as much air as the engine will take. It seems to have good compression. Would not climb a hill 1 in 11. Have been told that it wants a new gudgeon pin and new rings. Would this alter the consumption? Engine knocks in climbing a hill 1 in 16. Carburetter clean. I retard the spark when knocking begins, but this does not stop the knocking.—W.A.F.

The fact that the piston rings are not a good fit will have some effect upon the consumption of the engine. Have the latter thoroughly overhauled and replace any worn or defective parts, and then turn your attention to the carburetter. The carburetter, if properly adjusted, should enable the machine to start easily and take all the extra air when running at full speed. The consumption should be between eighty and ninety miles to the gallon. The knocking is probably due to the worn gudgeon pin referred to, or to excessive carbon deposits on the piston head and cylinder. Worn valve cams would account for weak hill-climbing.

Carburetter Warming Pipe and Grinding Valves.

My engine is air-cooled by the aid of a fan; it is 86 b.h.p. 89, and runs very satisfactorily and does not overheat. (1.) Would there be any advantage in connecting a pipe from the silencer to the carburetter (Longuemare)? (2.) Would it make the mixture more explosive? (3.) Would there be any chance of setting fire to the carburetter when explosions occur in the silencer? (4.) Would it increase the chances of overheating the engine by warming the incoming gas? (5.) I have great difficulty in grinding my inlet valve (I use Carborundum powder). It will not touch the valve, but only grinds the seating. I have tried to get through the surface of the valve by rubbing it with emery paper, but it will not touch it, and it remains a black polish. It is not pitted. Can you help me?—A.L.

14.) In the summer months a warming device for the carburetter should not be necessary, and we do not recommend it. There would be no chance of setting fire to the carburetter, as the pipe is led into a jacket so that the hot air does not come in contact with the petrol. Certainly, if you fit it in the hot weather, and the engine is running satisfactorily, it might tend to over-heating. (5.) 'As long as the face of the valve is not pitted we think you need not worry.

READERS' REPLIES.

A Mysterious Knocking.

In your issue of the 26th August H.W.D." says that he is troubled by mysterious knocking in the engine. I see that you suggest as possible causes that the gear may be too high or the magneto wrongly timed. A recent experience of my own prompts me to mention a third possible cause, viz., the need of a fresh bush on the magneto spindle. My cycle is a 3 h.p. with magneto ignition. I bought it second-hand, and it was then in excellent order except for the bush on the driving side of the magneto being decidedly worn. After riding the machine for about 2,000 miles the knocking began,

and as there was evidently nothing amiss with the engine itself I argued that the trouble must be due to the magneto. I had it rebushed and the knocking has ceased.—KNOCKED.

A Flooding Carburetter.

One of your correspondents alludes to the trouble he has met with in the shape of a flooding (F.N.) carburetter. Possibly the following may be of interest to him as well as to other users of the same make of carburetter. I have experienced flooding from the spray chamber, on the stand as well as when running on the road, arising from this cause. In the F.N. carburetter the jet tube is a "driving fit" in its seating at the base of the spray chamber, so if the jet tube is not driven high enough you get an overflow of petrol. Experimenting with my own carburetter I find that apparently the best results are obtained when the apex of the jet tube is almost 1½ in. above the outside surface of base of spray chamber. A fine needle of suitable length with the tip of one finger pressed against top of jet tube enables one to find the required measurement. Should it be necessary to alter the height of the level in float chamber it will be a job requiring considerable

neatness and care. The toggles play between two separate discs soldered on the needle. So you have to unsolder the discs, fix them in their new position, taking care to keep them perfectly true as well as maintaining the correct distance between them, and then resolder. One would think that it might be possible to obtain a better mode of raising and lowering the petrol level than this. Inspired by some hints contained in an article in *The Motor Cycle* by Mr. Hooydonk some months ago, I have had fitted to my carburetter a "needle controller," by means of which the jumping of the needle can be limited to any desired extent, and yet, at the same time, without interfering with the lifting of the needle when flooding the carburetter preparatory to starting the engine. I have made comparative tests of the petrol consumption with the "needle controller" in action and out of action. The mean of several tests under varying conditions of gradients, direction of wind, etc., works out at a difference of nearly twenty per cent. less petrol being used when needle controller is in action. The value of the needle controlling device lies not so much in the reduction of the petrol bill as in the better running obtained.—EXPERIENTIA DOCET.

A FAMILY OF BAT RIDERS.

AS a convincing proof that motor cycling is not confined to the younger section of the community, we have pleasure in reproducing a photograph of a group of seven riders of the well-known Bat pedalless motor bicycles—father, two sons, a son-in-law, and three nephews. Seen from the

well as when new. Mr. Sharpe is the second figure from the right, and is sixty years of age. The photograph was taken in his own grounds at Halton Hall. He is a particularly enthusiastic motor cyclist, and though a lover of ease and comfortable riding, thoroughly enjoys an occasional "dust up" when cir-



light the machines are 9 h.p., 7 h.p., 6 h.p., and 4 h.p. Bat-J.A.P.'s, and three 4 h.p. Bats. The three oldest machines have been in constant use for five years, and the senior member of the party, Mr. Sharpe, who is an enthusiastic rider of the 7 h.p., says they run as

circumstances permit. He considers the 7 h.p. 1908 Bat with magneto ignition superior to anything the Bat Co. have previously made, and the finest touring machine it is possible to obtain. Such enthusiasm on the part of riders speaks well for the Bat Co.'s future.

AUTO CYCLE UNION NOTES.

The Motor Cycle Tourist Trophy Race.

The arrangements for the above race, for which, by the way, there are thirty-seven entries, are now complete, and it is to be hoped that the contest will be even more successful than it was last year. A special subscription list has been opened, and motor cyclists are invited to contribute towards the prize fund, and it is earnestly hoped that this time the appeal for contributions will not be overlooked. The matter is referred to elsewhere in this issue.

The Penalty Run.

The A.C.U. penalty run, open to teams from the various motor cycle clubs, will be run off on the Woodford to Stumps Cross route on October 3rd. The Service Co., Ltd., has decided to offer a cup to the Auto Cycle Union for the team making the best performance. Any team winning the trophy three times in succession will become its possessor. In any one team not more than six riders may compete for the cup, so that all clubs, large or small, may have an equal chance.

The Autumn Quarterly Trial.

The next A.C.U. quarterly trial, over the Uxbridge-Wheatley-Banbury-Beaconsfield course, will be held on October 17th.

Permit.

A permit to hold an open hill-climb on October 3rd has been granted to the Bradford Motor Cycle Club, provided the necessary sanction from the police is obtained.

The A.C.U. London-Plymouth-London 24 Hours Run.

The A.C.U. judges have decided upon the following awards in connection with the above run, which took place on August 7th. Twenty-nine competitors took part in this arduous competition.

SINGLE CYLINDER CLASS.—(1) W. H. Bashall (3½ h.p. Triumph), error on timed section 1m. too slow; (2) W. E. Burkin (2¾ h.p. Laurin and Klement), error on timed section 2m. 30s. too slow; (3) C. H. Barfield (3½ h.p. Triumph), error on timed section 3m. 30s. too slow; (4) H. G. Cove (3½ h.p. H.G.C.), error on timed section 4m. 30s. too slow.

TWIN CYLINDER CLASS.—H. M. Bentley (5 h.p. Rex), error on timed section 3m. 30s. too slow.

LIGHTWEIGHTS.—(1) E. Clark (2¾ h.p. Douglas), error on timed section 5m. too slow; (2) G. L. Fletcher (2 h.p. Moto-Rêve), error on timed section 4m. 30s. too slow.

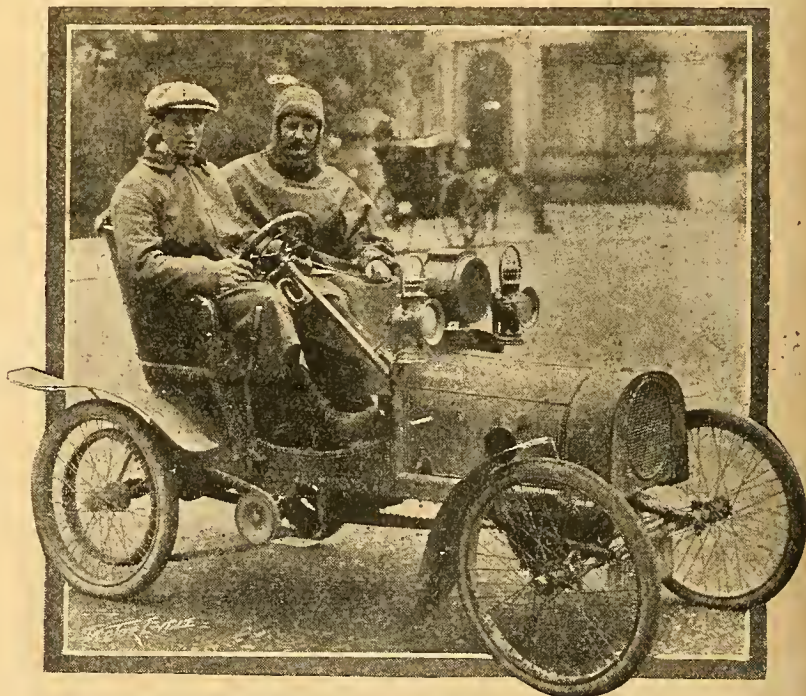
THE 5½ h.p. O.T.A.V. RUNABOUT.

BEING well aware that motor cyclists who are anxious to take a passenger with them on their journeys have a leaning towards a vehicle built on motor cycle lines, which possesses at the same time the advantages of a small car and the simplicity of the bicycle or tricar, the Junior and O.T.A.V. Cars Co., Ltd., have produced the runabout illustrated herewith. The engine, which is air-cooled and has a bore and stroke of 100 by 110 mm., possesses ordinary radiating fins, but on the crankshaft there is an enclosed fan, which forces a draught of air on to the combustion chamber, which is enclosed in an aluminium casing, ensuring a continuously cool blast. The ignition is by coil and accumulator, with make and break contact-breaker, or a magneto can be fitted as an extra. The carburetter is of the O.T.A.V. automatic type. From the engine to the ball bearing countershaft, which extends transversely amidships across the frame, the transmission is by chain, and on this countershaft an epicyclic gear giving two forward speeds is fitted. The change speed is controlled by a side lever. At each end of the countershaft is a pulley which carries a rubber V belt driving the rear wheels. There is no differential, the slip of the belts equalising the difference in the speeds of the back wheels when a corner is taken. The control is by an accelerator pedal and a spark variation lever on the steering wheel. Another pedal controls the countershaft brake, and a side lever operates the brakes on the rear wheels.

A very complete list of accessories is included in the price of the vehicle—which, by the way, is most moderate—comprising all necessary tools, rubber mat, pump, horn, two acetylene lamps, and tail lamp.

A short trial run proved the little runabout to be tractable in traffic and no mean hill-climber, as it easily took two persons up a hill of 1 in 8. The company

gladly give customers trial runs up Netherhall Gardens (gradient, 1 in 7.4). The weight is said to be 5 cwts. Its reliability has been proved in the Essex Motor Club's twenty-four hours run to York and back, a distance of 399 miles being covered well within the specified time, the driver, E. E. Leverett, being eligible for a gold medal by reason of the performance. Standard Continental tyres were used,



The 5½ h.p. single-cylinder air-cooled O.T.A.V. which carried two passengers from Woodford to York and back well within 24 hours.

the size being 650 by 55 mm., and we are told these were hardly scratched on finishing the journey. The company, whose address is 117, Long Acre, W.C., are prepared to accept motor cycles in part payment for these runabouts.

The Lightweight Question.

By "IXION."

ONE of the peculiarities of motor cycling controversy appears to be that one's words are always twisted round by those who differ into bearing a meaning that neither tone nor language ever justified, and I think this distinctly applies to Messrs. Dufaux's treatment of my notes published on August 19th. Let me therefore commence my reply by quoting the opening words of my note, viz., "I do not profess to be specially enthusiastic about the lightweight motor bicycles of to-day, whatever ardour I may be able to summon up about those of to-morrow." I yield to no man in my ardent belief that the lightweight has a big future. Efficient as the 130 lbs. and 160 lbs. tourist machines are, there are simply thousands of potential motor cyclists who will never tackle a greater weight than 80 lbs. Consequently, as soon as the lightweight is as efficient as the 130 lbs. and 160 lbs. machines, it will enter upon a tremendous vogue. To my mind, it is already only short of that stage of efficiency by reason of the fact that its tyres and belts give a wholly disproportionate amount of trouble.

The Only Troubles.

An instance of this point is the fact that of the hundred or so Motosacoche I have at various times encountered on the road, I never yet saw one hung up with any other trouble than slipping or broken belts on one hand, and damaged tyres on the other. I have three or four times encountered these machines with the back tyre gashed across almost down to the beads by sharp stones; I have heard of many other instances of the same thing; and I read only the other week that one of Messrs. Dufaux's own machines was thrown out of an important trial by a similar misfortune. Furthermore, as I know only too well from much personal experience, these lightweight tyres will gash in this fashion on quite good roads at quite moderate speeds, even when the tyres are brand new; and as a rider who is jealous for the speedy perfection of a type of machine that is to assist the motor cycle movement tremendously, I shall not cease to clamour for the fitting of stronger tyres. Some of Messrs. Dufaux's competitors are already making this needed change in their specification, and I hope Messrs. Dufaux will see their way to follow suit.

A Threatening Competitor.

On the other hand, I think one statement made by Messrs. Dufaux far more calculated to arrest the lightweight movement than any words of mine, and as a private rider of lightweights I am going to give it a flat contradiction. They say it is not intended to be a serious competitor of the heavy high-powered machines. To my mind, it is not only so intended by most of its makers, but it already actually is a very threatening competitor in all respects save speed. When I am face to face with a 200 miles day's run, which I wish to make in comfort and non-stop, without exceeding a twenty miles an hour average, I would just as soon mount a lightweight as a 3½ h.p. or a 5 h.p., *if only I dare trust my lightweight's tyres and belt.* Messrs. Dufaux's actions altogether stultify their words, and I am exceedingly glad that they do. They enter their 80 lbs. 1¼ h.p. in practically every long distance trial against the 3½ h.p.'s and the 5 h.p.'s. They are entered for Edinburgh, Plymouth, and back, Land's

End and back, and for the End-to-end, and they have made many gallant showings. Messrs. Dufaux know better than I do why they have failed whenever they may have failed, but surely I am justified in applying my own long riding experience of such machines to the cases in point, and asserting that were it not for belt and tyre troubles the proportion of such failures in all makes of lightweights would have been reduced almost to zero.

Larger Tyres Essential.

In conclusion I did not invite lightweight makers to add a lot of lumber to their machines, and so spoil the very essence of their design. As regards tyres, it is highly probable that neither rims nor spokes would need strengthening if a tyre of larger section, viz., 2in., were substituted for the present size. I know this is possible, as I rode a 2¼ h.p. Buchet, fitted with 2in. tyres, and scaling 82 lbs. ready for the road, before ever the Motosacoche came to England at all. As regards belts, there are machines scaling only 80 lbs. which possess a no-trouble belt transmission. And I prove that I have actually a higher opinion of the lightweight than Messrs. Dufaux themselves, when I assert that, given 2in. tyres and a better designed belt transmission, there are three or four lightweights on the market, including the Motosacoche, which many riders would prefer to use *for all purposes* in lieu of heavier and higher powered machines. It is, to my mind, very absurd to pretend that the lightweight cannot within a short time prove itself the equal of its heavier compeers in all respects, speed alone excepted.



Will the gentleman who addressed a postcard from Norwich to Messrs. Minerva Motors, Ltd., on the 25th ultimo, kindly send his name and address to the Editor, as these details were omitted?

One of the features of the A.C.U. Land's End to John-o'-Groat's trial was the success of Price's oil as a high-grade lubricant. Out of the forty-eight machines which finished Price's air-cooled oil was employed in forty-two, and the absence of engine troubles throughout this arduous test may be ascribed to the excellent lubricating properties of this well-known oil. Price's Patent Candle Co. are making reprints of the A.C.U. judges' report, and will supply any motor cyclist interested with a copy post free on application.

Gamages, the great accessory house in Holborn, are now holding a huge stock of motor bicycle and tricar tyres, doubtless the largest of any retail store in the kingdom. This valuable stock includes the newest rubber non-skids, which now embrace Goodrich, Continental, Clincher, and Shamrock Excelsior. Mention might also be made of the wide range of all the popular sizes of well-known makes of tubes, including the Rich detachable, and the newest form of airtight butt-end—the Shamrock Excelsior. With such a turnover in tyres one can rely on the goods being fresh. Prices, too, are in many cases at a discount off manufacturers' lists, and in other cases a very liberal allowance is made for the old covers. Readers will be well advised to get into touch with Gamages when needing anything in the way of tyres.

CURRENT CHAT.

SPECIAL FEATURES.

A NOVEL LITTLE RUNABOUT.
THE MOTOR CYCLE T.T. RACE.

T.T. Race Twin-cylinder Machines Predominate.

Entries for the Tourist Trophy motor cycle race reached a total of thirty-seven before the list finally closed, so that an exciting contest on the 22nd inst. is assured. There are twenty competitors on twin-cylinders, fifteen on single, and two on four-cylinder motor bicycles.

A 7 h.p. Racer.

H. V. Colver will ride a 7 h.p. twin-cylinder Matchless in the forthcoming T.T. Race, and will pin his faith to accumulator ignition. The engine is a J.A.P. with mechanically-operated valves in the combustion head, carburetter J.A.P., tyres Dunlops, and belt Shamrock Gloria. This machine has one of the three largest engines in the race.

Climbing Precipices in Switzerland.

A contributor, Mr. E. D. Fawcett, who wrote such interesting touring articles in *The Motor Cycle*, is at present staying at Chamounix experimenting with some precipices in the district on a motor car. Gradients of 1 in 2½ (surveyor's figures) are not to be lightly passed over in more senses than one. Even the Caterpillar motor would find such inclines worthy of its power.

A Motor Cycle Thief Wanted.

Mr. H. J. Crouch, of Wanstead, the other day accepted a cheque for a 1907 Triumph motor bicycle No. 107846 from a stranger, and it is alleged that the references he gave are false, and that he has no banking account. The man got clear away with the machine. He is described as being of about 5ft. 10in. in height, and has a decidedly Roman nose with a high bridge. He gave the name of John Aldon. A warrant has been taken out for his arrest.

A Probable Market for Motor Cycles.

The London correspondent of the *North Queensland Herald*, Bassishaw House, Basinghall Street, E.C., informs us that the colony of Queensland is eminently suitable for automobiles. The Attorney-General for Queensland has travelled for 3,000 miles on a car, and his chauffeur is of the opinion that Western Queensland is highly suitable for motoring. Whether or not the roads are as suitable for motor cycles as they are for motor cars the correspondent does not state.

The Smallest Twin-cylinder Engine.

The two Young-Bentinck machines entered for the T.T. Race have easily the smallest twin-cylinder engines, the

rating being only 3½ h.p. We are assured by Mr. E. G. Young, of Nottingham, who will ride one of the machines, that they are possessed of a surprising turn of speed. With such small engine dimensions their drivers should have no fear regarding the petrol allowance of eighty miles to the gallon in this class.

The Ventoux Hill-climb.

This important hill-climbing competition, organised by the Automobile Club Vaclusien, will be held on the 12th and 13th inst. It is an interesting item of news to note that prospective clients in the district of Mont Ventoux request manufacturers and dealers to take them to this celebrated hill and show them what the car or motor cycle they purpose buying can do in the way of ascending it. No wonder the event is well supported in France, and that there are numerous



J. Marshall, who finished second in the T.T. Race (single cylinder class) last year, and will bestride a 3½ h.p. Triumph this year.

entries already. Among the motor cycles entered are the Griffon, the Terrot, Magnat de Bonne, and Moto-sacoche. If the last-named machines, of which three are entered, climb the hill successfully it will indeed be a feather in their cap. The first Ventoux hill-climb took place on the 16th September, 1902, and the event has gained in popularity each succeeding year.

A T.T. Competitor.

Mr. Noel E. Drury, of Saggart, Co. Dublin, is one of the private owners entered for the T.T. Race, twin-cylinder class. His machine is a 5 h.p. J.A.P. with cylinders set at an angle of 90°, and measuring 85 by 60 mm., carburetter B. and B., handle-bar controlled. The machine is a genuine tourist except for the shape of the handle-bars, and weighs 190 lbs.

C. R. Collier's Racer.

C. R. Collier, last year's winner of the Tourist Trophy Race, single-cylinder class, will again bestride a single-cylinder mount. The engine—a 4 h.p. J.A.P.—has m.o. valves on top of the combustion head. The carburetter is a J.A.P., and this year Collier will use a magneto. His Matchless racer is finished cream and will have rigid forks with girders. Will it still be "matchless" at the end of the present month?

Western Country Roads.

A correspondent writes, "Recently returning from a tour in Devon I thought I would take the road back to London from Exeter *via* Ilchester, Wincanton, and Amesbury, instead of the Salisbury-Shaftesbury Road. Fortunately, I made a stop at Wincanton for petrol, where I was told that the military had cut the road to pieces, and that it was scarcely rideable. I turned up north to the Bath Road and so saved my tyres."

Police Traps.

A Suffolk correspondent writes us as follows: "Being a keen motor cyclist I have much pleasure in giving notice of a trap which is in operation on the Leaden Road, Colchester. The trap is in operation between the Stanway Union and the turning to Colne, a stretch of about a quarter of a mile. I do not think this trap is in operation the whole week through, but has been working lately."

There is a trap ten miles in length starting three miles from Chester and ending seven miles from Warrington.

Another between Torpoint and Liskeard in Cornwall, on the End-to-end route.

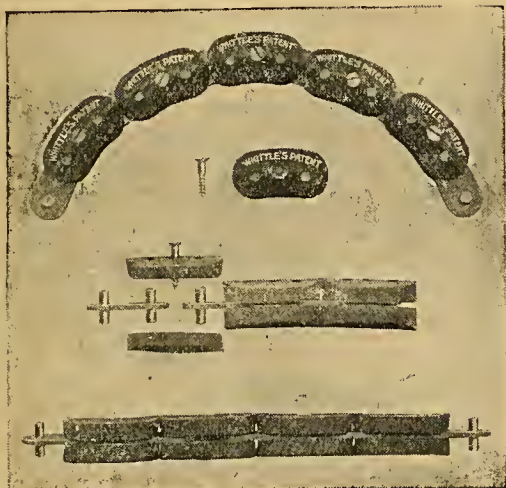
Cars and motor cycles are being timed and numbers noted at Cattistock and Holywell, on the Dorchester and Yeovil Road. There are dangerous corners at both places.

Readers who discover police traps are requested to communicate them to us for the benefit of other motor cyclists.

WHITTLES' (PATENT) LINK-GRIP

Non-slip Endless Leather Belts for
MOTOR CYCLES, FANS, Etc.

No
fastening
link
required.
Shorten-
ing
simple
and easy.
Great
strength.



Less
power
required.
Not
affected
by wet.
Will
drive
when
slack.

Trebles the life of the Pulleys.

WHAT MANY OF OUR CUSTOMERS SAY:

"Have had belt in use for over three years."

"Done upwards of 20,000 miles."

"The only belt for heavy passenger work."

"Five times cheaper than any other."

"The poor man's belt."

"No sign of slip."

"The 'no trouble' belt."

"Have not taken belt off pulleys for two years"

"The best belt on the market."

Send for new Booklet with full directions and copies of recent testimonials.

Thos. Whittle & Sons, Ltd.,
Rose and Crown St., WARRINGTON.

Telephone 365Y Telegrams—"Belt," Warrington.

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

Weather Makes No Difference.

PROVIDED YOU HAVE THE RIGHT
TYRES AND THE RIGHT CLOTHING.

We have told you of the tyres (and the prices), now
here is the clothing, the **PRACTICAL** kind:

"GAMAGE WEATHERPROOFS"

These are made in either single or double texture cloths, the former are of course considerably lower in price than the latter, but from practical experience we cannot recommend them for motoring use. The following prices therefore are for best stout double-texture materials only, the other kind will be found priced in our 100 page list.

SINGLE BREASTED JACKETS, 24/6, 28/6, 32/6, 37/6.

DOUBLE BREASTED ditto, with deep Prussian collar, 3/6 extra.

LEGGINGS, with gaiter fronts or **OVERALLS**, cut straight (as illustrated) to wear over trousers 10/11, 12/11, 16/6 and 21/- the pair.

CAP COVERS, with flap for protection of back of head, 4/6, 5/6, 6/6 and 7/11.



DON'T BUY 'CHEAP WATERPROOFS'

They are not cheap, and are not waterproof.

THE "RAMSEY" WATERPROOF JACKET with LEGGING ATTACHMENT. An admirable garment giving complete protection in the roughest weather. The leggings fold up when not in use and are buttoned inside the coatside. Prices of complete garment, stout double texture, 27/6, 32/6, 37/6.

WATERPROOF GAITER LEGGINGS, recommended to wear with the above garment. Very easily slipped on and thoroughly protecting the lower part of the leg and foot. 13 inches high with spats, 3/6 per pair.

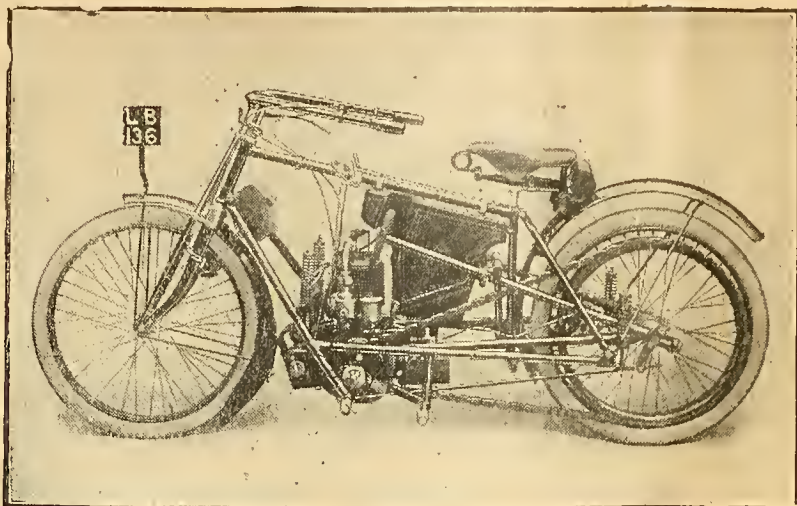
THE "COLLINGWOOD" FULL THREE-QUARTER LENGTH COAT: double-breasted, deep collar, strapped cuffs. Heavy brown waterproof, price 40/-

LEATHER WAISTCOATS WITH SLEEVES. These save all risks of cold and chill through damp, and ordinary clothing can be worn over them. Double-breasted Black Leather with leather sleeves, all sizes, 21/-, others at 30/-, 40/-, 45/-.

Also a special line in Tan, Green, or Dark Brown, 30/-.
Get one now and be prepared for anything.

120 large page fully illustrated list post free.





THE ZENETTE WITH Gradua Gear.

What riders say about it:

Messrs. Zenith Motors, Ltd.

20th May, 1908.

Dear Sirs,—I have to express my complete satisfaction with the 'Zenette' with 'Gradua Gear.' I gave up a practically new machine of first-class make simply because I wanted more comfort on the long journeys I have to take. I went for a 70 mile run yesterday and returned feeling perfectly fresh, and not in the least stiff. The gear enabled me to soar up River Hill, and has quite proved its reliability and practicability. As tests, I tried last week stopping and restarting on the steepest parts of Brockley Hill and Netherhall Gardens, in both cases most successfully.

Believe me, Dear Sirs, etc.

25/5/08

Dear Sirs,

I think you would like to hear I am pleased with the Zenette I bought from you this last Easter. I have now ridden close upon 1,300 miles, and given it a thorough trial, and have nothing but praise to give you. I am a hard rider, riding nearly every day, and since 1902 have had many motor bicycles, but none of them come up to the Zenette. I think the control and steering is perfect, and in traffic I can go at a walking pace with your 'Gradua' Gear, and stand still with the engine running, and without getting off start again, not having to dismount and then run and jump on, as in the old days. Up hills it flies, but if wanted will either crawl up or go at a comfortable speed, and will start in the middle of a steep hill. I certainly would not be without your 'Gradua' Gear now I have once had a machine with it, and I say the same in regard to the spring frame; it is as comfortable as a car; and another thing I like is the way it will turn in any ordinary road without stopping the engine or dismounting. Yours truly, etc.

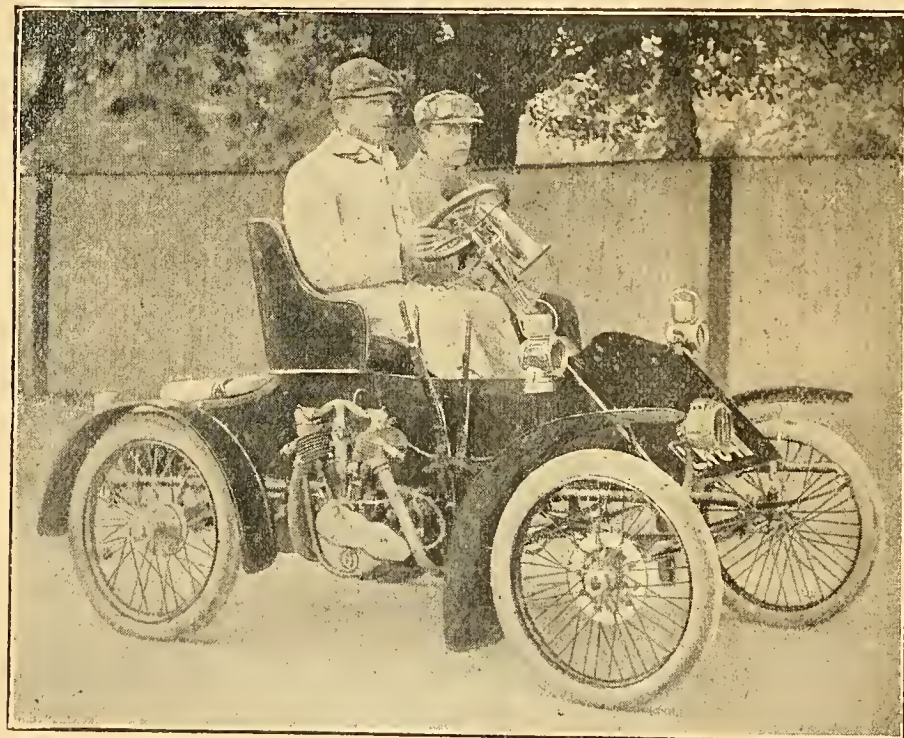
What the Press says about this unique mount:

The Daily Telegraph (Motor Editor) says: "The 'Zenette' double-spring frame is quite unique. It is designed to give absolute immunity from vibration to the rider, and it consists of two members pivoted horizontally about the centre, so as to be capable of angular movement in a vertical direction, like the limbs of a pair of scissors. The members are of a somewhat rectangular design, and are connected at each corner by tension and compression springs. The back wheel and the engine, etc., are carried on the one member, and the front wheel and the driver on the other; but any shock to the front wheels does not act directly on the rider, as it is intercepted by a central hinge between the two members, and is absorbed there by the action of it, which becomes raised or depressed as necessary. This action is entirely compensating, and the running is, therefore, most luxurious."

The People (Motor Editor) says: "My readers will probably remember that the Zenith Motor Co. have specialised for some years past in the matter of spring frames for motor cycles, and it was that particular point of the machine which I was most anxious to test. Let me say at once that the spring frame was a great success. In the old days I had a rigid frame machine, but had to give it up owing to the vibration transmitted to my poor body from the inequalities of the road surface, and my recent ride fully demonstrated to me that the one great objection to the smallest form of automobile had been done away with entirely by the four-coil springs—two in front and two behind—fitted to the 'Zenette.' As for the variable gear—known as the 'Gradua'—I have nothing but praise for it, too. I think the gear will prove an unqualified success."

TRIAL RUNS OF THIS MAGNIFICENT MACHINE MAY BE HAD (BY APPOINTMENT ONLY).

ZENITH MOTORS, LTD., 119, Stroud Green Road, LONDON, N. (Station: FINSBURY PARK).



GOLD MEDAL. London to Edinburgh.

THE CHATER LEA CARETTE.

A light, handy two-seater for
all roads and all weathers.
No water-cooling system to
freeze.

With High Tension Magneto Ignition,
95 GUINEAS.

The Chater Lea Carette (Reg. 512135) may be regarded as the Next Step for the Motor Cyclist, as it scores on the point of appearance, safety, sociability, speed, and comfort. In these respects it equals the orthodox light car, while it is free from the usual complications of water-cooling and a differential gear. **The Engine** is a 6 h.p. Sarolea twin cylinder 75 mm. x 80 mm., very accessibly placed. **The Transmission** is through a 9in. leather faced cone clutch to a compact two-speed gear. The driving shaft is arranged as a continuation of the engine shaft, and is carried across the machine; it terminates in a sprocket from whence the drive is by Hans Renold chain to the left rear wheel. **Rear Hubs** are of special construction and fitted with internal expanding metal-to-metal brakes. **Starting** is by usual handle, which is geared up to engine.

PROMPT DELIVERY. TRIAL RUNS BY APPOINTMENT.

Works: 114-120, Golden Lane, London, E.C.

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

The M.U. and Affiliation.

The Motor Union last week received enquiries with regard to affiliation from two newly inaugurated motor cycle clubs. The secretary will be glad to answer any enquiries from clubs considering their affiliation arrangements for next year.

The T.T. Shilling Prize Fund.

As mentioned elsewhere, a shilling fund has been started to assist the A.C.U. to provide cash prizes for successful competitors in the T.T. motor cycle race on the 22nd inst. One shilling postal orders or stamps should be sent to the Secretary, the A.C.U., 18, Down Street, Piccadilly, W. *The Motor Cycle* has subscribed 100 shillings to this fund, and in forwarding the cheque for this amount to Mr. Straight, the secretary, we asked him to send us a list of names of donors for publication in *The Motor Cycle* next week.

Prizes in the T.T. Motor Cycle Race.

Lord Raglan, Lieutenant-Governor of the Isle of Man, has consented to present the A.C.U. trophies to their respective winners at the Palace Theatre, Douglas, on the evening of the 24th inst.

An Enterprising Photographer.

Visitors to the seaside may have noticed that it is considered an attraction by photographers on the sands to have an imitation motor car in which to pose their customers. We were much amused on a recent visit to Scarborough to see that one enterprising photographer had gone one better than his rivals and staged a real 1½ h.p. Minerva motor bicycle of ancient origin for his customers to sit on for the purpose of a photograph. What an honour to sit on a seven year old motor bicycle!

Danger of High Hedges.

We regret to hear of a collision that occurred between a motor cyclist, the son of Mr. R. de B. Crawshay, the well-known Kent automobilist, and a motor van. It occurred at a road corner near Bromley, and was mainly attributable to the absurdly high hedge viz., eight and a half feet at the corner and leading thereto. As a result of the accident it will be clipped to a reasonable height. The motor cyclist happily only sustained bruises and cuts, but the machine was badly smashed.

La Coupe d'Evreux.

This French race will be held on the Route de Cambolle on the 20th inst. There are classes for tricars and motor bicycles. The motor bicycles will be divided into classes for machines with engines of quarter litre and one-third litre capacity and light-weights under 66 lbs. One of the rules in the last class is that the machines must be fitted with pedals, silencer, and mudguards, and in addition the ignition apparatus and tanks must be fixed to the bicycle frame. Surely competitors have not commenced to

carry the ignition apparatus of minute dimensions in their pockets and the petrol in a pocket flask connected by a tube with the carburetter. As an official of an important contest said to us a week or two ago, "It is a difficult matter to frame rules which will cover everything."

Danger of Stray Cattle at Night.

Often have we drawn attention to the danger of stray horses being left on the open road at night, quite a number of accidents having occurred to motorists, motor cyclists, and cyclists through colliding with animals in the dark. A collision of this kind by a motor cyclist and a horse last Friday evening at Binley, near Coventry, has unfortunately proved fatal to the motor cyclist, Mr. C. W. Ripley, of Thirsk. The rider was returning to Coventry from Rugby late on Friday evening on his motor bicycle and ran into one of a number of horses roaming about the roadway. He must have alighted on his head, for he was taken home and attended to, but passed away early the next morning. So long as cattle and

miles, Martin winning easily in 3m. 55s., and the third, a five miles flying start, in which an excellent race went to Collier by ten yards in 6m. 59½s.

Motor Cyclists at the R.A.C. Meeting.

In the programme of the motor gymkhana held in connection with the visit of the R.A.C. to Norwich last week-end, one motor cycle event was included. This took the form of a potato race, in which the rider was required to drop a potato into four buckets set along the course, and returning take them out again. This had to be performed twice. Four competitors took part, the event being won by R. O. Clark on a four-cylinder F.N., A. G. Reynolds on a 5 h.p. twin Vindec being second. So dexterous did the latter show himself in the manipulation of the tubers, even to carrying them in his mouth, that he might have been potato sowing all his life. F. Straight, on a 3½ h.p. Triumph, was third.

Sirens, Whistles, and Cutouts.

The Royal Automobile Club has sent us a long circular letter for publication under the heading of "The Dust Problem and the Inconsiderate Driving of Motor Vehicles." We regret we have not space to publish the whole of this appeal to motorists, but we notice that the Club very wisely suggests that all motor cars should be provided with a reliable speedometer to enable their drivers to accurately estimate the speed at which they travel. The Club further points out that the use of sirens, exhaust whistles, and exhaust cutouts only tend to arouse the hostility of the public, and recommends their abolition. Motor cyclists can do a great deal to assist the cause also by driving carefully and using a silencer. Only a few days ago we saw a man making himself obnoxious by ambling up the wood paved street of a Midland town on an apparently home-made motor bicycle minus any form of silencer. Such exhibitions make one wish that there was no law, and that such idiots could be upset at sight.

Next Year's Improvements.

From a casual inspection of two or three new pattern motor cycles which are now in course of construction, there will be plenty of items of interest for show visitors.

Is the Tricar Dead?

We have received a number of letters and two or three articles on the above subject which go a long way towards a denial that the tricar is defunct. Some of the letters will be published as soon as space permits. The lighter form of tricar appears to be the desideratum of most motor cyclists, provided such a machine will climb all hills. Speeds in excess of the legal limit are not sought after. Hill-climbing is essentially a question of gear ratio. A three-speed gear on a light tricar would be ideal.

FUTURE EVENTS.

- Sept. 12—Motor Cycling Club Petrol Consumption Tests.
- " 12—Leeds M.C.C. Speed Contest in Temple-newsam Park (One Class Open).
- " 12—Newcastle and District M.C.C. Hill Climb.
- " 19—Motor Union Provincial Meeting at Oxford.
- " 22—The International Auto Cycle Tourist Trophy Race in the Isle of Man.
- Oct. 3—Bradford M.C.C. Open Hill Climb.
- " 3—Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.
- " 10—A.C.U. Council Meeting at Leamington Spa.
- " 17—Auto Cycle Union Quarterly Trial of Motor Cycles, Uxbridge to Banbury and back.
- " 21—Motor Union General Committee Meeting.
- Nov. 20-28—Thirty-second Annual Stanley Show, at the Agricultural Hall, Islington.
- " 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.

horses are allowed to stray loose on the road there will always be a certain risk in riding at night, and no motor cyclist should venture out without a powerful lamp, and then only proceed at a moderate pace.

Stadium Record Beaten.

Some 15,000 spectators attended the London Schools Swimming Championships at the Stadium on Saturday last, and incidentally witnessed some smart motor cycle racing on the part of C. R. Collier and H. Martin, both of whom were on Matchless machines. Three matches were ridden, and Collier also made an attack on the mile Stadium record of 1m. 3s. In this he was successful, covering the distance in 1m. 2½s. The first match was over a mile from a flying start, and Collier won by fifty yards in 1m. 10s. The second was a standing start three

Motor Union Oxford Meeting.

The programme for the Oxford Meeting of the Motor Union on Saturday, the 19th inst., has been finally arranged as follows:

- 10.30 a.m. to 1 p.m.—Committee meeting, Municipal Buildings.
- 2.30 p.m. to 3 p.m.—Meet of members. Motor cycles and cars parked in St. Giles's.
- 3 p.m. to 4 p.m.—Afternoon tea, by the kind invitation of the Oxford and District A.C., in the hall of Lincoln College (by kind permission of the authorities).
- 3.30 p.m. to 6 p.m.—Members of the University will conduct members of the Union over the colleges and places of interest in Oxford.
- 7 p.m. for 7.15 p.m.—Twelfth provincial dinner at the Clarendon Hotel. Mr. W. Joynson-Hicks, M.P., in the chair.

The meeting promises to be one of exceptional interest, and it is hoped that a large number of members will avail themselves of the arrangements made by the Oxford Club.

Mr. W. A. Matthews, hon. sec. of the Bocardo M.C.C., 6, St. Aldates, Oxford, writes: "The occasion of the Motor Union inter-club meet at Oxford, on Saturday, September

19th, would afford a good opportunity for motor cyclists to get together for the purpose of meeting one another and discussing matters of interest to the general body of motor cyclists. With this end in view, I shall be glad if you will insert this letter in *The Motor Cycle*, hoping by so doing that those willing to attend will communicate with me as soon as possible in order that the necessary arrangements may be made."

A proposal having been made that a conference of motor cyclists should be held on the occasion of the provincial meeting of the Motor Union at Oxford, on Saturday, September 19th, the Motor Union is in communication with the Bocardo Motor Cycling Club, of Oxford, as to the necessary arrangements. Motor cyclists will be very welcome to the meet at 2.30 p.m., when their machines may be parked in St. Giles. Afternoon tea will be served, by the kind invitation of the Oxford and District Automobile Club, in the hall of Lincoln College. Following this there will be a tour of inspection throughout the colleges at 3.30, when parties will be personally conducted by members of the University. The twelfth provincial dinner will take place under the chairmanship of Mr. W. Joynson-Hicks, M.P., at the Clarendon Hotel, at 7 p.m.

The Tourist Trophy Motor Cycle Race.

The complete list of entries for the Tourist Trophy Race for motor cycles, to be held in the Isle of Man on Tuesday, September 22nd, is as follows:

SINGLE CYLINDERS.

Entrant.	Machine.	Rider.
C. R. Collier	4 Matchless-J.A.P.	Entrant
H. A. Collier	4 Matchless-J.A.P.	"
Triumph Cycle Co., Ltd.	3½ Triumph	J. Marshall
Triumph Cycle Co., Ltd.	3½ Triumph	W. F. Newsome
Triumph Cycle Co., Ltd.	3½ Triumph	J. H. Slaughter
R. W. Ellis (P)	3½ Rex	Entrant
C. Gordon Gibson (P)...	3½ Triumph	"
C. B. Franklin (P)	3½ Chater-Lea-J.A.P.	"
Brown Bros.	3½ Brown	R. M. Brice
W. G. McMinnies (P)...	3½ Triumph	Entrant
H. Lister Cooper (P) ...	3½ Triumph	"
H. Brown (P)	3½ Triumph	"
Rex Motor Mfg. Co. ...	3½ Rex	F. E. Barker
Rex Motor Mfg. Co. ...	3½ Rex	O. C. Godfrey
N.S.U. Motor Co.	3½ N.S.U.	R. Bell

MULTI-CYLINDERS.

H. Rem Fowler (P).....	5 Norton	Entrant
H. Collier	7 Matchless-J.A.P.....	H. V. Colver
Bat Motor Mfg. Co. ...	6-7 Bat-J.A.P.	R. M. White
W. H. Wells	5 Vindec Special	Entrant
W. H. Bashall (P)	6-7 Bat-J.A.P.	"
Noel E. Drury (P)	5 Jap	"
S. C. Perryman (P) ...	5 Norton	"
W. H. Wells	5 Vindec Special ...	C. E. Bennett
W. Gurr	5 F.N. (four)	Entrant
A. J. Moorhouse (P) ...	5 Rex	"
E. G. Young	3½ Young-Bentinck	"
E. Varney (P)	7 Crownfield	"
H. Reed	5 Dot-Peugeot	"
Rex Motor Mfg. Co. ...	5 Rex	W. Heaton
Rex Motor Mfg. Co. ...	5 Rex	J. C. Smyth
Rex Motor Mfg. Co. ...	5 Rex	F. Applebee, jun.
R. O. Clark	5 F.N. (four)	Entrant
N.S.U. Motor Co.	4 N.S.U.	M. Geiger
Messrs. Pellant & Bilbie	3½ Young-Bentinck ...	E. G. Genisa
J. O. M. Dixon (P) ...	5 Vindec Special	Entrant
J. Lang (P)	6 N.S.U.	"
J. Baxter (P)	5 Rex	"

(P) Private owner.

It will be seen that the total number reaches thirty-seven—an increase of eight over last year.

The distance is 158 miles 220 yards, which will be ridden over the St. John's, Ballacraine, Kirk Michael, Peel course, a map of which was published in last

week's issue, page 681. The course has to be covered ten times to complete the above distance.

Prize Fund for the Motor Cycle T.T. Race.

The following contributions have been received towards the fund which has been established to provide prizes, and, if possible, help to defray the expenses, necessarily very heavy, of holding this year's International Tourist Trophy Race for Motor Cycles:

Mr. A. J. Wilson	£5 5 0
Mr. J. W. Orde	5 0 0
Mr. E. M. P. Boileau	10 0
Mr. J. W. F. Tranmer	5 3
Capt. Sir R. K. Arbuthnot, Bart. ...	1 1 0
<i>The Motor Cycle</i>	5 5 0
Miss Muriel Hind	5 0 0
Messrs. Campbell-Gray	1 1 0
Triumph Cycle Co., Ltd.	10 10 0
Mr. A. G. Reynolds	1 1 0
Mr. Paul Brodtmann	1 1 0
Mr. H. C. Horswill	1 1 0
West Essex A.C.	1 1 0

Further donations will be greatly appreciated, and should be sent as early as possible to the secretary of the A.C.U. at 18, Down Street, Piccadilly, W.

The latest type of Midget Voltoo non-trembler coil is being made in the following size, 2½in. × 3¾in. × 3½in., in addition to the ordinary Voltoo coils. These coils are sold by the City Ignition Co., 14, Spencer Street, Goswell Road, E.C.

Riders of twin Vindec's or any users of motor cycles fitted with Peugeot 5 h.p. engines will be interested to know that the South British Trading Co., Ltd., 13-15, Wilson Street, Finsbury, E.C., have just introduced a new pattern adjustable pulley with removable pressed steel flanges. The pulley measures 6½in. diameter over all, and will give a range of gears varying between 3 and 6 to 1. Right and left-hand threads are used for locking the flanges, so that the action of the belt always has a tendency to keep the inside flange tightly locked against the shoulder and the outside flange against the lock. The great advantage of the pulley is that the gears are detachable for replacement when worn.

CLUB NEWS.

Leeds M.C.C.

At a meeting of the committee of the above club it was resolved to present bronze medals and certificates to all the invited riders in the Leeds-London and back competition who finished in the specified time.

On Saturday and Sunday, September 19th and 20th, a reliability trial for private owners to Scarborough and back has been arranged, starting from Roundhay Post Office at three o'clock, and returning from Scarborough on Sunday at three o'clock. Entry fee, 2s. 6d.; taken on the spot. It is proposed to hold a gymkhana in the near future.

Southern M.C.

The above club held its second mixed hill-climb last week-end, and secured a very good entry. The handicap worked out a very close finish, five seconds only separating first, second, and third. Results as follows: 1, E. K. Davies (5 h.p. Peugeot), 4s. start; 2, S. Goodley (3½ h.p. Triumph), 20s. start; 3, W. J. Jones (5 h.p. Antoine), 8s. start. The prizes, as usual, were presented as soon as the times were worked out.

Members of the House Club, please note the final winding-up meeting will be held at headquarters on October 1st, at 8 o'clock sharp.

Essex M.C.

In the list of survivors in the above club's twenty-four hours run from Woodford to York and back, we gave the name of F. W. Applebee, whereas we should have stated W. H. Applebee, who completed the ride on a 3½ h.p. Rex. The machines ridden by the successful competitors in the run were: A. G. Reynolds (5 h.p. Vindec), F. G. Smith (3½ h.p. Triumph), H. Silverlock (5 h.p. Noble), J. Evenett (5 h.p. Peugeot), E. E. Leverett (5½ h.p. O.T.A.V.), W. Smith (2 h.p. Moto-Rève), W. Pratt (3½ h.p. Phelon and Moore), H. R. Dougal (5 h.p. Vindec), A. J. Sproston (5 h.p. Rex), A. P. Howard (3½ h.p. Triumph), and J. Browning (12 h.p. Riley car).

Walthamstow M.C.

The above club held, in conjunction with the Walthamstow Town Cycling Club, a gymkhana on the 29th ult. A potato picking event, musical chairs, and carrying a glass of water, were all won by C. W. Lee (3¼ h.p. Rex forecar).

On the 6th inst., the third round of the 100 miles for the annual dinner cup, over a course starting from Woodford to Newmarket Heath, Cambridge, Stump's Cross, and back to Epping, was run off. The following started: L. Beckers (5 h.p. twin Kerry forecar), O. C. Godfrey (5 h.p. twin Rex magneto sidecar), and J. W. Percival (6 h.p. twin Fafnir ricar, magneto). L. Beckers punctured; the other two made non-stop runs.

There will be an inter-club run to Hunsdon on the 13th inst., starting from headquarters at 10.30 a.m.

Glasgow M.C.C.

The final hill-climbing contest for 1908 was carried out on the Lennoxton, Fintry Hill, on Saturday, August 29th. The timed course was about one mile and threequarters in length, but competitors were started from Strathblane, about five miles distant, so as to take the hill with hot engines. This, and the fact that a strong wind was blowing downhill, caused several failures. The fastest times were made by C. H. MacMillan (5 F.N.), time 3m. 7s.; D. S. Baddeley (5 h.p. Baddeley), 3m. 9s.; and William Deans (4½ h.p.

C.L. Minerva), 3m. 10s. The results on formula $C \times T \times G$ are as undernoted, the first, second, and third receiving a gold, silver, and bronze medal respectively.

	Weight in lbs.	Gear.	Figure of merit.
C. H. MacMillan (5 h.p. F.N.)	388	5.93	794
as. Roberts (3½ h.p. N.S.U.)	350	5.77	715
E. L. Matthew (5 h.p. F.N.)	364	5.93	697
Wm. Deans (4½ h.p. C.L. Minerva)	327	4.45	668
A. G. Bostock (3½ h.p. Triumph)	350	4.37	660
R. A. MacMillan (5 h.p. F.N.)	388	5.93	637
D. S. Baddeley (5 h.p. Baddeley)	363	4.85	588
John C. Wilson (6 h.p. Jap)	329	3.9	538
as. Kong, jun. (2½ h.p. N.S.U.)	266	6.05	473
John S. Bryce (2½ h.p. Quadrant)	305	4.92	398

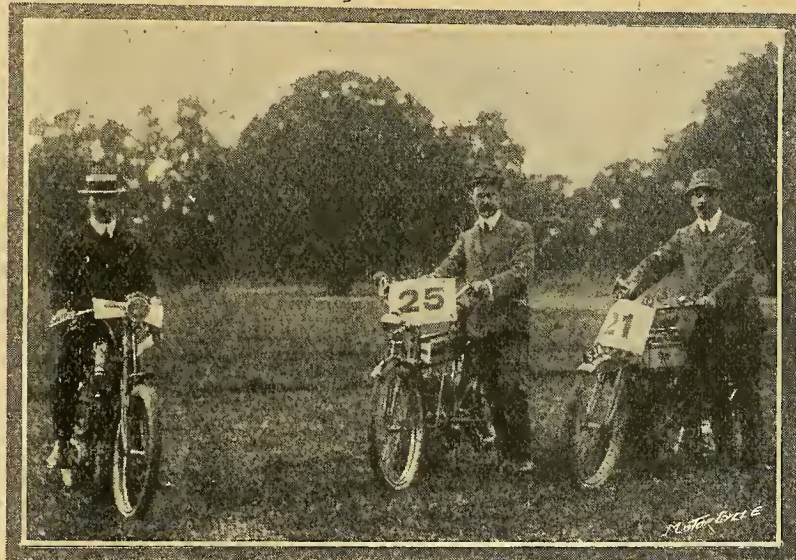
Accrington and District M.C.C.

A speed-judging competition was held in connection with this recently formed club on the 22nd ult., and below will be found the results. The course was from the headquarters, Rechabites' Hall, to Mytton Bridge and back home—a distance of fifteen miles. There were fourteen entries in the single class and two entries in the passenger class. T. Grainger and J. Beesley tied in the passenger class with 2.66% error.

Name and machine.	Error in minutes.
1. W. H. Walmsley (3⅔ h.p. Rex)	¼
2. L. King (2 h.p. De Dion)	1
3. H. Franklin (2¾ h.p. Rover)	1
4. H. Riley (2¾ h.p. Minerva)	2
5. H. Ironfield (4 h.p. Werner)	2
6. J. Whitehead (3 h.p. Triumph)	8
7. W. Prescott (3½ h.p. Minerva)	10
8. G. Harker (3½ h.p. Rex)	11
9. W. Taylor (2½ h.p. C.-G.)	18
10. J. Wilcox (3⅔ h.p. Rex)	13¾
11. T. Grainger (5 h.p. Rex)	13

Newcastle and District M.C.C.

A non-stop run was held on August 30th to Jedburgh and back, a total distance of 108 miles. The weather conditions were very unsettled, heavy rains being encountered at various parts of the route, especially at Jedburgh, where it was exceedingly heavy. The judges have made their awards as follows: First prize (trophy given by G. W. Parkinson), Robson Crosier (3½ h.p. N.S.U.); second prize (club silver medal), Thos. Smith (3½ h.p. Triumph); third prize (club enamelled bronze medal), L. Rosenvinge (3¾ h.p. N.S.U.). Bronze medals were awarded to the following riders who made non-stops: Capt. Sir R. K. Arbuthnot, Bart., R.N. (3½ h.p. Triumph), S. W. Carty (3¾ h.p. N.S.U.), H. W. C. Bell (4 h.p. N.S.U.), F. Mallett (6 h.p. N.S.U.), F. Holzapfel



R.A.C. meeting at Norwich on Saturday. The only event for motor cyclists at the gymkhana was a potato race, in which Messrs. Collins (2½ h.p. two-speed Anglian), F. Straight (3½ h.p. Triumph), R. O. Clark (four-cylinder F.N.), and A. G. Reynolds (5 h.p. Vindec) were competitors.

(4 h.p. C.I.E.), D. Mallett (4 h.p. N.S.U.), A. Fenwick (5 h.p. Vindec-Special), R. L. Atkinson (3¾ h.p. N.S.U.), G. S. Walker (3 h.p. F.D.W.), W. H. Outwin (3½ h.p. Triumph), and W. F. Garbutt (3½ h.p. Cheviot-Fafnir).

For September 12th a hill-climb has been arranged. Meeting place, Minsteracres Gates, Durham, at 2 p.m., then *via* Blaydon and Prudhoe. First class, single-cylinders; second class, twin-cylinders; third class, passenger machines. Winner to be decided in each class on A.C.U. formula. Entry fee, 2s.

On the 13th inst. team trials will be held. Start at 9 a.m., Barras Bridge Hotel; finish at 3, Mile Bridge, Gosforth. Minimum riding time, 6h. 45m.; maximum riding time, 7h. 26m. Stop at Kelso, Spread Eagle Hotel. Dinner ready at 12.30 p.m. Compulsory stop, two hours. Route—Morpeth, Wooler, Cornhill, Coldstream, Kelso, Crailing, Jedburgh, Otterburn, Ponteland, and Newcastle.

Club News.—

Stockport and District M.C.C.

On the 12th inst. the above club will hold a members' hill-climb. Two prizes will be given for the single class and two prizes for the twin class. A special prize will also be given for the fastest time of the day. The results will be decided on formula. A prize will be given to the best results obtained in the passenger class, *i.e.*, sidecars, forecars, and quadcars (trailers will not be allowed). Any motor cyclist wishing to enter may do so on condition he becomes a member of the club by paying a subscription of 10s. The fee for entry will be 2s. 6d. for one machine for one class. Entry forms can be obtained from the hon. sec., H. Marsden, George's Road, Stockport.

York County M.C.C.

By kind permission of the Hon. E. Lindsey Wood, the above club held its annual speed trials on a private road in the Temple Newsome estate. The events were run in various classes, according to bore of engine, the winners of each class again competing for first, second, and third.

Class 1.—1, R. Durham (3½ h.p. Triumph), Class 2.—1, C. S. Allan (3½ h.p. Triumph). Class 3.—1, C. Wilson (3½ h.p. Triumph). Final.—1, C. Wilson, who becomes the holder of the Charge silver challenge trophy and the club's standard gold medal; 2, C. S. Allan, silver medal; 3, R. Durham, bronze medal.

R. Durham made fastest time, his speed working out at 53½ miles per hour. Electric timing was used, and the times were taken by the official timekeeper, Mr. E. Simpson.

Members are requested to note that the next competition is the third quarterly trial, which has been fixed for Saturday, September 19th.

Hull and East Riding A.C.C.

The results of the Spout hill-climbing competition, held on the 29th ult., are: Class I.—1, Mrs. A. Tomlinson (2½ h.p. J.A.P.), figure of merit 8.932; 2, Mr. J. Richards (2¾ h.p. Minerva), 8.775. Class II.—1, Mr. G. Bosville (3½ h.p. Triumph, 1908), 9.413; 2, Mrs. Tomlinson (2½ h.p. J.A.P.), 8.494; 3, Mr. V. Butters (3½ h.p. 1908 Triumph), 7.943. Class III.—1, Mr. O. Tholemeler (6 h.p. N.S.U.), 7.375; 2, Sergt.-Major Evans (5 h.p. Vindec Special), 5.234.

The Hull to London non-stop run on Saturday next will include controls at Lincoln, Bourne, Peterborough, Biggleswade, and Highgate (London). Competitors will leave Hull at 7.20 by ferry for New Holland. There will be a stop at Peterborough for lunch, and competitors are expected to arrive at Highgate at 6.30 p.m. The awards will be: First, club prize, value £2 2s.; second, given by Mr. C. Nicholson; third, given by the club, value 10s. 6d. Bronze medals will also be given to all competitors who complete the run by 8 p.m.

The picnic to Kelnsea and Spurn, announced for September 12th, is postponed until the 20th.

Newcastle M.C.

The annual picnic of this club was held on the 30th ult., on the Ottercaps. The weather conditions were somewhat boisterous, two heavy rainstorms being encountered, but notwithstanding this a company of about fifty members, with their ladies and visitors from the Lincolnshire and Sunderland clubs, assembled and were entertained to an "al fresco" luncheon by the captain of the club (Mr. Wm. Dunn).

Two interesting competitions were held, one of which was a "motor trap" competition, in which competitors were timed over a measured course, and had, on being challenged, to declare the speed in miles per hour at which they were travelling. Some particularly close guessing was the result. Mr. Isaac Baty (3½ h.p. Dene) was first in the class for motor bicyclists, having calculated his time within threequarters of a second; whilst Mr. Alan G. Robson (8 h.p. Minerva) in the class for passenger motor cyclists was within thirteen-fortieths of a second of his time. Mr. Frank Little (25 h.p. Weigel) took first prize in the class for motor cars.

In the tug-of-war the President's (A. J. Lucas's) team pulled Mr. Isaac Baty's team; and the Captain's team, after a very exciting struggle, were victors over the team of Mr. A. Parkin, the treasurer. In the final pull the President's team, with their superior weight, gained an easy victory.

The large party of motorists returned to Newcastle in the evening, without any untoward incident or mishap.

Crewe and District M.C.

This club's hill-climbing competition, which was held on the 29th ult., went off very satisfactorily. Nine entries had been received, but only seven faced the starter. Results:

Rider and machine.	On time.	On formula.
*A. de S. Hulton (6 h.p. Primo-J.A.P.) ...	0	... 6
*S. Stubbs (3½ h.p. Triumph) ...	0	... 2
A. M. Tatham (3½ h.p. Matchless-J.A.P.)...	+ 2¾s.	... 1
P. S. Robinson (3½ h.p. Triumph) ...	... + 9s.	... 3
C. G. Edwards (3½ h.p. Triumph) ...	... + 11¾s.	... 5
G. Harvey (3½ h.p. Triumph) ...	... + 12s.	... 4

*Equal in speed.

Birmingham M.C.C.

A hill-climb was held on the 30th ult. for Mrs. F. G. Sandison's prize, on Farlow Bank, Clee Hills. This hill is a particularly difficult one to negotiate, there being a right-angled corner with gradient about 1 in 6½, and a hairpin bend farther up, gradient about 1 in 5. The surface is fair, but the road is not above 9ft. wide. So difficult is it that the prize was offered for the best attempt. Two-speed gears were not allowed. The only competitor to reach the top was A. M. Lomax on a standard 1908 Triumph, and he climbed it twice in succession. The order of merit was judged, by observation, to be as follows: A. Manning Lomax (3½ h.p. Triumph), H. Rem Fowler (5 h.p. Norton), H. C. Rapier (5 h.p. N.S.U.), A. Wilby (3½ h.p. Brown), C. Winwood (5 h.p. Rex), A. Shrieves (5 h.p. Rex), H. J. Heaven (3½ h.p. Quadrant), R. W. Duke (3½ h.p. Triumph), E. C. F. Evans (5 h.p. Rex), and Reg. Samson (3½ h.p. L.M.C.).

Middlesbrough and District M.C.C.

Mr. Geoffrey W. Liddle has resigned the secretaryship of the club, and Mr. S. L. Gjertson, of 10, Bridge Street, has been appointed in his stead.



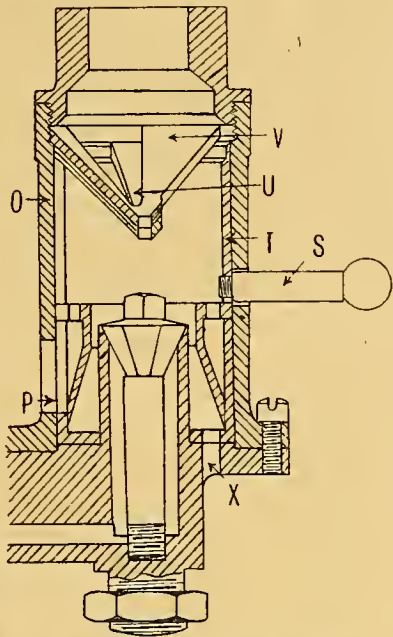
A "motor trap" competition, worked on police lines and with realistic effect, was held by the Newcastle Motor Club. Competitors were timed over a measured course, and had on being challenged to declare the speed in m.p.h. at which they were travelling.

The results of the 200 miles reliability run to Berwick-on-Tweed have now been announced. There were fourteen entries, but only half that number started. H. Fairgrieve (3½ h.p. Triumph) is the winner, his greatest disparity between controls being only .253 minute per mile; J. H. Dale (3¾ h.p. N.S.U.) is second; and W. T. Walton (3½ h.p. Triumph) third. Mr. Fairgrieve also won a gold medal presented by the Triumph Motor Co. for the best performance made on a Triumph machine, and Mr. Burnett the gold medal presented by the Rex Motor Manufacturing Co. for the best performance on a Rex motor cycle.

A successful team competition was held in Cleveland, Yorkshire, on the 29th ult. Three teams competed. Competitors were allowed 2½ hours to complete the double journey, but were not allowed the use of watches. Mr. George's team (No. 2) made the best running, having an average of 2m. 20s. over the time allowed, but the team was disqualified, and No. 3 were declared winners with an average of 5m. 10s. over time.

A New Longuemare Carburetter.

MOTOR cyclists are always interested in anything introduced by the firm of Longuemare, and particularly those who possess machines fitted with this excellent carburetter. The latest form is the Model Y, and is so constructed that the control is effected by means of a single lever. The float chamber and its accessories remain as before, but the carburetting or mixing chamber O terminates at the top in a cone V, in which are three openings, which can be opened or closed more or less by means of a conical shutter U forming part of the movable barrel T, which is rotated by means of the lever S. At the bottom of the mixing chamber are holes X, from which the bottom air supply is taken. In addition, there are three large extra air openings P, also controlled by the rotation of the barrel T. At the base of the barrel T there are three openings, so shaped that



A new model Longuemare with adjustable bottom air.

they control the supply of air taken in at X. It will therefore be seen that the rotation of the single barrel T serves to control the openings X at the base, the extra air openings at P, and the throttle at U V. This carburetter, therefore, when fitted with the correct size of spray should be practically automatic, as at a given speed of the engine it will provide the correct mixture at all positions of the single lever S. However, in our experience, in the case of motor cycles with single gears it has been found expedient, up to the present, to provide a means whereby the mixture can be enriched by the closing of the additional air openings, leaving the throttle in its full open position. One lever is provided, but no handle-bar control for the lever S. It would, however, be a matter of ease to fit a Bowden wire and cable to the handles.

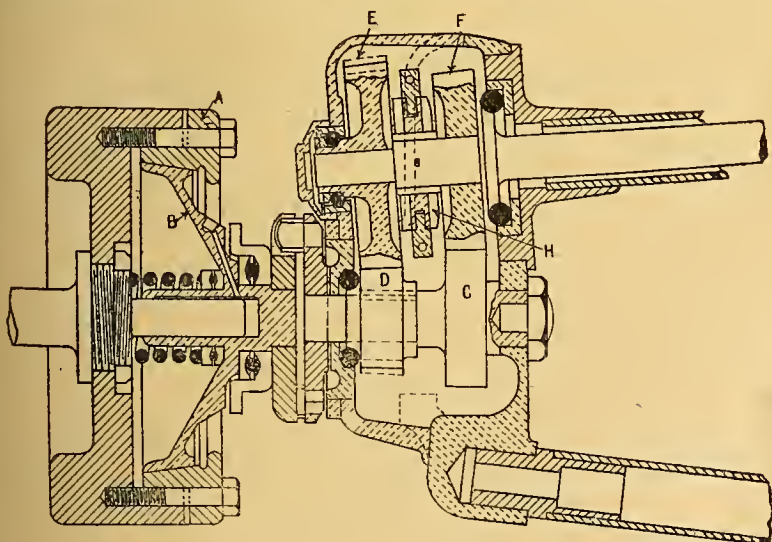
We have not tried a machine fitted with this carburetter, but our opinion with regard to it is that on a motor bicycle engine of small dimensions which runs at very high speeds it will probably be found to do all that is claimed for it, and on a motor bicycle fitted with a change speed gear it may also be very handy in use. On a single-gear motor bicycle at varying engine speeds we shall still pin our faith to the hand-controlled extra air and throttle working independently of one another. Readers desiring further particulars of this new model should apply to E. J. Hardy, Bishop Street, Coventry.

A Suggested Gear for the Four-cylindere F.N.

SEVERAL readers have written and asked us from time to time if it is possible to fit a change-speed gear to the four-cylinder F.N. motor bicycle. Our reply has hitherto been that the machine is so constructed that it is practically impossible to fit a two-speed gear without a number of structural alterations. However, Mr. G. H. Walker, of 3, Brentwood Villas, Albany Road, Worcester, has sent us drawings of a gear which he has designed for F.N. motor cycles, and we reproduce one of them herewith.

A is the outer member of the clutch, consisting of a cast-iron annular ring bolted to the bored out flywheel already in existence on F.N. machines. The inner member B is a phosphor bronze ring driving the primary

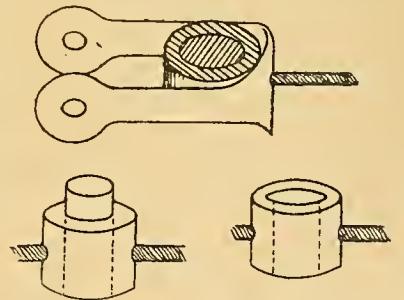
is mounted a sliding jaw clutch H, which can be made to slide either on feathers or on a square on the shaft. Jaws are cut in the two faces of the clutch which engage with corresponding teeth cut on the two faces of the gear wheels next to the clutch. The clutch H is moved by a lever working in a quadrant placed at the side of the bicycle. Beyond altering the position of the engine slightly, there is no difficulty in making a gear of this description and applying it to F.N. motor bicycles, but it would naturally be better and more easily built into a frame which was in course of erection. It is intended that the gear should be capable of starting machine from a standstill.



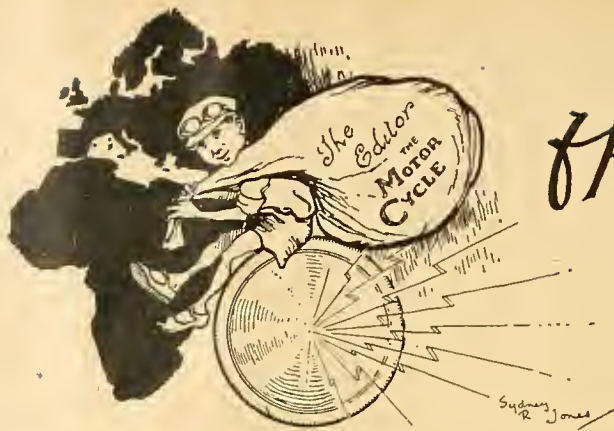
gearshaft through a flexible coupling as shown. On this shaft are fixed two bevel wheels C and D, and on an extension of the secondary shaft revolve loosely two corresponding gear wheels E and F. Between them

From time to time our contributor, "Ixion," has referred in glowing terms to an attachment whereby nipples can be attached to Bowden and other stranded wires without the use of solder. Many motor cyclists will therefore be glad to know that an exceedingly practicable device, called "Gripples," which serves this purpose has been introduced by

Mr. F. L. Anderson, 1, Furnival Street, Holborn, E.C. The device in question consists of a disc-shaped head drilled transversely and vertically, the vertical hole not reaching the bottom of the head. The wire is inserted through the transverse hole, and the rivet is driven downwards with a hammer and burred well over, when the head is firmly fixed in position. No solder is needed at all.



Letters to



the Editor

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle" 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Braking by Compression.

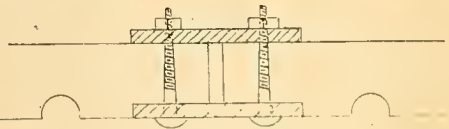
[3525.]—Adverting to the experiences of Mr. B. H. Davies on the Moto-Rêve, he states that after the failure of the brakes he used the compression of the engine as a retarder. Why not the two vacuum strokes (as recommended by one very prominent manufacturer) instead of the single compression stroke per cycle?

Many carburettors are now made and so fitted that the rider has no option of braking by compression. A discussion on this subject would prove interesting, and might lead to the manufacturers altering their opinion, and also their carburettors, so that their customers could employ their compression stroke or vacuum strokes at will.

ONE FOR COMPRESSION.

Belts and their Fasteners.

[3526.]—The following method as a fastener for rubber belts, which I have used for the last two years, may interest your readers. Take two pieces of leather, same width as top and bottom of belt, about 2in long. Cut off corrugations on under side of belt for about 1in. from each end, and join up with two wood screws (as illustrated). Do not punch holes in the belt, but make holes with a small gimlet and screw the screws into the belt. Put leather nuts on the top of the screws. This fastener costs next to nothing, lasts some months, screws never pull out, and it is fixed up in five minutes. I use top and bottom leather of old Watawata belts.



J. M. POOLEY.

Standard Machines in Hill-climbs.

[3527.]—In reply to the letter of the Rex Co. [No. 3523] it is obvious no remarks of mine anent secrecy and deception could apply to any advertised extra, such as the Rex ball bearings, which have been openly marketed to the public for many months past.

B. H. DAVIES.

[3528.]—I am really glad that Mr. Davies has taken up the above question in earnest. At present hill-climbing competitions prove little or nothing, and standard machines should not only be specified in the rules, but insisted upon by the officials.

I gave up competition riding some time ago, but I was present at the Coventry M.C. Newnham hill-climb, and took great interest in examining the competitors' machines, especially as I noticed the club's rules were very complete and clear, and endeavoured to bar special machines from all except the open class. One clause in the rules was:

"With the exception of Class 4, all machines must be fitted with an efficient silencer, two brakes, metal motor cycle mudguards, touring saddle, roadster motor cycle tyres, lamp, toolbag with tools weighing not less than 5 lbs., stand, and motor cycle horn. Tanks must hold at least one gallon of petrol with the exception of Class 4. Cut-outs will not be allowed."

Now, everybody dislikes grumbling, but I feel I must support Mr. Davies in his true statements. I and several

friends particularly noticed the very scanty equipment of the Triumph ridden by W. G. McMinnies, who is announced as winner of *The Motor Cycle* rose bowl. This machine was the rigid forked racer used on the Brooklands track some months ago, and did not conform to the rules in that it had 2in. tyres with smooth covers, a tiny cycle saddle, and was minus a proper toolbag, lamp, and horn. Surely none of the officials noticed the machine, but I heard two competitors complaining. Now I ask, is it fair that one rider be allowed to commit several breaches of the rules, and not be disqualified, even when competing against machines conforming to the rules? Mr. McMinnies cannot truthfully say that his machine was a standard model and equipped according to the rules, for every reader can satisfy himself on this point by referring to the photograph of Mr. McMinnies ascending Newnham Hill, on page 661 of the issue of *The Motor Cycle*, August 26th. Also note the dropped handle-bars.

I sincerely trust the committee of the Coventry Club will peruse this letter. If in face of the above facts Mr. McMinnies is allowed to have the prize, we shall all wonder what rules are for.

GERALD H. DAY.

[3529.]—Your correspondent, Mr. B. H. Davies, has earned the thanks of the whole motor cycling community by making public facts which, though well known to those who have made a study of the pastime in all its aspects, have been a constant source of disappointment and dissatisfaction to the ordinary amateur, who was at a loss to account for the apparent inferiority of his own machine.

Nothing is so exasperating as to purchase a machine on the strength of its consistent wonderful performances in open competition, only to find, when delivered, that it will fail on gradients up which the maker's special mount will fly at forty miles per hour. Of course, the makers are out to win, otherwise they would be merely wasting time and money, besides risking their reputations, and if A enters a machine with abnormally high compression, light pistons, light tyres, weight cut down to the minimum, etc., B must do likewise or go to the wall.

Nor is this state of things confined to the motor cycle industry. I remember, not long ago, a certain car, made some distance from London, was sent down south to compete in some speed trials for standard touring cars. The London agents suggested that it would be a good opportunity to clear off a number of trial runs which had been booked, but the manufacturers replied that it would be impossible to give trial runs until the car had been back to the works to have the racing engine exchanged for a touring one.

It seems to me that the only solution of the problem is to introduce trade classes in all hill-climbs and speed events, making a rule that the machines entered must be chosen from stock by the committee or officials of the A.C.U., and sealed. Of course the greatest difficulty would be in dealing with the maker's tame amateur, but I think if the latter consistently beat the trade rider on his standard machine, the public would soon draw their own conclusions. It may be some comfort to the novice to know that for all ordinary purposes his own machine is infinitely superior to the maker's freak hill-climber, which is utterly useless for touring purposes, and that it is impossible to make a machine excel in one branch of sport without sacrificing something in another.

LOOKER ON.

[3530.]—It is very gratifying to learn that the Rex Co. would like to wipe away any suggestion that the Rex machines at Newnham were other than standard. This being so, I should like to ask them the following questions:

1. Since when has the quaint carburetter used by their rider, Mr. G. L. Evans, been standard on their $3\frac{1}{2}$ h.p. pattern?

2. Would they mind explaining for the benefit of possible customers the purpose of the mechanically operated device in it, worked off the inlet valve tappet?

3. As Mr. G. L. Evans's $3\frac{1}{2}$ h.p. Rex was of larger bore than any other $3\frac{1}{2}$ h.p. Rex entered at Newnham, viz., 33 mm., was it a standard 1909 machine, and the others 1908, or was it 1908 and the others 1907?

4. I notice two "standard" $2\frac{3}{4}$ h.p. Rexes were entered at Newnham in Class I., both ridden by trade men. The dimensions of one engine were 82×70 , and the other 76×76 . Which is the standard, or do the Rex Co. market two different standard $2\frac{3}{4}$ h.p. machines?

I quite agree with the Rex Co. that there is no deception about their ball bearing engines. They have openly advertised and illustrated this fitment as an extra for some time past, but Mr. Davies did not name it in his complaints.



Gordon Gibson, who will ride his Tourist Trophy Triumph in the race in the Isle of Man on Tuesday week.

I should further like to ask Mr. A. W. Bentley if his Triumph was a "standard tourist" or a "standard Tourist Trophy"? I am not casting any aspersions on the veracity of his entry form particulars, but all entrants in Class II. were supposed to ride a machine equipped in accordance with the rules. But whether he knows it or not, I fancy there were sundry differences between his machine and my own roadster Triumph, having carefully examined his machine or myself. For instance, I do not think his wheels were anywhere near so heavy as mine, and so when he says it is "standard," I feel sure he must mean "standard Tourist Trophy," and not "standard roadster."

OBSERVER.

We published a paragraph last week containing a remark of Mr. Bentley's which was misunderstood by us. The sentence should have read, "The machine he rode at Newnham was not a T.T. model."—ED.]

[3531.]—I read with interest letter No. 3523 re standard machines in hill-climbs, and feel inclined to take exception to some of the Rex Co.'s remarks. Are the company prepared to supply me with a machine similar in every respect to the one ridden by the winner in the Bolton Motor Club's recent hill-climb, and which made fastest time in the Manchester Club's hill-climb, May 16th, at list price? And is it not a

fact that the $3\frac{1}{2}$ h.p. Rex that was placed second in the last named event was a special machine brought from their works by G. Lee Evans and lent to Heaton for that event? Both above machines are departures from standard models.

AN ALSO RAN.

[3532.]—The articles which appear from time to time in your valuable paper from the facile pen of Mr. B. H. Davies are always fascinating reading, and the one on the above subject in last week's issue is no exception.

Having been a very interested spectator at the Coventry Club's hill-climb on August 15th, at Newnham, may I enquire how Mr. Davies discovered that the majority of the prominent machines had a far higher compression ratio than any standard touring machine. Surely, manufacturers and their experts at hill-climbs would not give information to amateurs as to what different ratios of compression (if any) they use for touring and hill-climbing, nor is it likely that Mr. Davies went into the elaborate operations of dismantling the cylinders of the winning machines and carefully and accurately measuring the contents of their clearance volumes.

As far as I could judge, the successful machines were standard T.T. models, i.e., machines of slightly lighter and lower build, without pedals, and some without spring forks, and there is nothing to prevent any amateur from purchasing a T.T. model for general use. I saw several of them in use as touring machines in the End-to-end run. There is no reason to believe that these machines had specially high degrees of compression to enable them to develop abnormal power during the very short period while climbing Newnham Hill, in which case there is nothing to prevent any amateur with sufficient experience and time for practice from equaling, or even beating, a trade rider on one of these machines.

If, however, Mr. Davies is correct in stating that these machines had abnormally high compression for obtaining abnormal power during a short period of time, but unsatisfactory running and overheating under normal touring conditions, then I beg his pardon, and sympathise with him, for he is casting no slur on the makers, as winning a hill-climb would then chiefly depend upon structural alterations inside the engine, and not so much on driving skill and ability to tune up the engine and carburetter.

To conclude, may I suggest that it would be extremely useful and interesting to enthusiasts if the gear ratios used by competitors in important hill-climbs were always published in *The Motor Cycle*.

J. T. CLARKE.

[We should like to be able to publish gear ratios in all cases, but they are usually most difficult to obtain with any certainty of accuracy.—ED.]

Handle-bar Locking Devices.

[3533.]—I do not suppose you are frequently addressed by a patient in a hospital (do not be alarmed, this is not a hospital for infectious diseases, so there is no need to be in any fear in perusing my letter), but I feel it is my bounden duty to bring to mind again those letters on "Locked Handle-bars; Locked by other Means than by an Ordinary Friction Band," which appeared in the columns of your valuable paper a few weeks ago. I have the strongest of reasons for doing it.

The proverbial old farmer is said to have locked the door of his stable when his old friend the horse had been stolen. And this simile is quite applicable to me, for I could have avoided perhaps, by following the valuable advice which was given in *The Motor Cycle* upon this subject, the unpleasant experience of possessing a broken leg, at least twelve weeks in imprisonment to recuperate, and a spoilt holiday thrown into the bargain. My accident was simply a little drama in three little acts, viz., Act 1, handle-bars became loose; Act 2, inability to steer; Act 3, inevitable doom. Thus it happened, and now I am naturally wondering why makers do not resort to a D form sectioned stem which could not possibly turn in the steering column, and thus save customers a few broken bones and may be necks.

I wish to urge motor cyclists in general to insist on this thing being carried out on future machines.

FRED PETTY.

[As previously stated when first our attention was drawn to this matter, the handle-bar stem must have been too small for the fork tube, or the clamping device was not properly made. On well-made machines it is almost impossible for the stem to turn.—ED.]

Lightweight Tyres and Belts.

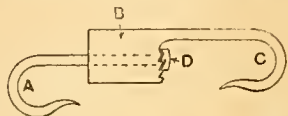
[3534.]—I have read "Occasional Comments" by "Ixion" on tyres and belts for lightweights, and from my own experience his criticism is decidedly unfair. I rode 2,000 miles on my machine (Motosacoche) with roadster tyres (Clincher A Won roadster) without one puncture. I have since ridden another 1,800 miles on the same tyres with very few punctures. For the 3,800 miles I have used two belts, which are still good enough for spares.

With reference to buckled rims, does "Ixion" habitually ride over bricks and up kerbstones? I cannot account for his experience any other way. All my riding has been done in this hilly district (Bradford) on very ordinary roads.

R. J. MORGAN.

Round Twisted Belts and their Fasteners.

[3535.]—Owners of lightweights with round-twisted belts will find the following idea useful for tightening the belt without unhooking it, or removing it from the rim or pulley. Let a hook be made of three parts A C and B, B being a boss with a ratchet cut on one side to allow of A being turned in one direction. Or the hook can be made double, as advocated in a recent number of *The Motor Cycle*.



This gives extra strength in the hook, and looks neater, as it lies inside the round belt. The belt can be tightened by twisting belt attached to A in the direction in which the ratchet is cut, and if it is desired to slacken belt it can be untwisted if A is pushed towards C so that the head D is pushed beyond the ratchet, in which case A will turn in either direction.

J. H. POTTER.

[The suggestion is a clever one, but it is not advisable to shorten round-twisted belts by twisting them too much, as they become so small in diameter as to lose their grip.—Ed.]

Footrests v. Pedals and Stands.

[3536.]—I notice that you publish very few letters in favour of pedalling gear. I have now been a motor cyclist since the appearance in this country of the little front-driven Werner, since when some ten or twelve different makes of motor cycles have been in my possession at different times, but I would not think of purchasing a machine without pedal gear, whether fitted with fixed or two-speed gear.

Pedalling gear is useful in so many ways, such as for testing machine on the stand, helping engine on greasy roads and at bad corners, for preventing side-slip by standing on them, for using as footrests occasionally—as so many different positions can be obtained and cramp thereby prevented on long journeys—and lastly, they are very welcome for warming one up on a cold winter's day by doing a little pedalling on hills (when no one is looking).

Last season and this I have been using a twin with two-speed gear, with sidecar attached, and have just completed 15,000 miles on this combination. My machine is a Vindec, which I chose for the principal reason that it has pedalling gear. To start engine, I raise the exhaust, give the pedal a half-push, put in the clutch, and away I go. When I get a lengthy traffic hold-up I stop engine, as I do not have to leave the saddle to start again, but simply give the pedal a dig. The consequence is, if I am driving all day in the thickest traffic I never overheat, which I am afraid the gentleman with the pedalless machine and miniature starting handle could not do.

It is well known that it is impossible to keep an air-cooled engine running free for any length of time in traffic without overheating. It is easily tested, as a run from Liverpool Street to Charing Cross *via* Cheapside and Fleet Street will soon prove. Last year I did 3,000 miles in London traffic, fully half of this distance being in the City and West End, and never suffered once from overheating. My machine, when loaded with baggage, spares, and passengers, weighs 700 lbs., and I have never yet met a hill in either the British Isles or France that it would not take unassisted; still I would not part with my pedals. My favourite position in riding is left foot on footrests and right foot on pedal. I ride all weathers, and do any journey up to 300 miles in a day—my choice distance being 200 miles—and I always finish fresh and without a sign of stiffness, which I doubt would be the case had I been stuck in one position all the time.

ERNEST FRASSETTI.

[3537.]—May I say a few words in reply to Mr. Wall. To begin with, *why* must we have either pedals or footrests? Surely both can be retained. For a machine to be started by a turn of the handle it must have a free engine clutch, and the pedal machine with the same advantage need not be jacked up on the stand to be started—a method which the writer of a previous letter considers so undignified.

With clutches of the Vindec type the rider can sit astride his machine and start the engine with one push of the pedal and then engage the clutch, having both feet free to balance the machine as it commences to move, so making a quick and neat start. I submit that this is much more dignified than leaning the machine on one side, reaching for the exhaust lifter with one hand and winding a crank with the other, and then go wobbling off leaning over to one side.

Anyone who has assisted at starting one of these machines when the engine is at all refractory will know what an effort is required. I know one which used to require two people to hold it steady while a third "comfortably hand turned" it for all he was worth. The footrests in this case were not much use, as the engine would not fire unless the machine was vertical. Lastly, tyre repairs obviously cannot be simplified by the absence of a stand, and long footrests are, in my opinion, very uncomfortable on a long ride.

CE 610.

[3538.]—It is to be doubted if your correspondents 3520 who signs "H. M." and 3521 who signs "Practical Experience," understand the subject matter of my letter, under the title of "Footrests v. Pedals and Stands." You will remember that these reflections were prompted by an observation of "Ixion" that footrests were less dangerous than pedals, provided there was sufficient ground clearance.

"H. M." seems to form the ludicrous idea of fitting pedals to a car—a grotesque hypothesis. He mentions the easier adaptation of pedals to a motor cycle, but omits to allude to their discomfort and superfluity under modern conditions.

"Practical Experience" discounts the utility of pedals except for the function of starting, but overshoots the mark when he represents the pedal-started motor bicycle as allowing for the same low build as a pedalless machine. Possibly, by the aid of a dropped saddle pillar, improvised rear seat on a stand or similar contrivance, the equivalent of the low seat may be secured, but at the same time any hope of the utility of the pedals vanishes.

It is imagination to assume that oil causes slip on a metal to metal clutch. Multiple disc and other varieties of metal to metal clutches run in oil. If "Practical Experience" took the precaution to use the adjustment provided for the clutch instead of jumping to conclusions, he would secure the sought-for result. I have no wish to decry any well-designed clutch and two-speed gear, provided it is in the right direction. What calls for condemnation is the weird evolution of starting a self-propelled vehicle by primitive and awkward means. Proof is exemplified in daily clutch and gear conversions effected to neighbours' products of repute, including the one referred to in your correspondent's letter.

As the originator of a device so generously accepted by all conditions of riders, I have no desire for so pronounced an expression to conflict with other firms, except on the vital point of starting handle with footrests v. pedals—a movement which students of the motor cycle realise has come into final recognition, and which will be ubiquitous on 1909 machines.

ARTHUR W. WALL.

[A number of interesting letters are held over, and will be published as space permits.—Ed.]

EXPERIENCES WANTED.

"B. W." would like to know if any reader has tried the experiment of fitting a Brown and Barlow or other carburetter to a 1908 Minerva in place of the G. and A. automatic, and with what results?

NOTICE.

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rington.

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HALIFAX.—1908 5 h.p. twin Tourist Rex, magneto; owner going abroad; £35; a splendid opportunity.

HALIFAX.—1908 Rex, $\frac{2}{3}$ h.p., magneto, very low, little used, condition excellent, easy starter; £19 19s.—Halifax Motor Exchange, 16, Westgate, Halifax.

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1907 Twin Rex, spring forks, $\frac{2}{3}$ tyres, equal to new, not done 30 miles this season owing to owner not having time to ride; cheap, £20.—33, Willis Street, Warrington.

REX $\frac{3}{4}$ h.p. Tourist, magneto, End-to-End gold medallist, lost no marks, new 10 weeks ago, perfect order, valuable spares; any trial; what offers?—14, Fir Street, Sheffield.

1 h.p. 1908 Ariel Lightweight, B. and B., H.B. control, magneto, Miraculum in res, spare valves, etc.; £30; also $\frac{3}{4}$ h.p. Quadrant, engine perfect, spare valves, £18. T. W. Wake, Wetherby.

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h.p. Twin Jap, handle-bar control, Chatter-Lea No. 6 frame, $\frac{2}{3}$ in. Continental tyres, not done 800 miles; bought tricar; a bargain, £25, no exchange.—5, Ripplingham Road, Withington, Manchester.

N.S.U., $\frac{2}{3}$ h.p., splendid condition, sound, reliable machine, adjustable pulley, Stanley-Dermatine, complete with all accessories, two accumulators, newly plated and enamelled; price £14.—Greenwood, 15 Burnley Road, Padiham.

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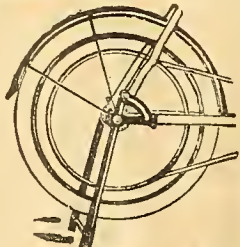
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ALBION WORKS, SQUARE ROAD, HALIFAX.

MOTOR BICYCLES FOR SALE.

LIGHTWEIGHT, 2 h.p., girders, 2in. Clinchers, vertical engine, trembler; £7 10s.—Hawke, stationer, Hallaton, Uppingham.

3½ h.p. Minerva, Chater-Lea frame, compression good, new belt, wants new tyres; £11, offers, cash.—Hewat, Ringsfield, Beccles.

1906 Rex, spring forks, Longuemare, new Palmer 2½ tyres, splendid condition, and powerful; £15, or offer.—13, Cadogan Road, Cromer.

MINERVA Motor Cycle, 3½ h.p.; best bargain, £22; about 500 miles, spring forks; quick sale.—Apply, Hull, 29, Dumbries Street, Luton, Beds.

1907 3 h.p. Triumph, perfect order, XI'all spring forks, F.R.S. lamp and generator, new coil, two accumulators, voltmeter, and tools; £20, no offers.—Preston, Wroxham, Norfolk.

2½ h.p. Ariel Lightweight, not done 1,500 miles, two accumulators, lamp, horn, stand, spares, long bars, swan-neck pillar; photo sent; want money badly; £10 cash.—Hammond, High Street North, Dunstable.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

3 h.p. Fafnir, low, long bars; photograph.—Hopkins, 10, Queen Street, Cardiff.

2½ h.p. Brown, excellent condition, new tyres.—Wilkinson, Llantwit Major, Cardiff.

2½ h.p. F.N. Cycle, in going order; £9, or exchange for stronger.—Ireland, Victoria, Mon.

6 h.p. Antoine, Chater-Lea, excellent order, with or without sidecar; £25.—16, Sansome Walk, Worcester.

5 h.p. Vindec Special, almost equal to new, 1908 variable pulley, lamp, horn, carrier, etc.; £30.—Hopkins, Alveston House, Ledbury.

TRIUMPH 2½ h.p. Motor Cycle, accumulator ignition, splendid order; £12 12s., or would take push cycles in part exchange.—W. L. Tilley, Ledbury.

KERRY, 3 h.p., Chater-Lea, splendid condition, footboards, low, new back tyre, powerful climber, fast; £12 10s.—Letters, Rodborough, Lickey, Bromsgrove.

TWIN Rex, 1907 (November), magneto, footboards, several improvements, perfect condition, as new; cost £45, accept £28, or best offer.—R. Corah, King's Norton.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

2½ h.p. Minerva, 1908, as new, not ridden 50 miles; £27 10s., or near offer.

3½ h.p. Quadrant, magneto ignition, 1907, hardly used, perfect condition, headlight, separate generator, bell, horn, Brooks spring seat, cut-outs; a bargain, £32 10s., or near offer.

2½ h.p. Excelsior, surface carburettor, Palmer back tyre, Clincher front, in good order; £8, or near offer.

4½ h.p. De Dion Car, seats four, in good running order, lamps, tyres in good condition, genuine bargain; sale or exchange, £30, or near offer.

5-6 h.p. Stirling Panhard, horizontal engine, dogcart body, three speeds and reverse, brand new gears, lately painted, tyres as new, wheel steering; sale or exchange, £25, or near offer.

8 h.p. Rover, 1907 type, seats four, splendid order, hood, screen, lamps; £170, or near offer.

1½ h.p. Werner; £5.

THE above cycles are to be seen at W. J. Randall's Garage, 3, High Street, Andover.

3 h.p. Quadrant Motor Cycle, spring forks, good hill-climber, in good condition; £12.—Rebbeck, Malmesbury Road, Chippenham.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE

LIGHTWEIGHT N.S.U., new, spring forks; 32 guineas.—N. Fairbank, Bulford Camp,isbury.

h.p. Rex, magneto, spring forks, perfect condition; cheap.—53, Rosebery nue, Gloucester.

EXCELSIOR Motor Cycle, everything complete, less engine; £2 15s.—11, Brunswick are, Gloucester.

DOWN, 3½ h.p., late 1907, grand condition, many spares, etc.; £20; only wants ng.—Paxman, Tewkesbury.

IRY Motor Cycle, nearly new, not been ridden 150 miles.—Apply, W. Rossiter, South Road, Kingswood, Bristol.

h.p. Fairy Lightweight Motor Bicycle, twin-cylinder engine, good order; £12.—Willway and Sons, Ltd., Bristol.

h.p. Peugeot Twin-cylinder Engine, practically new and in perfect condition; 0s.—Willway and Sons, Ltd., Bristol.

h.p. Peugeot Motor Bicycle, Chater-Lea frame, complete with sidecar, first order; £25.—Willway and Sons, Ltd., Bristol.

h.p. Minerva, 1908, spring forks, little used, perfect condition; £26, or near; any examination; Oxon.—Box 724, The r Cycle Offices, Coventry.

h.p. Magneto Minerva, low frame, long handle-bars, Brooks saddle, stand, er, new tyres, punctureproof bands, spares, accessories, good condition; —Davis, Crowthorne, Berks.

SECTION VIII.

fford, Essex, Middlesex, Surrey, Kent, and Sussex.

SPECIAL Clearance of new, shop-soiled, and second-hand motor cycles.

E only shop-soiled Kerry, 3 h.p., Clincher A Won tyres; reduced price, 21 eas, usual price £34.

E only second-hand Twin Vindec Special, Peter-Union tyres, Goodrich skid on back wheel, Simms-Bosch magnition, complete with all spares, re-price, 31 guineas, cost £60.

E only 1908 Shop-soiled twin Minerva, 3½ h.p., spring forks, magneto ignition; ced price, £37.

E only 1908 Shop-soiled Twin Minerva, spring forks; reduced price, £39.

E only, Mills and Fulford castor wheel sidecarriage, can be fitted to any moyle; reduced price £10 15s., usual price 2s.—Hunt's Motor Dept., 104, Newgate t, London, E.C.

h.p. Brown, 1907, magneto, non-skid, adjustable pulley, Millennium stand, overhauled; £22.—Gates, 33, Connaught, Stroud Green.

h.p. Rex, in good condition; £7.—76, Edgeley Road, Clapham.

p. Minerva, perfect running order; write appointment; £7 10s.—59, Balham Hill.

RRY, 2½ h.p., as new; £15 10s.; perfect.—Wood, 36, Tarbert Road, East Dul-

8 Twin Magneto Rex, new; £30.—Anderson Bros., Hermon Hill, South Wood-

TOSACOCHE, £23, recently cost £33; spring forks, extras.—85, Hotham Road, ey.

p. Kerry, low, fast, perfect; offers, or exchanges.—91, Stanhope Gardens, Har-ly.

p. Juno Fafnir, sound running order; £12, offers.—Alan, Rectory, Norwood, hall.

p. Motor Cycle, long bars, good condition; bargain, £8.—C., 33, Acorn Street, derwell.

h.p. Quadrant, spray, very little used; £9.—Winton, 5, Black Bull Road, estone.

p. Triumph, two accumulators, perfect order; approval.—Eagles and Co., High t, Acton.

p. Ariel Twin, late 1907, splendid condition; £23.—i, Arminger Road, Shep-s Bush.

THERE'S NO PLEASURE

in scrapping with that old hog on the roadside. Let Maude's quote you for exchange for a decent article (all machines are despatched in running order). Our local old iron man will buy your old jigger.

ARIEL, 3 h.p., brand new, perfect	£29
JAP, No. 6 Chater-Lea frame, 1908 model, 6 h.p., magneto	£32
REX, 5 h.p., 1907 model, blue finish	£18
REX, 3½ h.p., 26in. wheels, very low	£12
MINERVA, 4½ h.p., 2½in. tyres	£23
REX, 1907, like new, with sidecar	£25
SAROLEA, 5 h.p., very low, new tyres	£23
WERNER, 3½ h.p., twin good condition	£17
ARIEL, 3 h.p., B. and B.	£13
MINERVA, 3½ h.p., M.O.V.	£16
VINDEC, 3½ h.p., magneto, spring forks	£22
VINDEC, 2½ h.p., spring forks	£10
CLARENDON, 3 h.p., vertical	£11
REX, 3 h.p., 50-guinea model	£10
BAT, 3½ h.p., spring frame	£19
REX, 3½ h.p., two speeds	£14
QUADRANT, 3 h.p., spring forks	£12
BAYLISS, 3 h.p., special price	£8
F.N., 2½ h.p., splendid puller	£12
HUMBER, 2½ h.p., very fine mount	£10
CLYDE, 2½ h.p., magneto	£15
GIVAUDAN, 2½ h.p., perfect, non-skid rea.	£15

LIGHTWEIGHTS.

ZEDEL, 2 h.p.	£11
LLOYDS, 2 h.p.	£11
QUADRANT, 2 h.p.	£7
MINERVA, 2 h.p.	£8
JAP, 2½ h.p.	£7
HUMBER, 2 h.p.	£7
MINERVA, 2½ h.p.	£8
ARIEL, 2½ h.p.	£10

50/- DOWN AND 5/- PER WEEK SECURES:

h.p. EXCELSIOR	£11
h.p. SINGER	£9
h.p. JAP	£11
h.p. REX	£10
h.p. ORMOND	£8
h.p. WERNER	£10
h.p. MINERVA	£10
h.p. CUNARD	£12
h.p. LLOYDS	£11
h.p. HUMBER	£8

ACCESSORIES.

Rip Boxes. The finest extant for carrying tubes or belts.

Try one on approval. A quality, 7/6; B quality, 4/6.

Belt Boxes. Hold nine feet. Any size easily fitted.

A quality, 8/6. Trade terms on request.

TUBES (fully guaranteed).

26×2in. .. 5/6 26×2½in. .. 7/6 28×2½in. .. 7/-

26×2½in. .. 6/6 28×2in. .. 6/6 28×2½in. .. 7/6

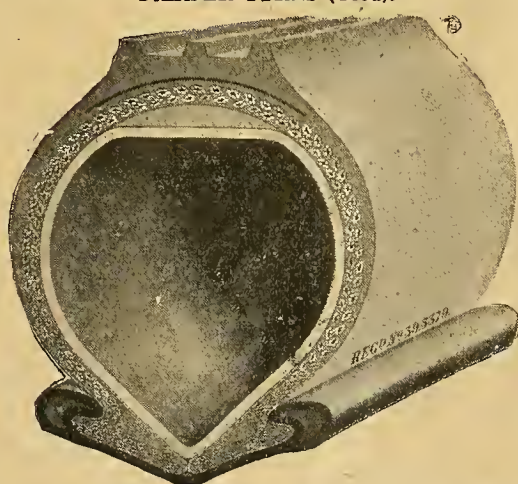
TUBES (butt-ended).

You cannot do better than try one. Money returned

in full if not perfectly satisfactory.

26×2in. .. 7/6 26×2½in. .. 8/3 28×2½in. .. 7/9

26×2½in. .. 7/9 28×2in. .. 7/6 28×2½in. .. 8/3

PALMER TYRES (Cord).

Cover.	Tube.	Cover.	Tube.	Cover.	Tube.
26×2	43/8 10/-	26×2½	59/3 16/3	28×2½	63/8 11/-
26×2½	58/9 11/-	28×2	50/3 10/-	28×2½	64/3 17/6

11/- allowed on old covers, and 2/6 on tubes.

MAUDE'S MOTOR MART, Powell St., HALIFAX

National Telephone 422

MOTOR BICYCLES FOR SALE.

HAMPSTEAD for Bargains.—All machines guaranteed; F.N., 1½ h.p., 1908 model; £18.

HAMPSTEAD.—5 h.p. twin Vindec, magneto, in splendid condition, with all accessories; £24.

HAMPSTEAD.—Triumph, 1908, 3½ h.p., handle-bar control, almost new; £37, with accessories.

HAMPSTEAD.—3 h.p. Rover, M.O.V., late type, new tyre, all accessories; bargain, only £9 15s.

HAMPSTEAD.—4½ h.p. twin Minerva, 1907 model, spring forks, grand condition; bargain, £19.

HAMPSTEAD.—3½ h.p. N.S.U., magneto, late model, splendid condition, guaranteed; £17.

HAMPSTEAD.—1½ h.p. F.N., brand new, 1908; great bargain; complete with all accessories; £30.

HAMPSTEAD.—5-6 h.p. Bat, Jap engine, free engine, almost new, spring frame; £25.

HAMPSTEAD.—5½ h.p. twin Kerry, new tyres, grand condition; £18, including £4 worth of spares.

HAMPSTEAD.—2½ h.p. 1908 Griffon, shop-soiled only; great bargain, £24 only.

HAMPSTEAD.—Sole agent for Griffon, Minerva, F.N.S., etc.—Rey, 5, Heath Street, Hampstead. Tel. 2678, P.O., close to Tube.

2 h.p. Minerva, M.O.V., Continental tyres; £7; approval.—Eagles and Co., High Street, Acton.

SEND for Wauchope's list of latest arrivals in second-hand motor cycles and tricars.

ROC, 1907, 4 h.p., latest model, clutch, magneto, practically new; £25.—17, Algarve Road, Earlsfield.

3½ h.p. 1908 Triumph; offers.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5 h.p. Berkeley, twin, Longuemare, good tyres, stand, etc.—Bennett, 118, Railway Street, Hertford.

ROC, 4 h.p., August, 1908, two speeds, handle control, tools; £39.—8, Sandmere Road, Clapham.

1907 Triumph, sound condition; £25.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

h.p. Antoine, splendid condition; £14 14s.; exchange.—69, Bensham Manor Road, Thornton Heath.

3½ h.p. M.M.C., nearly new; photo; offers. —8, Westview Gardens, Maybank Road, Woodford.

3½ h.p. Excelsior, splendid condition, reliable machine; £10.—19, Connaught Road, Leytonstone.

3½ h.p. Triumph, 1907, perfect condition. new at Easter; £31; no offers. —40, Hook Road, Epsom.

3½ h.p. Rex, going order; £7; long bars, swan-neck seat.—Clark, 16, Bathurst Gardens, Willesden.

3½ h.p. 1907 Rex, vertical engine, runs well; £15.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

BARGAIN.—Practically new 4 h.p. Motor Cycle; £16 10s.—Particulars, 47, Camden Grove, Peckham.

3 h.p. C.I.E., magneto, very low, torpedo tank, almost new; £18, or offer.—52, Perry Hill, Catford.

TWIN Rex, in going order; £12 10s., or nearest offer.—Boutle, 7, Elmington Terrace, Camberwell.

3½ h.p. Minerva, spring forks, studded back tyre, good condition; £15 15s.—14, St. John's Grove, Croydon.

3½ h.p. Durkopp, 2½ tyres, spray, splendid condition; £13.—11, Avenue Road, Goldhawk Road, London.

3 h.p. Fafnir, in good order, spare accumulator, lamp, Continentals; £11.—144, Holland Park Avenue, W.

CHATER-LEA Twin Minerva, latest design, just delivered; 23 guineas. —313, Coldharbour Lane, Brixton.

MOTOR BICYCLES FOR SALE.

STAMFORD HILL.—5.6 h.p. twin Rex, cantilever seat, spring forks, 50 guinea model, splendid condition; £18 10s.

STAMFORD HILL.—5 h.p. twin Hamilton, footboards, B. and B. twin carburetter, fast racy machine, splendid order; £15.

STAMFORD HILL.—2½ h.p. Rex, B. and B. carburetter, excellent machine, in perfect condition, lightweight; £7.

STAMFORD HILL.—2½ h.p. Humber, light machine, Longuemare, grand hill-climber, fine condition; £7 10s.

STAMFORD HILL.—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL.—Colossal sacrifice, 2½ h.p. Bradbury, perfect, complete, grand powerful machine; £10 15s.—128, High Road, South Tottenham.

MOTOR Cycle, 3 h.p., Stevens engine, new condition; bargain, £12 10s., near offer.—760, Old Kent Road, London.

VINDEC Special, twin, 1907, just overhauled by makers, excellent condition.—Hunt, Oakwood, Chislehurst.

6 h.p. Matchless-Antoine, good running order, suitable for sidecar; £16.—Motor, 20, Godson Road, Croydon.

5.6 h.p. Twin Antoine, Chater-Lea frame, handle-bar control, quite new; £35.—Chilton, High Street, Watford.

3½ h.p., Free Engine, low built, fast, Bowden controls; bargain, £13.—103, Chesterfield Gardens, Harringay.

3 h.p. Humber, chain, excellent condition, grand climber; £8, or offer.—147, Finborough Road, Earl's Court, S.W.

4½ h.p. Four-cylinder F.N., good condition and perfect order; lowest £27 10s.—Write, 2, Ardgowan Road, Catford.

3 h.p. Bradbury, perfect; bargain, cash or otherwise.—Letters only, Ford, 78, Sternhold Avenue, Streatham Hill, S.W.

3½ h.p. 1908 Minerva, very excellent machine; 19 guineas.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½ h.p. Brown, 1907, accumulator ignition, excellent condition; £14 10s.; approval.—Eagles and Co., High Street, Acton.

3½ h.p. Rex-Hamilton, with new engine and carburetter, variable pulley, complete, £9 10s.—Wilde, Willesborough, Kent.

WAUCHOPE'S are the cheapest on this earth for motor cycles.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

TRIUMPH, purchased 1907, magneto, spring forks, absolutely warranted; £25.—Letters, Burgess, 26, Holloway Road, London.

3½ h.p. Roc, magneto, very fast, and smart appearance; £15.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

4 h.p. N.S.U. Twin, magneto stand, footboards, good tyres, Riches to back, tools, spares; £26.—27, Mattock Lane, Ealing.

1½ h.p. Motosacoche, magneto, spring forks, 1908 model; £25.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

3 h.p. Bradbury, perfect condition, new tyres, long bars, low seat, accessories; £12.—Owner, 2, Durham Road, South Ealing, W.

4 h.p. Bat, splendid condition, very fast and reliable, low, footboards; £11.—24, Connaught Square Mews, Edgware Road, W.

3½ h.p. Chater-Lea Motor Cycle and sidecar, both in splendid condition.—73, Dock Road, Tidal Basin, West Ham. Price £20.

LADY'S or Gent's 2½ h.p. Jap, silent, unpunctured, grand order; £12 10s.; photo, stamp.—61, Denmark Hill, Camberwell.

N.S.U., 1907, 3½ h.p., magneto, spring forks, tyres new, condition perfect; £20; seen after 6 p.m.—14, Grove Road, Willesden Green.

3½ h.p. Minerva, Chater-Lea fittings, in perfect running order; £15 10s., or nearest offer.—15, Fengates Road, Redhill, Surrey.

"TWINs"

**ARE THE THING - -
FOR SIDECAR WORK.**

Terms and exchanges to suit requirements.

TWINs—Offers Wanted.

6 h.p. Twin Rex, £17 17s. or £4 and '07 Single Rex, or £8 and '05 Single Rex, or level exchange with Single Magneto Rex.

SPECIFICATION.—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

5½ h.p. N.S.U., magneto, new, 1908 ..	£52 0
5 h.p. Twin VINDEC, magneto ..	35 0
5½ h.p. REX DE LUXE, soiled ..	35 0
6 h.p. Twin REX, blue lines ..	17 17
5½ h.p. Twin REX, spring forks ..	17 17
5½ h.p. REX DE LUXE, magneto ..	27 10
Twin REX, blue lines, new tyres ..	18 18
6 h.p. Twin REX, non-skids ..	18 18
5½ h.p. Twin REX, magneto, 1907 ..	23 10
4.5 h.p. Twin ALCYON, two speeds ..	20 0
5 h.p. Twin SAROLEA, long frame ..	18 18
6 h.p. Twin ANTOINE, R.O.M. ..	22 0
Twin CLEMENT, spring forks ..	14 0
5 h.p. Twin ONAWAY, very low ..	19 0
6 h.p. Twin ANTOINE, spring forks ..	22 0

SINGLES—Offers Wanted.

3½ h.p. N.S.U., magneto, new, 1908 ..	£42 0
3 h.p. SINGER, H.T. magneto ..	20 0
3 h.p. TRIUMPH, magneto ..	24 10
3 h.p. TRIUMPH, spring forks ..	21 0
3½ h.p. Magneto REX Racer, a flier ..	25 0
3½ h.p. REX, 1907, 2½ in. tyres ..	17 17
3½ h.p. 1906 REX, spring forks ..	15 0
3½ h.p. Magneto REX, soiled ..	21 0
3½ h.p. 1906 REX, spring forks ..	15 0
3½ h.p. REX, spray, fine climber ..	11 10
2½ h.p. Magneto REX, 1908, soiled ..	22 0
3½ h.p. MINERVA, M.O.V. ..	16 10
3 h.p. GIVAUDAN, nearly new ..	16 0
3 h.p. QUADRANT, spray ..	13 0
3 h.p. LLOYD'S, 26×2½ in. Palmers ..	13 10
4 h.p. ANTOINE, Longuemare ..	16 0
2½ h.p. MINERVA, fine condition ..	13 10
2½ h.p. CLYDE, magneto ..	15 0
4 h.p. ANTOINE, 26×2½ in. tyres ..	16 10
3½ h.p. SIMMS, magneto, 2½ in. Palmers ..	17 10
3½ h.p. QUADRANT, 1906 ..	18 10
2½ h.p. CENTAUR, free-engine ..	18 0
2½ h.p. F.N., special frame ..	12 10
3 h.p. HUMBER, spray ..	10 10
3 h.p. FAFNIR, very low, spray ..	13 10
3½ h.p. REX, 22 in. frame ..	11 10
2½ h.p. MINERVA, 26×2½ in., spray ..	11 10
3 h.p. BROWN, spray ..	12 10
3 h.p. M.M.C., spray, very low ..	10 0
3½ h.p. EXCELSIOR, spray ..	10 10
2½ h.p. COVENTRY EAGLE ..	10 0
3½ h.p. Two-speed REX ..	13 10
2½ h.p. F.N., light, low ..	12 0
2½ h.p. CLEMENT, very low ..	11 0
2½ h.p. KERRY, spray, low ..	10 10
2 h.p. RALEIGH, spray, smart ..	8 0
2½ h.p. ROYAL, vertical, spray ..	7 15
2½ h.p. SINGER, magneto ..	8 10
1½ h.p. MINERVA, spray ..	5 10
2½ h.p. EXCELSIOR, trembler coil ..	8 0
2 h.p. HUMBER ..	6 10
2 h.p. PEUGEOT Lightweight ..	9 10
2 h.p. Magneto SIMMS ..	6 10

TRICARS.

4½ h.p. W.C. BRADBURY ..	£37 10
5½ h.p. QUADRANT Carrette ..	35 0
5½ h.p. REXETTE, W.C., two speeds ..	35 0
REX, Mills-Fulford ..	13 0
Twin REXETTE, W.C., two speeds, 8 h.p. ..	47 10
5 h.p. HUMBER, open frame ..	35 0
REX, Phoenix Two-speed ..	18 10

"PERFECTION" LEATHER V BELTING.—
¾ in. 9d., ¾ in. 10½d., ¾ in. 1/-, 1 in. 1/1.

"SERRATRIX" RUBBER CANVAS BELTING.
Best on test.—¾ in. 9d., ¾ in. 1/-, ¾ in. 1/4, 1 in. 1/8 per foot.

SPECIAL 2½ in. CALMON COVERS, fit 26×2½ in. rims, 17/9; 28×2½ in. tubes, new, 4/9; new Peter Union tubes, 24×2½ in., 5/6.

High-class magneto machines wanted for spot cash.

The Halifax Motor Exchange,
16, Westgate, Halifax.

Telephone—765.

Telegrams—"Perfection."

MOTOR BICYCLES FOR SALE.

If you want bargains in second-hand motor cycles, you can get them at Wauchope's, 9, Shoe Lane, Fleet Street, London.

3½ h.p. Rover, good condition, spares, Pal-mers, £14; also similar Triumph, £20.—"Redcott," Dacres Road, Forest Hill, London.

3½ h.p. Clyde, magneto, very powerful, 3½ very good condition; £14, or exchange lower power magneto.—97, Uxbridge Road, Hanwell.

3 h.p. Singer, H.T. magneto, new belt and tyres, excellent condition; a bargain, £15.—Shute, 9, Cannon Place, Hampstead, London.

£8 8s.—Ariel, 68 by 76, spring forks, adjustable pulley, Dunlops, trembler, perfect order; any time.—91, Southfield Road, Chiswick.

2 h.p. Quadrant, spring forks, wipe contact, trembler, splendid condition, spray carburetter; £7 10s.—A.C., 199, High Street, Watford.

4½ h.p. Twin Minerva, latest, spring forks, thumbslides, footboards, etc., splendid condition; accept £22.—207, Peckham Rye, S.E.

TRIUMPH, Tourist Trophy, nearly new Goodrich non-skid tyres, £5 spares; price £36.—Apply, 182, Green Street, Forest Gate, E.

3½ h.p. Humber and rigid sidecar, two speed, chain drive, £15, or separate.—George, 30a, St. John's Road, South Tottenham, N.

3½ h.p. Minerva, nearly brand new, spring forks, Brooks non-skid; cost £38, price £28, or near offer.—6a, High Street, Hampstead.

FOR Sale or Exchange, 2 h.p. Peugeot, 1 h.p. Bowden, 1½ h.p. Werner; wanted good tricar and cash.—Owner, 21, Balfour Road, Ilford.

3 h.p. N.S.U., magneto ignition, free engine clutch; £15, a splendid bargain.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½ h.p. 1907 Rex, perfect order, new back Clincher, new belt, accessories; nearest £15.—Write, Asling, Avondale, Nelson Road, Hornsey.

3½ h.p. Bowden, Fafnir engine, handle-bar control, chain drive, all accessories thorough good condition; £7 7s.—199, High Street, Watford.

3½ h.p. Rex Motor Cycle and rigid sidecar, perfect condition; trial by appointment; £14.—Duddell, 140, Manchester Road, Isle of Dogs, E.

3½ h.p. Centaur, in running order, Longuemare, Palmer and Clincher tyres trial given; £12.—Kew, 160, Manor Park Road, Harlesden.

2½ h.p. Brown, perfect, like new, Heurtel Bruneau lightweight, distinct novelty; £15, cash offers; must sell.—44, Horace Road, Forest Gate.

N.S.U., 3½ h.p., new condition, Continental; ride 50 miles; £16; spares, accessories, £2 10s.—Caudwell, Altair, Sutherland Road, West Ealing.

2 h.p. Peugeot Motor Cycle, vertical engine, a sound light runabout; £8 10s., very cheap.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

£8, or nearest.—2 h.p. Quadrant, non-skid on back, and spring seat-pillar, in good going order.—Sharpe, 87 Landcroft Road, East Dulwich.

3 h.p. Fafnir, Chater No. 6 frame, spring back and front, new condition, £15 also 5 h.p. twin Peugeot, £17 10s.—57, Park Road, West Dulwich.

£10, or exchange good push cycle and cash to value.—2 h.p. Peugeot, spray, lightweight, Watawata, Dunlops.—H. A. Smith, Builder, Selsey, Sussex.

3½ h.p. Excelsior, M.M.C. engine, Longuemare carburetter, low frame, running order; what offers?—229, Sandycombe Road, Richmond, Surrey.

3½ h.p. Rex, in good order, tyres good condition, non-skid on back, Longuemare carburetter; £14 cash.—Deverell, 37, Garkarh Road, Balham Hill.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TRICARS FOR SALE.

6 h.p. Smart Rexette Tricar, seats three; cost £110, accept £32.—98, Potternewton Lane, Leeds.

6½ h.p., guaranteed running order; £20, near offer.—H. 78, Upper Richmond Road, East Sheen, S.W.

4 h.p. Antoine Tricar, two speeds, fan, lamps, horn, spares; what offers?—May, 100, High Road, Ilford.

5-6 h.p. Twin-cylinder Tricar, wheel steering, coach-built seats, two speed gear, sprung like a car; £45.—Below.

3½ h.p. Quadrant Motor Cycle, spring forks, first-class hill-climber; £20. — Carnforth Cycle and Motor Co., Carnforth.

9 h.p. Riley, fast and reliable; would entertain small car part payment; cash wanted.—10, Charles Street, Bath.

4½ h.p. Riley, water-cooled, two speeds, free engine; any trial; £30, or offer. —Knight, 5, Anglesea Road, Woolwich.

MAUDE'S.—Minerva Tricar, 3½ h.p., convertible to single mount, and complete with front wheel and forks; a bargain, £12.

MAUDE'S.—Minerva Tricar, three speeds, chain drive, complete with fan, Palmers all wheels; £14.

MAUDE'S.—Rexette, 8-10 h.p., water-cooled, spray, tremblers, very good order; £50.—Maude's, Powell Street, Halifax.

HUMBER, 4½ h.p., w.c., two speeds, coach-built, splendid touring machine; £20. —C. Wayman, Field Cottage, Dennett's Road, S.E.

3½ h.p. Triumph Tricar, two speeds, free engine; £22 10s.; opportunity.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

h.p. Quadrant Carette, and spares, in splendid order, all guaranteed perfect; an offer wanted.—Timson, 126, Witton Lane, Aston.

9 h.p. Jap Water-cooled Tricar; sell, or exchange motor cycle and cash.—Write, particulars, Pickering, Otterburn, Bell Busk, Leeds.

8 h.p. De Dion, "Ribble," Longuemare, open, wheel, buckets, 760 by 90 tyres, new condition; £75.—479, Green Lanes, Harringay.

3½ h.p. Tricar, splendid condition, new non-skid tyre on back wheel; £15.—Smith, 69, Broad Street, Pendleton, Manchester.

4 h.p. Kelecom Tricar, smart reliable machine, new tyres and belt, rare chance; £22.—East Ham Garage, High Street South, East Ham.

STAMFORD HILL.—4½ h.p. Phoenix, genuine, two speeds, band brakes all wheels, splendid condition; £20.—123, High Road, Tottenham.

10-12 h.p. Lagonda, air-cooled, perfect order; any trial; £45, or near offer. —Harris, 24, Devonshire Street, Theobald's Road, W.C.

5-6 h.p. Humber, two speeds, water-cooled, coach-built, reliable, perfect; £30, exchanges invited.—91, Stanhope Gardens, Harringay.

3½ h.p. Singer Tricar, magneto, good going order, moved, and must sell; £18 10s.; appointment by letter. — 19, Albion Square, Dalston.

3½ h.p. Minerva-Chater-Lea Tricar, only £15, near offer, or exchange S.C. and S. lathe, 4in.-5in. centre, foot.—Gardner, 6a, High Street, Hampstead.

TRICAR, fitted with 4 h.p. Antoine, 1907 pattern, fast, reliable, good condition; £20, or offer; trial by appointment. — 46, Kemble Road, Croydon.

THREE-SEATER, coach-built, 6 h.p. Rexette tricar, wheel steering, all lamps, spares, and tools; £35, or offer; must sell.—68, Gravelly Hill, Birmingham.

5½ h.p. Twin-cylinder Rexette Tricar, single speed, spring seat, very powerful; price £19 19s., lowest.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5-6 h.p. Kerry Tricar, two cylinders, air-cooled, chain drive, two speeds, wheel steering, bucket seat, coach-built, all accessories; £25.—W. L. Tilley, Ledbury.



We are the cheapest on this earth for Second-hand Motor Cycles and Tricars, lists ready.

Second-hand Light Cars, Tricars, and Motor Cycles taken in exchange for new models, as Triumphs, Vindec Specials, F.N.s, Rocs, Bats, Minervas, Ariels, Quadrants, Fairys, Moto Reves, etc. Write for terms.

WAUCHOPE'S,
9, Shoe Lane,
Fleet Street
(Off Ludgate Circus),
London, E.C.

TRICARS FOR SALE.

5 h.p. Riley Tricar, coach front, free engine, like new, fast and powerful; £35 cycle part.—118, Lambert Street, Hull.

REX Litette Tricar, 6 h.p., magneto, two speed, 1908, hardly soiled; trial; £3 10s.—Clarke, 87, Brampton Road, St. Albans.

3½ h.p. White and Poppe Tricar, Chater Lea fittings, footboards, 2½ tyres studded back, perfect condition; £20, lowest.—32, Eastbourne Road, S. Tottenham, N.

RILEY Tricar, 6 h.p., water-cooled, three speeds and reverse, coach-built, in good condition, spares; £45, or near offer.—Haworth, Ormerod Street, Accrington.

TRICAR, 4½ h.p., w.c., J.A.P., Chater frame clutch, two-speed; in splendid condition; cost £100, £30, cash offers; photo.—Harris, confectioner, Feltham, Middlesex.

LAGONDA Tricar, 10-12 h.p., water-cooled three speeds, in excellent order throughout; price £55.—Further particulars apply, Western Motor Works, Sidcup, S.E.

8-10 h.p. w.c. Rexette, in new condition three-seater, lamps, tools, spares; any trial; £45, or offer, exchange considered.—120b, High Street, Homerton, London, N.E.

4 h.p. White and Poppe Water-cooled Tricar, two speeds, Palmer cords, four lamps, absolutely reliable; trial run; £45 cost double. — Fairview, Springfield Road Wallington.

3½ h.p. Humber Tricar, Phelon-Moore two speed; £20, or offer, or would exchange motor or push cycle, piano, furniture, etc.—Newton, 8, Stockport Road Levenshulme.

4½ h.p. Riley Tricar, two speeds, gear box chain drive, water-cooled; any trial; just overhauled at cost of £12; accept £35.—E. D. May, chemist, 331, West Green Road Tottenham.

LARGE Open Frame Westfield Tricar, in splendid condition, 5 h.p., twin, and three-speed Oppermann, price £25; also small open frame tricar just new, £16 10s.—57, Park Road, West Dulwich.

3½ h.p. Chater-Lea, Fafnir, water-cooled Bowden two-speed, chain drive, cane forecar, long footboards, trembler, accumulators, lot of spares, first-class order; £30.—Paterson, Old Catton, Norwich.

3½ h.p. Runabout, new, fitted with Quin ton water-cooled engine, two-speed gear, chain drive, bucket seat; £22 10s. exchange arranged.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

1907 Practically Brand New Twin 6 h.p. Rex Triette, cantilever seat, 2½in. Dunlops, not done 400 miles, better than new; £25, or exchange 1907 Triumph.—Triette, 86, Colvestone Crescent, Dalston, London.

5 h.p. Zedel-engined Runabout, bucket seat two-speed gear, twin-cylinder engine, suitable for tradesman, take box or seat in front; price 20 guineas.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½-4 h.p. M.M.C. Tricar, Chater-Lea frame, easy starter, exceptionally powerful, cane forecar, vertical engine, non-skids; rare bargain, £18, or motor cycle and cash.—Motor, 9, French Place, Shoreditch, London.

TRICAR, two-seated, upholstered brown leather, 4 h.p. Aster, two-speed, wheel steering, less wheel and tyres; exchange for motor cycle or cash; 2½ h.p. F.N. carburetter, 6s., or offer.—50, Balls Pond Road, Dalston.

5 h.p. Eagle Tricar, Buchet engine, Longuemare carburetter, Clincher tyres, very powerful and reliable, large gas lamp, pump, hooter, etc.; £25, equal to new, or exchange cycle and cash; private.—22, The Avenue, Bruce Grove, London.

4½ h.p. w.c. Humber Tricar, perfect condition, two-speed, handle starting, foot clutch (large), front wheels, 2½ new tyres, phosphor bronze brakes, spare valves; £26 10s., exchange good magneto cycle.—Slater, 105, Westminster Road, Morecambe.

10-12 h.p. 1907 Lagonda Tricar, three speeds and reverse, a most perfect tricar, seats for two in front, water-cooled engine, open frame, and wheel steering, several spares and tools, including horn and three lamps; £75; exchange arranged.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

TRICARS FOR SALE.

6 h.p. Invicta Tricar, Fafnir water-cooled engine, Oppermann three-speed gearbox, new Renold's chains, tyres new condition, just undergone thorough overhaul, fast, several pounds worth spares; £45, or close offer.—Wynn, Alcester, Warwickshire.

SINGER Tricar, 6 h.p., water-cooled, twin-cylinder engine, three speeds and reverse, wheel steering, coach-built, tyres as new, Pullman non-skid on back, everything in perfect order and condition, four lamps, and full list of spares and tools; trial to buyer; £65.—Geo. Clayton, Peel Hall Street Works, Preston, Lancs.

1908 Practically Brand New 10 h.p. Twin-cylinder Rexette, two speeds and reverse, gear box, not done 300 miles, seats two and child in front, climbs most hills on top gear, everything in absolutely perfect condition; great bargain; owner obliged to sell through unforeseen circumstances; sacrifice £65, recently cost double.—A.T.S., 86, Colvestone Crescent, Dalston, London.

GREAT Bargain, £35, or nearest.—Must sell. Almost new Phoenix Trimco, coach-built, 5-7 h.p. Peugeot twin engine, Chapman's enclosed fans, Chater frame, Osborne four speeds, Whittle belt, Peter-Union tyres, studded back new, footboards, combined Chater-Bowden brakes, large petrol capacity; expert examination.—73, Manor Road, West Ham, Essex.

HANDSOME Tricar, twin, air-cooled Buchet engine, 85 by 90, two-speed, Chater-Lea gearbox, open frame, sprung front axle, 650 by 65 Goodrich non-skid back tyre, Continentals front, Bowden wheel control, coach-built bucket seats, finished in Automobile red, with black lines; photo; any trial; £65, take motor cycle in part payment.—Ireland, St. Neots, Hunts.

QUADRANT 5½ h.p. Tricar, two-speed, free engine, air-cooled, coach-built front, Clincher tyres (good condition), new Continental butt-ended, Parsons non-skid, extra spare new belt, two new, contact makers, one exhaust valve, toolbag and few tools, two lamps, Brooks B100 saddle, running order, almost new condition; £32 10s., or nearest.—Apply, Owner, Elm Croft, Laira, or Holmes, Laira Avenue, Plymouth.

STAMFORD HILL.—Must be Sold.—Twin Antoine, R.O.M., Mabon clutch, splendid machine, £30; twin Kerry, long bars, Millford front, very light and fast, R.O.M., grand goer, £28; 4½ h.p. Phoenix, Fitall two speeds, footboards, etc., £25; 3½ h.p. Excelsior, two speed, starts like car, £18 10s.; 4½ h.p. Kelecom, plain drive, sound and fast machine, £17 10s.; any offer, cash or exchange; trials; insist on trials.—128, High Road, Tottenham.

SIDECARS AND FORECARS.

PHOENIX Forecar, coach-built, good condition, tyres new; £5 10s.—Wykes, Grantham.

FORECAR Attachment, 26in. wheels, tyres new, coach-built seat; £3 10s.—369, Edgware Road, W.

GENUINE Chater-Lea Sidecar, latest model, brand new; £5 15s.—R. May, 111, Larkhall Lane, S.W.

MONTGOMERY Sidecar, splendid condition; cost over £10, accept £4 5s.—14, Zermatt Street, Chapelton, Leeds.

STAMFORD HILL.—Two-wheeled coach-built sidecar, 26 by 2½ Continentals, beautifully sprung; cost £18, price £7 10s.

STAMFORD HILL.—Famous rigid sidecars, instant delivery, none better, fit your machine, £4 18s. 6d.; sound second-hand sidecar, £3 5s.—128, High Road, Tottenham.

MONTGOMERY Sidecar, 26in. wheel, right side, Palmer tyre, apron and cushion; £5 10s.—Kirkham, High Street, Cheltenham.

MILLS-FULFORD Duplex Steering Sidecar, condition good, 2½ Palmer tyre; bargain, £4 15s.—Barker, Oxford Road, Worthing.

SIDECAR, Montgomery, fixed or flexible, 28in. wheel, Palmer tyre; £4 10s.; health reason selling.—223, High Street North, E. Ham.

SIDECAR, fit any frame, perfect condition, 26in. motor tyre; sacrifice £4 5s., lowest price.—C. A. Edgar, 123, Holloway Road, London, N.



Accumulators

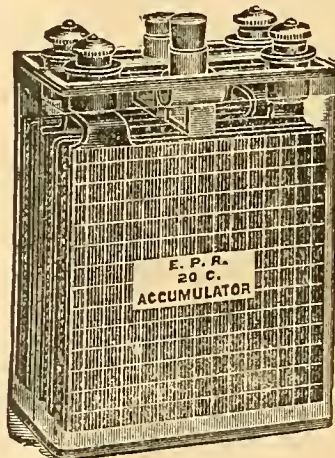
UNSPILLABLE

1908 TYPE.

Read what a private rider says (*Motor Cycle*, July 15th, '08, letter No. 3414) when answering a letter from another reader of the *Motor Cycle*, who does not use "E.P.R." accumulators.

"If your correspondent will try 'a couple of 'E.P.R.' unspillable accumulators, I think his troubles 'will be at an end. If he cares to 'do so, he can put them in his 'tank upside down, but he will get 'no acid trouble. Unlike most of 'the unspillable type, they contain 'no jelly. I have had two in use 'for some considerable time, and 'find them excellent."

No. 20c. 4 × 2½ × 6in. "Acid type," 14/6.



No. 20c /08. 4 × 2½ × 6in. "Unspillable," 17/6.

We make these unspillable accumulators in all sizes from 5 to 50 amp capacity. All unspillable types are sent out fully charged and ready for use. No loose acid to shake out. Full instructions with every cell. All batteries, whether usual type or unspillable, fitted with "E.P.R." non-corrosive terminals.

A FEW SIZES ARE LISTED HERE.

		"Acid type."	"Unspill."
The "Fleet" 4 volt 5 amp.		6/6	7/6
No. 19c	3½ × 1 × 4½	10/6	13/6
" 16r	3½ × 2 × 6	13/6	16/-
" 20c	4 × 2½ × 6	14/6	17/6
" 30c	3½ × 2½ × 6	18/6	21/-
" 40c	4½ × 4½ × 6½	25/-	28/6

REPAIRS.—We make a speciality of treating old and damaged batteries. We can either repair and make them equal to new, or else allow their value in part exchange for new "E.P.R." cells. Send for new catalogue and terms.

NOTE.—All repair work guaranteed. Minerva accumulators cannot be repaired.

Richford and Co.,

ACCUMULATOR SPECIALISTS,
153, FLEET STREET, E.C.

Established 1876.

SIDECARS AND FORECARS.

MAUDE'S.—Let us have your order for a new Montgomery sidecar. Prices low. Exchanges for your old pattern rigid sidecar.

MAUDE'S.—Montgomery sidecars save funeral expenses. The only really safe sidecar. Deferred payments.

MAUDE'S.—Brand new Montgomery sidecar; cost £9 10s., fits twin Minerva, accept £6 17s. 6d.

MAUDE'S.—Bat Rigid Sidecar, 26in. wheel, Clincher A Won tyre, good condition; £4 10s.

MAUDE'S.—Wicker Forecar, band brake both wheels, practically new tyres; £4 15s.

MAUDE'S.—Another Forecar, very good tyres, very good condition throughout; accept £4 5s.—Maude's, Motor Mart, Power Street, Halifax.

FORECARRIAGE Attachment, without front seat, complete with hand brake footboards, mudguards, lamps, stand, etc.; £6 5s.—T. Bainbridge, 27, Rosebery Terrace, Consett.

BOOTH.—Several Montgomery sidecars very cheap, shop-soiled. A few second-hand sidecars very cheap. State requirements.—Booth's Motor Exchange, Wakefield Street, Halifax.

MONTGOMERY Sidecar, latest model, cane seat, lunch basket, separate generator, acetylene lamp, apron, etc., just new; £6 15s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

RIGID Sidecar, £5.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

FORECAR Attachment, suit a 3½ h.p. Minerva; £4 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

BROWN Forecar, 3½ h.p., magneto, very little used, tyres, etc., as new, car basket, spring frame, just been tuned up, stand, Peter-Union studded back tyre, horn, Brooks B100 saddle, etc.; cost £58, price £35.—J. Crisp, Broomfield Hall, Chelmsford.

OAKLEIGH Sidecars never side-slip. We guarantee ours to be the only sidecars free from side-slip. So confident are we that for this week every purchaser will have a £20 guarantee against side-slip. Our sidecars stand alone for simplicity and ease of attachment. Remember ours are the lowest built; price £5.—Oakleigh Motors, Ltd., West Dulwich.

MOTOR TRICYCLES.

MOTOR Tricycle, genuine De Dion, fitted with large seat, tyres new last year; 1½ h.p., will go up most hills without assistance; £5.—Apply, 6, Brownswood Park, South Hornsey, N.

TANDEMS.

LADYBACK Motor Tandem, frame, fork 30s.; 2½ h.p. engine, new, incomplete 20s.; extra air valve, 2s.—46, Vardens Road, Wandsworth.

QUADCARS.

PHOENIX Quadcar, good condition, spare two Bleriot, two electric side and tail lamps, mud shields to all wheels, wheel control, tool box; £45.—B. Martin, 10, We Chapel Street, Mayfair, London, W.

CARS FOR SALE.

STAMFORD HILL.—10-12 h.p. Pick, two-seater, three speeds, reverse, splendid condition; £25.

STAMFORD HILL.—Simms tonneau, four-seater, three speeds and reverse, 810-equal artillery wheels, Dunlops and Continentals, cardan shaft drive, splendid condition; any trial; £35.—128, High Road, Tottenham.

SMART Two-seater, 5-6 h.p., water-cooled, first-class condition, Cape hood; trial cheap.—118, Highbury Hill, N.

6 h.p. Rover, hood, screen, Stepney, lamp tools, special finish car, and in excellent order; £80.

6 h.p. Wolseley, with lamps, spare cover and tubes, and tools, in good running order; £45.

5 h.p. Baby Peugeot, hood, and wind screen, excellent order; £55.—Bloomfield Bros, Braintree.

TYRES.

HALIFAX.—Special 2½ Calmon tyres, fit 26 by 2 rims, 17s. 9d. each; new 28 by 2 ½, 4s. 9d. each; 24 by 2½ Peter-Union tyres, 5s. 6d. — Motor Exchange, Westgate, Halifax.

MAUDE'S Butt-ended Tubes.—Why not try one on approval? Note especially the low prices: 26in. and 28in. by 2in., 7s. 6d.; 26in. and 28in. by 2½in., 7s. 9d.; 26in. and 28in. by 2½in., 8s. 3d. — Maude's, Powell Street, Halifax.

WHO said cheap inner tubes are useless? Are Palmers useless? And yet they are cheap here; 11s. allowed on any old tube, and 2s. on any tube in part payment for Palmers; see our displayed advertisement.—Maude's, Powell Street, Halifax.

6 by 2½ New Gaulois Covers, 16s. 6d.; 28 by 2½ Clincher cover, fitted new Pullan non-skid band, 18s. 6d.; 26 by 2½ auto, 16s. 6d.; 24 by 2½ new steel studded Peter-Union covers, 24s.; 26 by 2 steel studded Gaulois cover, 15s. 6d.; 26 by 2½ wired-on Gaulois cover, 12s. 6d.; approval.—West, 11, Seymour Place, London, W.

TYRES. Tyres.—Huge quantity of brand new heavy covers at more than 50 per cent. reduction, by one of the best British manufacturers; compare following prices with others; nothing on the market to touch these in price and quality; special opportunity. Note prices: 700 by 65, 17s. 6d.; 750 by 65, 17s. 6d.; 700 by 85, £2; 750 by 85, £2 6d.; 760 by 90, £2 10s.; 810 by 90, £2 15s.; 815 by 105, £3; 870 by 90, £3; 875 by 105, £3; 880 by 120, £3 15s.; 920 by 120, £4; all other sizes equally cheap.—A. F. Garnham & Co., tyre factors, Woodbridge Road, Ipswich.

REPAIRERS.

EXPERT Motor Cycle Repairers; accessories, oil, spirit, and grease. — Geo. Hughes and Co., 85, Duke Street, Liverpool.

CRACKED Water Jackets of motors successfully repaired by Lea's metallurgical process.—Lea and Son, engineers, Runcorn.

5 any motor cycle we cannot repair.—Whites, 22, Brook's Alley, bottom of Old Street, Liverpool. Lubricate cylinder and magnet coils.

MAUDE'S.—Vulcanising in all its branches. Tubes vulcanised, small cuts 9d., large 3d.; returned same day, and guaranteed.—Maude's, Powell Street, Halifax.

BIRMINGHAM.—Overhauling, cylinders re-bored, re-bushing, valves, pulleys, any make; frames cut down and made up-to-date; spare tanks fitted; prompt attention. Priest and Williams, 66, Bishop Street.

LEEDS and West Riding Motorists.—Replacements, overhauling, and repairs undertaken by Frank C. Speke, motor engineer, 35, Crimbles Street, Sheepscar, Leeds. Diligent workmanship, reasonable charges.

NO West of England Motorists.—Car and motor cycle repairs, prompt and reliable; cylinders re-bored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Works, Bridgwater.

NEW Engines for Old, from 2½ to 8 h.p.; large stock of parts for De Dion, M.C., Excelsior; new pistons and re-boring with increased power at moderate charges; pairs prompt to all makes guaranteed by years' experience.—The Record Motor Co., Coventry.

REPAIRS and Overhauling. — We have the finest repair works in London for motor cycles, with up-to-date machinery; estimates free; new cylinders for any make engine, pulleys, valves, gears, and all placements; send for our new booklets, with prices.—Laystall Motor Engineering Works, 27 and 29, Laystall Street, Rosebery Avenue, E.C.

EXCHANGE.

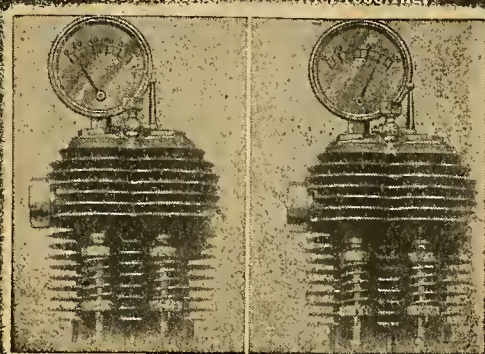
TYPEWRITER. new, cost £22 10s.; exchange for motor cycle.—A.J.B., 103, Chesterfield Gardens, Harringay.

EXCHANGE Motor Cycle and gold watch and chain for w.c. tricar.—Aldridge, Billingham, Dorset.

TWO Motor Cycles, 1½ h.p. Minervas, Chater and Centaur, Dunlops and Clinchers, 3½ h.p. — 34, Great Hermitage Street, Lapping, E.

Compression means Power

Before re-boring After re-boring



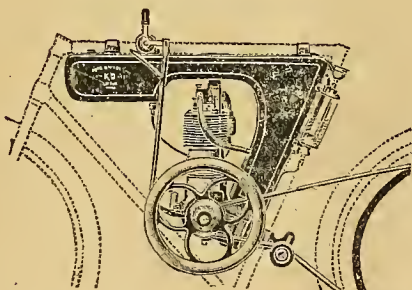
We re-bore your cylinder and fit new piston complete with rings and gudgeon pin. Please send for our new repairs booklet, giving prices for this work.

THE LAYSTALL MOTOR ENGINEERING WORKS, Ltd.
AUTOMOBILE REPAIRERS,
27 & 29, Laystall St., Rosebery Av., LONDON, E.C.
Established 1900. Tel. 12304 Central.

Convert your "jigger" into a Motor Cycle!

The K.D. Lightweight Motor Attachment

can be fitted to any ordinary push-bike.



Price of Motor set complete, £16.

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LEO RIPAULT & CO.,
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SIMPLEX
The Terminal you want.
EASY & QUICK ADJUSTMENT.
MADE IN PURE COPPER.



6 high and 6 low tension or 1 doz. of either size
P.O. 6d., POST FREE, of the
SPECIALITIES MANUFACTURING CO.,
23, Derby Road, WEST CROYDON.

EXCHANGE.

3½ h.p. London Engine, M.O.V., vertical, splendid condition; £4 10s.—58, Whitehorse Road, Croydon.

ARIEL, 3½ h.p., for 1908 Motosacoche, cash adjustment.—Smallwood, 2, Park Road, Bearwood, Birmingham.

EXCHANGE 6 h.p. Peugeot Miniature Racing Car, very fast, for good motor cycle or tricar and cash.—See under Cars.

ARGYLL, 8 h.p., gears practically new; appointment.—15, Shrubland Road, Dalston, London. Good motor cycle and cash.

EXCHANGE Humber, 2½ h.p., piano, portable harmonium, bike, cash £10; after 7 p.m.—148, Maurice Avenue, Wood Green, N.

EXCHANGE 6 h.p. Two-seater Car, perfect running, for good motor cycle or tricar and little cash.—52, Perry Hill, Catford.

EXCHANGE 4 h.p. tricar for any light machinery, motor cycle, frame, or anything useful. — 15, Heywood Road, Liverpool.

EXCHANGE 3 h.p. cycle, free engine, reliable, for lower power with cash adjustment.—81, Umfreville Road, Harringay, London.

2½ h.p. Clement, about 70 lbs., V belt, spares; cheap for cash, or part exchange light road racer.—71, Burghley Road, Hornsey.

EXCHANGE new quarter-plate hand camera, all sundries, for carburetter, suit 3½ h.p., with throttle.—603, Smithdown Road, Liverpool.

EXCHANGE splendid B.S.A. road racer, Le Paris, and coaster, new, in crate, for motor cycle; no rubbish.—3, Market Street, Northwich.

EXCHANGE 3½ h.p. 1907 Minerva, not been ridden 500 miles, for Reflex focal plane hand camera and cash; sell £18 10s.—Wykes, Grantham.

EXCHANGE good trailer for 8ft. of ½ in. or 1in. Whittle belt, as new; Montgomery sidecar, bargain, £4 15s.—Bowley, Stanton Road, Ilkeston.

EXCHANGE Second-hand 26 by 2 Duro beaded cover, for good gas lamp, separate generator preferred. — Holland, Stoke, Nuneaton.

LAMP, fan, stand, carrier, for cash, or exchange 1in. 8½ft. Brooks, ½ in. 8½ft. Watawata. — Ober, Upper Norwood, 104, Church Road, S.E.

20 by 3½ New Wood Pulley, also jack, for speedometer or spring fork attachment, suit lightweight Rex. — 15, Electric Parade, Clacton-on-Sea.

4½ h.p. Tricar, water-cooled, bucket seat, two speeds, etc., smart machine; cash £25, or motor cycle and cash.—Herbert, 62, New City Road, Plaistow, E.

GENUINE Edison 6 Guinea Phonograph, large horn, 200 new records, value £20, and cash for high-class motor or tricar.—Griffiths, 111, High Street, Barry.

EXCHANGE, 12-16 h.p. Side Entrance Car, perfect order, for first-class tricar or powerful cycle and cash.—Apply, Box No. 723, The Motor Cycle Offices, Coventry.

5 h.p. Twin Vindec, new July, 1907, perfect, scarcely used, too fast, too powerful; exchange 1908 Triumph, 3½ h.p. — Letters, Raphael, 19, Oxendon Street, Haymarket.

8-11 h.p. Twin Panhard Car, five-seated, sound condition; £90, or exchange for value motor cycles, tricars, etc.; leaving premises.—Gough, 52, Junction Road, Leicester.

EXCHANGE 5 h.p. water-cooled tricar, Osborne four-speed pulley, Whittle belt, Palmers, Chater-Lea, radiators, wicker front seat, for 5 h.p. twin motor cycle.—Ireland, St. Neots, Hunts.

EXCHANGE Valuable prize winning Harlequin Dane bitch, in whelp, to imported Cirrus von Heidelberg, valued 25 guineas, for good motor cycle or tricar.—Manager, 97, High Street, Woolwich.

EXCHANGE for good motor cycle or tricar, new high class furniture, any description, valued wholesale, direct from works.—Furniture Manufacturer, 9-11, French Place, Shoreditch, London.

EXCHANGE.

EXCHANGE, the Equity of four newly-built Houses, near Eastbourne, for small car or tricar.—Frank Crealy, Hosier, Eastbourne.

EXCHANGE nearly new 1908 5 h.p. twin Peugeot for 3½ h.p. single, cash adjustment, or sell £25.—No. 731, *The Motor Cycle* Offices, 20, Tudor Street, E.C.

WILL Exchange equity seven houses, Hull, producing £21 clear yearly, for powerful twin and sidecar or tricar and cash.—No. 711, *The Motor Cycle* Offices, Coventry.

3½ h.p. Rex Motor Cycle, also sidecar, castor wheel, well upholstered green, both excellent condition; trial any evening; exchange for 7-9 h.p. motor cycle; trial.—Hall, Fernleigh, Potters Road, New Barnet.

EXCHANGE for good push cycle and £8 cash 2½ h.p. Falcon motor cycle, excellent condition, 26in. wheels, splendid hill-climber, very reliable; well worth £15.—Motorist, 86, Colvestone Crescent, Dalston, London.

EXCHANGE, Twin Rex, cantilever saddle, spring forks, footboards and pedals, in splendid running order, for tricar, magneto Rex, or single Bat and cash, or other offers.—Abraham, "Plas-rhaiadr," Talycafn, North Wales.

IF You Want to arrange an exchange of any description, apply at Wauchope's, the safe and sound motor dealers, recently patronised by the Spanish Ambassador and other notables. There you can be dealt with on particularly advantageous terms. Liberal allowances for second-hand machines in part exchange for new models. Write giving full particulars of your present motor cycle, tricar, or light car, and per return we will quote you a price for same in part payment for any of the leading makes 1908 or 1909 models.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

WANTED.

DRUMMOND Lathe wanted; £10 offered in cash.—L. S. Fearn, Alfreton.

WANTED, 26 by 2½ tyres (two), for spot cash.—52, Perry Hill, Catford.

GOOD Low 2-2½ h.p. motor cycle, cheap for cash.—Worledge, Great Staughton, St. Neots.

WANTED, four or two-speed gear, to fit 5 h.p. Antoine.—Dunstone, Sacriston, Durham.

WANTED, two-speed gear, for belt drive.—Wheeler, 192, Ball's Pond Road, London, N.

WANTED, Triumph, any condition, must be cheap for cash.—5, Heath Street, Hampstead.

F.N., four-cylinder, wanted, any condition, cheap for cash.—Rey, 5, Heath Street, Hampstead.

WANTED, 2½ h.p. Kerry cylinder and piston, 1904 pattern.—Hilton, 5, Blakes Road, Peckham.

WANTED, 26 by 3 wired tyres, heavy, new, slightly soiled.—Ashby, 66, Westbourne Gardens, Hove.

WANTED, Old Four-cylinder F.N., any condition.—Smith, Wallace Lodge, Chadwell Heath.

GOOD Heavy Tricar Covers, also tubes, 26 by 2½, wired.—Graveson, Rock Cottage, Wath-on-Dearne.

WANTED, Worn Covers and Tubes, 800 by 85, 810 by 90, 815 by 105.—Stimpson, Stratford-on-Avon.

WANTED, 4 h.p. Antoine engine, also quad, tricar, and cycle.—C. Strutt, Dennett's Road, S.E.

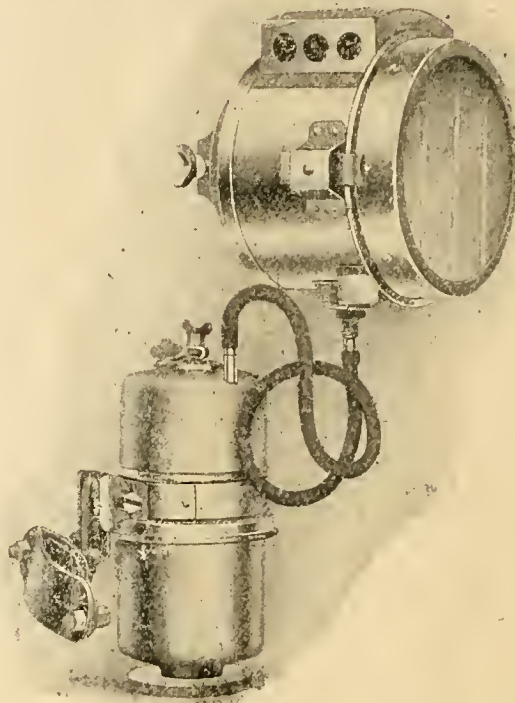
WANTED, 7ft. 6in. belt, 3in., Watawata or Dermatine, as new.—Macpherson, 66, Wells Street, W.

WANTED, motor cycle, Minerva; easy payments; £5 down.—T.H., 33, Gilbey Road, Tooting, S.W.

WANTED, petrol engine, 2-3 h.p., complete, and in good order.—Paynter, Abbey Mills, Alnwick.

WANTED, 26 by 2½ front wheel, Truffault fork parts, and mudguard.—18, Newstead Road, Liverpool.

WANTED, a 6 h.p. Rover, for doctor; must be cheap and good condition.—E., 27, Mill Hill Road, Acton.

Have The Best Lamp.**DO NOT PUT UP WITH ANY OLD LAMP
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Send your lamp here with a label bearing your name and address and we will quote allowance. The price of Searchlight, generator with bracket, and tube complete is 30/-; or lamp only 24/-. Light projection, 200ft. Dissected front glass prevents glare. Mirror lens. PREMIER Searchlights are sent on **THREE DAYS' ACTUAL TRIAL**. Sole London Agents:

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1907 "	33 0
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Also 3½ h.p. REX, £14; 2½ h.p. F.N., £13 10s.; 3 h.p. N.S.U., £10 10s.

Every machine ready for trial run.
All the Triumphs are equal to new.
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"QUADRANTS."**

A large stock of parts still to be cleared.
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WANTED.

CHAUFFEUR wants situation (24), a stainer, certified.—C.U., 28, Maberle Street, Aberdeen.

FOUR-CYLINDER F.N., handle-bar control as new.—Timmis, 31, All Saints Road, New Shildon, Durham.

GOOD Magneto Motor Cycle, single preferred, must be cheap for spot cash.—Pettty, dentist, Halifax.

WITTLE Belt, 3in., for cash, or exchange 3in. Strauss and Gloria, or sell.—Railway Hotel, Patchway, Glos.

WANTED, free engine clutch, fit 3½ h.p. Rex, cheap.—Snell, 6, Vickers Buildings, Newton Street, Lincoln.

WANTED, 1907 Minerva, 2½ or 3½ h.p. spring forks; cheap for cash.—V. Beaumont, Bird's Royd, Brighouse.

EXCHANGE 1908 Cycle and £8 for good powerful motor cycle; near London. 726, *The Motor Cycle* Offices, Coventry.

WANTED, twin carburetter, coil, belt saddle, etc., also pair of wheels, 26in. by 2½in.—8, Ravensworth Road, College Park, N.W.

WANTED, good sidecar (fit Triumph); give cash or Standard phonograph, with about ninety records.—106, Empress Avenue, Ilford.

WANTED, 2½ h.p. (or more) Motor Cycle give 1d. slot gramophone, 45 record or new £9 10s. push cycle.—114, Rutland Street, E.

WANTED, Car, in exchange for 5-6 h.p. Peugeot cycle; see cycle advertisement; or sell £45.—Jack Wood, Crookenhill, Swanley, Kent.

2 h.p. Minerva, Kerry, or other make wanted in exchange for light road racer and cash.—71, Fox Lane, Palmers Green, London.

LIGHT Four-wheeled Runabout, about 1 h.p., must be cheap and perfect; send full particulars.—Fawcett, 33, Barkham Road, Wokingham.

WANTED, Montgomery sidecar, 20in. wheel, cheap; 26 by 2½ heavy cover also address of P. W. Beard, Bristol.—2 Caunce Street, Blackpool.

WANTED, lightweight Motosacoche, N.S.U., magneto, spring forks preferred, cheap for cash.—Parsons, 26, Hampton Park, Redland, Bristol.

GOOD Single-cylinder for very powerful twin Rex, guaranteed. Give cash adjustment for up-to-date magneto machine. Box 619, *The Motor Cycle* Offices, Coventry.

WANTED, good motor cycle; exchange valuable Dane bitch, with six pups, imported Cirrus von Heidelberg, pups alone worth £30.—Manager, 97, High Street, Wokingham.

WANTED, good motor cycle or tricar; exchange new high-class furniture direct from works, valued wholesale.—Furniture Manufacturer, 7-11, French Place, Snoditch, London.

WANTED, to purchase second-hand (no third or fourth) 3½ h.p. good motor cycle, in guaranteed condition; moderate price; with or without sidecar (castor wheel preferred).—722, *The Motor Cycle* Offices, Coventry.

ENGINEER wants any these.—Engine no less than 3 h.p., magneto, Chater-Lea or other low frame, spring forks, pair wheels, tank, or sound machine; overhaul no minded; cheap.—725, *The Motor Cycle* Offices, Coventry.

WANTED to purchase, for prompt cash second-hand motor cycles, as Triumphs, F.N.'s, Vindec Specials, Phelon and Moores, Anglian, Rocs, Rexes, Bats, Peugeots, etc.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

SIDECARS wanted; give new cycles, three-speed Sturmey-Archer gears, level exchange; wanted also Drummond or other S.C. lathe, gramophone; reasonable cash price given for good motor cycles.—Booth Wade Street, Halifax.

MISCELLANEOUS.

TANKS of all kinds made to order.—Doggett, metal worker, 65, Turnmill Street, London.

QUADRANT Loop Frame, with front forks and 20in. handle-bar; 32s. 6d. each.—Farrar.

LONG Motor Handle-bars, 21in., 4s. 9d.; heavier gauge, 5s. 6d.; well plated. See sizes.—Farrar.

DOUBLE-TWIST Cow-voiced Horns, 4s. 9d.; large size, 6s.; new Lycett's B toolbag, —Farrar.

REMIER Accumulators, Rex size 12s.; send for price list; pounds saved. —Farrar, Square Road, Halifax.

ENGINES Re-bushed throughout from £1. —Tufnell and Co.

CYLINDERS Re-bored from 5s.—Tufnell and Co.

ISTONS Supplied new from 7s. 6d.—Tufnell and Co.

INGS from 9d.—Tufnell and Co.

CONNECTING Rods from 7s. 6d.—Tufnell and Co.

LET Valves from 1s. 6d.—Tufnell and Co.

EXHAUST Valves from 2s. 6d.—Tufnell and Co.

PULLEYS for any motor.—Tufnell and Co.

TRIUMPH, Brown, Fafnir, 4s. 9d.—Tufnell and Co.

EX, Antoine, Kelecom, 5s. 9d.—Tufnell and Co.

E DION, M.M.C., 6s. 9d.—Tufnell and Co.

BOVE 4½in. Diameter, extra 9d.—Tufnell and Co.

XLES, cranks, spindles, handle-bars, seat-pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed.—Tufnell and Co., 527, High Road, Wytonstone.

ERMATINE Belt, 1in., never used, 8ft. 9in.; 15s.—5, Church Lane, Liverpool.

WHIPCORD Breeches, latest cut; 10s. 6d.—J. C. Savage, 119, Donegall Street, Belfast.

LABON Free Engine Clutch, complete, as new; 30s.—2, Durham Road, South Ealing, W.

UNCTURES Vulcanised, any size, 6d., and guaranteed.—16, Summerland Mansions, Newell Hill.

HEDS for Motor Cycles, 45s.; portable. —Stevens, 82a, Leighton Road, Kentish Town, London.

0 Amp. C.A.V. Accumulator, in case, as new; cost £4, offers.—Medwell, Lad-oke, Redhill.

MART Whipcord Motor Cycling Breeches; 8s. 6d., post free; patterns free.—Mere-gh's, Northwich.

WHIPCORD Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, Ilor, Longton, Staffs.

GENUINE De Dion, 76 by 76. Chater-Lea, perfect.—Particulars, Cox, 25, St. Andrew's Street, Cambridge.

ELT Rim Brakes, flexible cable, hand applied, easily fitted, stop anything; 8s. usual price 15s.—Slack's Garage, Stockport.

VALVE Lifters, complete with hand levers and flexible cable, easily fitted, 4s. 11d., usual price 9s. 6d.—Slack's Garage, Stockport.

FOR Sale, a pattern for casting a complete crank case for 5-6 h.p. Antoine engine; price £1.—S., 94, Meadow Lane, Leeds.

VERYTHING made in Tanks and Radiators except a fortune. — Write for prices, A. Phillips, 112, Lynton Road, Bermondsey.

PORTABLE Motor and Cycle Houses, cheap prices, carriage paid; catalogue D.—Phoenix Manufacturing Co., 13, Paternoster Row, London.

PLEASE NOTE

We can supply all parts for 2½ and 3½ h.p. F.N. Engines.

"VINDEC" Adjustable Pulleys for 2½ h.p. F.N. Engines, 10/- each.

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"KUMFO" Sponge Rubber Grips, 7/8in. or 1in. bars, 2/6 per pair.

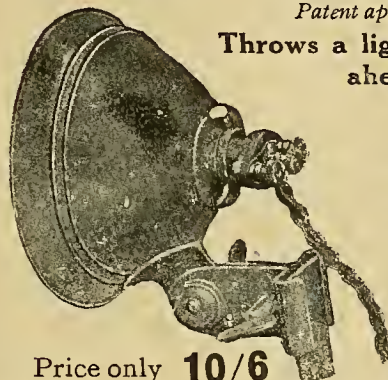
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General & Automobile Engineers,
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LONDON, S.E.

MISCELLANEOUS.

ALBION Free Engine Clutch, with variable pulley, complete and perfect; cost 65s., sell 40s., or exchange. — Hill, 49, Bowood Road, Sheffield.

GENUINE Simplex spring fork attachments, plated (brand new); 9s. 6d. pair; carriage paid.—Mitchell, 22, Leghorn Road, Plumstead, S.E.

X'ALL Spring Forks, new condition, 12s. 6d.; new 1in. belt, unused, 10s.; 30 amp. accumulator, new condition, 10s. 6d.—L. S. Fearn, Alfreton.

BOWDEN Valve Lifters, 6s. 9d., usual price 10s.; Vim stands (starts like free engine), 6s. 3d., usual price, 17s. 6d. — Slack's Garage, Stockport.

CLEMENT-GARRARD Frame, wheels, tyres, tank, handles, saddle, suit any inclined engine, perfect; £5; approval.—Harold Potts, Broseley.

CLINCHER Cover, 750 by 85, in good condition, also quite new Michelin tube to suit; 35s. the lot.—Hubbard, 97, Bristol Street, Birmingham.

TRIUMPH Valves (three complete), 2s. each; two control levers and rods, 1s. 6d. each; all off 1907 Triumph.—Edwards, 250, Nantwich Road, Crewe.

CLEARANCE Sale.—Millennium stands, 7s. 6d., usual price 20s.; Vim flexible cable rim brakes, 5s. 6d., usual price 12s. 6d. — Slack's Garage, Stockport.

4½ h.p. De Dion Engine, £9; pair of 750 by 65 tyres, nearly new, £3 10s.; 650 by 65 Dunlop, 24s.; 26 by 2½ Clincher, 10s.—Alwyn Radley, Westgate, Wakefield.

EXHAUST Valves.—Send old valve or sketch as pattern; 2s. 6d. each, cash with order; special terms to trade.—Speke, motor engineer, 177, Spencer Place, Leeds.

SILENCER, 5½ by 18½, with fittings, 10s.; horn, with flexible tube, 5s.; Alpha head lamp, with number plate, 7s. 6d.—Fairview, Springfield Road, Wallington.

FOR Sale, forecar frame, two 26in. wheels, coach-built seat, tyres, tubes; sell any separately; write for list of sundries.—Huggett, 85, Bridge Street, Warrington.

1907 Bat, 9-11 h.p. Jap engine, magneto, studded tyre on back, Rideasy saddle, all bright parts have been coppered; usual price £75, special clearance price £40.—Below.

1907 5 h.p. Rex, aluminium finish, excellent condition; cost £33, accept £19.—Below.

MOTOSACOCHE, new in August, 1907. Bat spring forks, accumulator ignition; great bargain, £14 10s.—Below.

NEARLY New 6 h.p. Starling Car, three speeds and reverse, Dunlop tyres; £90 for quick sale.—Below.

ONE Pair 26 by 2 Palmer Beaded Covers; usual price 59s., to clear, 37s. 6d.—Parker and Son, Bridge Street, St. Ives, Hunts.

BRAND New and Fresh 26 by 2½ Palmer cord cover and tube, £2 5s.; Longue-mare H. carburetter, 15s.; R.O.M. contact, to fit 6 h.p. Jap, 15s.—Barker, Oxford Road, Worthing.

COACH-BUILT Tricar Seat, new, cost £4 10s., £2; open frame tricar chassis, wheel steering, 26 by 2½ wheels, £4; two-speed gear box, 12s. 6d.—82, Clarendon Road, Walthamstow.

HALIFAX.—Double-blast fan, 8s. 6d.; pair plated side lamps, oil or acetylene, 27s. 6d.; stands, 5s. 11d.; new plugs, 1s. 3d.; Twentieth Century gas lamp, new, 9s. 6d.—Motor Exchange, 16, Westgate, Halifax.

GRIPWELL Motor Cycle Brakes, to fit any make machine, delivered from stock; price 15s. 6d.; any spare part supplied.—Sole manufacturer, W. Cocks, The Durham Motor Works, opposite station, South Ealing, W.

READERS having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium; ½d. per word, minimum 9d.—Address, "Photography and Focus" Offices, 20, Tudor Street, London, E.C.

HARRIS'S 7in. Adjustable Pulley, practically unused, fit Antoine or Roc-Antoine, 6s. 6d.; Lycett's Lightning stand, 2s. 6d.; ½ by 17 belt rim, 1s. 9d.; hand camera, stand, full kit, 32s. 6d.—Crow, Nottingham Road, Croydon.

MISCELLANEOUS.

BOOTH.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

BOOTH.—Double twist horns, deep tone, 4s. 9d.; large leather toolbags, 5s. 6d.

BOOTH.—500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget trembler coils, 17s. 6d.

BOOTH takes your old coil in part payment; part with troublesome coils.

BOOTH.—Fuller accumulators, 20 amp., 17s.; Rex type, 16s.; Minerva, 16s.; Midget, 16s.

BOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fuller's.

BOOTH.—50 pairs XI'all spring forks; immediate delivery; N.A.B. seat-pillar, 3s. 6d.

BOOTH.—Long motor cycle handle-bars, heavy gauge, best quality plating; 5s. 6d.

BOOTH.—Silent silencers, for engines to 5 h.p., very efficient, no back pressure; 3s. 3d.

BOOTH.—New Antoine frame, with wheels, belt rim fitted, two cable brakes, mudguards; £4 19s. set, low built.

BOOTH.—Gas lamps, separate generators, powerful, light, well plated, 5s. 3d.; Mica plugs, 1s. 1d.

BOOTH.—Pocket voltmeters, very handy and reliable, 4s. 1d., usually 10s. 6d.

BOOTH.—Motor Frame, wheels, and tyres, suitable for 2 h.p. inclined engine; 40s.

BOOTH.—200 best quality magneto covers, 2s. 3d. each, usually 5s. 6d.; new L.T. magneto; 20s.

BOOTH'S Motor Exchange, Coronet Works, Wade Street, Halifax. Telephone, 198Y.

BARKER'S Iron Cement for cracked cylinders; stands heat; 1s. tin.—Oxford Road, Worthing.

TORPEDO Tank, complete, with fittings, for oil and petrol, new; 15s.—Kendall, 235, Crystal Palace Road, S.E.

ALVASTON Bargains.—New Smith's patent speedometer, 10 to 60 miles, £12 12s. type, absolutely perfect and complete, guaranteed; accept £6 6s.

ALVASTON Bargains.—Magnificent canopy, suit large touring car, has curved glass bevelled panels at rear, detachable plate glass wind screen, storm curtains, luggage rail on top, polished mahogany panelled roof; cost £40; absolutely as new; accept £6; seen any time.

ALVASTON Bargains.—2 h.p. Goliath oil engine, brand new, including water tank, oil vessel and silencer; listed £28, accept £11 10s.; guaranteed perfect working order.

ALVASTON Bargains.—Genuine 8 h.p. Rover cylinder, as new, 55s.; guaranteed perfect.—Alvaston Motors, Alvaston, Derby.

WHIPCORDER Riding Breeches, 8s. 6d. pair, post free; overall leggings, 3s. 11d. pair.—Fielding, St. George's Square, Hebden Bridge.

7FT. 6in. of 3in. Leather Belt, 5s.; Lohmann's Perfecta lamp, fitted with electric light, and tap for back light, 11s. 6d.; 1in. handle-bars, 3s. 6d.; 26in. by 2in. Clincher cover, 7s. 6d., bargains.—Burnell, Ferrybridge.

FOR Sale, 1½ h.p. Chater-Lea-Minerva, surface carburetter, good going order, £4; 20 amp. accumulator, 5s.; belt pulley, ¾ by 4in., suit Antoine, 2s.; ball silencer, 1s.; all in good order.—13, St. Nicholas Street, Coventry.

MAIN-HILTON Stand Carrier, 26in., 4s. 6d.; swan-neck seat-pillar, 1in. stem, plated, new, 1s. 3d.; Ariel-Fleet engine, 3 h.p., like new, B. and B. carburetter, and exhaust pipe, £4 10s.—Siddall, Imery House, Hamilton.

SHARP'S Universal Silencer (with cut-out), with copper tubing connection (two feet), 15s.; pair XI'all spring forks (hardly used), 10s.; motor front brake, strong, 2s. 6d., or offers.—H. de B.W., Hookstile, South Godstone, Surrey.



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Now is the time to have your cover fitted with a band of some description for winter riding. We strongly recommend both **Shamrock** and **Goodrich** rubber studded non-skid bands for this purpose. Our price for fitting either of these bands to your own cover is 21/-

Where a steel studded leather non-skid band is preferred we fit "Pullman," "Grose," "Brooks," or "Shaw," according to choice.

When a non-skid is fitted to the back wheel, a non-slipping band is advisable on the front. For this purpose an extra heavy "Bates" fish-back band is excellent, and we fit same to your own cover at an inclusive charge of 15/- (any size). This band may also be fitted for back wheels with advantage. Other Bates bands—heavy, 13/-; light, 11/6.

If buying a new cover, remember we allow 10/- for your old one in part payment, and are special agents for **Shamrock**, **Goodrich**, **Clincher**, and **Palmer**.

Whatever your requirements it will be to your advantage to write for our new "Illustrated Tyre List" (sent free). This gives particulars of our allowances, prices for all covers, and prices for retreading, fitting bands, etc.

R.O.M. (Patent) Front Wheel Stand.

Price (to fit any machine) 14/6 per pair.

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13/6	14/6
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14/-	15/6
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26" x 2"	28" x 2"
14/-	14/6



Please write for Special List, with full prices and particulars of all sizes, together with instructions and hints. Your OWN TUBE CONVERTED. Write for prices.

VALVES ALL SIZES 1/6
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CYLINDERS 10% VARIABLE 8/6
GEARS CUT. REBUSHING. NEW PARTS
PLEASE GET OUR LATEST LIST FREE
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MISCELLANEOUS.

PULLEYS for any motor.—De Dion, M.M.C. 6s. 6d.; Antoine, N.S.U., Kelecom, Roc F.N., 5s. 9d.; Peugeot, Brown, 5s. 6d.; Triumph, Fafnir, Sarolea, Minerva, 4s. 9d. plated, guaranteed, carriage paid.—J. Perkins, High Road, Leyton, London.

NON-SKIDS.—A limited number of the Service Billet detachable offered a special reduction of 50 per cent. Automobile Club award models. A few old cover suitable for worn out tyres, from 10s.; state size required.—Service Co., 292, High Holborn.

TORPEDO Tanks, with pump and fittings 12s. 6d.; swan-neck saddle pillars, best steel, guaranteed to stand 20 stone, 2s. 6d. tanks from 5s.; long handle-bars, 4s.; alterations and repairs a speciality.—Arrow Motor Works, Victoria Road, Peckham.

MAGNETO Covers, patent hide leather hand sewn seams, absolutely impervious against water, petrol, and oil, complete satisfaction guaranteed, or money refunded state machine; sent carriage paid for 3s. 6d.—Percival, 13, Church Hill, Walthamstow.

20 Amp. Premier Accumulator, new, 12s. 6d.; 20 amp. Castle, 12s. 6d.; 15 amp. Premier, 9s.; plain coil, Quadrant, 10s.; Minerva pulley, new, 4 by 3in., 4s.; one pair 2 by 2 1/2 new Clincher covers, motor, 50s.—Barber, 17, Galence Road, King Street, Hammersmith, W.

GENUINE De Dion Engine, 2 1/2 h.p., perfect condition, £3; De Dion coil, 10s.; De Dion silencer, 3s.; De Dion surface carburetter, 5s.; Clincher A Won cover, 26 by 2 1/2 practically new, 18s.; ditto tube, 6s.; round brass tank, two compartments, 6s.—Lugar, 31, Pantom Street, Cambridge.

LATEST No. 6 Frames, £3; tanks, all patents, from 5s.; sidecar chassis (Chater Lea), £3 10s.; long handle-bars, 4s.; swan-neck, 2s. 6d.; all to your own requirements; machines cut down, and repairs of every description; quick deliveries.—Green Bros., 14 Avondale Road, Peckham, S.E.

TWO Leather Belts, 3in., 5s. each; Longuemare pattern carburetter, 5s. 6d.; pair motor hubs, new, 7s. 6d.; 26 by 2 1/2 Continental tube and cover, nearly new, 12s. 6d.; 2 1/2 h.p. engine, good condition, 20s.; 3in. Continental rubber belt, new, 9s.; plain coil, 4s.; trembler, 6s.—Crump, 10, Dalton Square, Butts, Coventry.

LONDON Auto Co., Union Road, Clapham, S.W., agents for Chater-Lea frames and fittings, and all makes of engines; No. 6 frames, £2 18s. 6d.; girder forks, 15s. 6d.; long handle-bars, 3s. 9d.; wheels, 30s. per pair; torpedo tanks, 8s. 6d.; low quotations for all other parts; illustrated frame and engine lists stamp.

ORMONDE Frame, fork, handle-bar, tank, levers, and pump, 10s. 6d.; F.N. carburetter, 7s. 6d.; Guenet coil, trembler, 7s. 6d.; pair 28 by 2 wheels, complete, 7s. 6d.; Kelecom engine, complete except cylinder, £1; Clincher cover and tube, 28 by 2, 6s., or £2 10s. the lot.—S. Williams, 238, Waterloo Street, Burton-on-Trent.

L.A.C. spring front forks, 10s. pair; Wright's footrests, 10s. 6d. pair; twin-cylinder coils, 10s. each; single-cylinder coils, 7s. 6d. each; new accumulators, 9s. 6d. and 10s. 6d.; voltmeters, 5s.; two-way switches, 1s. 3d.; horns, 4s. 9d.; stand carriers, adjustable, from 4s. 9d.; separate generator lamps, 12s. 6d.—Wauchop's, 9, Shoe Lane, Fleet Street, London.

PREPARE for Wet Weather.—Our celebrated motor cycling waterproof jackets, in double paramatta, fitted with wind cuffs, 14s. 9d.; in blue, black, or fawn, stock length, 36in., chest measurements 36, 38, 40, extra heavy material, 18s. 6d.; overalls, 7s. and 8s. 6d.; all carriage paid; send cash with order.—The "Impenetrable" Motor Clothing Co., 8, Brown Street, Prince's Street, Stockport.

4 1/2 h.p. De Dion, 3 or 4 seats, just been overhauled, a splendid little car, £25. exchange for magneto motor cycle; 6 1/2 h.p. Gladiator, seats four, three speeds and reverse, exceptional order, £40; 8-h.p. Rexette, new tyres, seats three, like new, cost £160, bargain, £40; 4 h.p. Roc motor cycle, Military Model, like new, £27; 3 1/2 h.p. w.c. engine, in perfect order, £2 10s.; 4 1/2 h.p. De Dion engine, first-class order, complete with carburetter, coil, and silencer, £8.—Moore and Haigh, 63, Kirkstall Road, Leeds.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."



THE MOTOR CYCLE



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An Interesting Magneto Transmission.

THE actual construction of the Gianoli magneto is not very different from an ordinary two-cylinder magneto, but the difficulty of applying an ordinary two-cylinder magneto to a twin engine is overcome in a very simple and ingenious manner by the construction of the gears by which the magneto is driven.

The diagram illustrated in fig. 1 is intended to show two cylinders at an angle of 90° , the outer circle indicating the crank path and the inner circle the path of the magneto armature, which, it will be remembered, rotates at half the engine speed. The current delivered from any magneto fluctuates from a minimum to a maximum twice in each revolution of the armature. At the point of maximum current the contact-breaker of the magneto is operated, causing an ignition spark. These points of maximum current occur when the armature is nearly vertical, and obviously the two points occur exactly opposite one another—that is to say, at 180° . Turning to the diagram, the points 1 and 2 on the smaller circle represent the points of rotation of the magneto at which the maximum current is generated and at which the contact-breaker is operated. As the magneto runs at half the engine speed, it results that firing would take

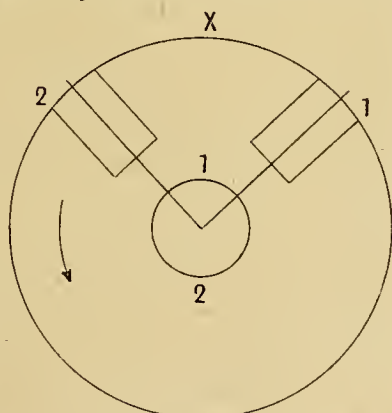


FIG. 1.

place at the point marked X at *each* revolution of the crankshaft—that is to say, the maximum current point of the magneto takes place too late for cylinder No. 1 and too early for cylinder No. 2. The result of running the magneto under these conditions would be that cylinder No. 1 would be fired very much too late and cylinder No. 2 very much too early. In fact, the application of the magneto in this manner would be impracticable.

What is therefore required is that the magneto should automatically lag behind the crank at one point of rotation, so as to move the firing point X to coincide with cylinder No. 1, and at the next revolution for the magneto to shoot ahead and fire cylinder No. 2 at the correct point of rotation of the crank. Obviously to effect this a variable gear arrangement must be incorporated in the magneto drive, which changes alternately from gearing up to gearing down, causing the magneto to slow down to fire cylinder No. 1 and then to speed up to fire cylinder No. 2 at the next revolution.

This is in effect what is obtained in the Gianoli system by making the driving gears eccentric, as will be seen in fig. 2. The diagrams in fig. 3 show the two extreme positions obtained by these eccentric gear wheels in a case where two gear wheels are employed. (In fig. 2 three gear wheels are employed, but the operation will be explained in connection with two gear wheels, for the sake of simplicity.)

In the upper diagram shown in fig. 3, it will be seen that the gear wheels are so rotated that the smallest radius AB of the gear wheel fixed to the engine is in mesh with the largest radius BC of the

Interesting Magneto Transmission.—

gear wheel fixed to the magneto. To all intents and purposes, the gear wheel on the left, *i.e.*, that on the engine, is one of small diameter, meshing with one of

MANOLI PATENT MAGNETO TRANSMISSION FOR V TWIN ENGINES.

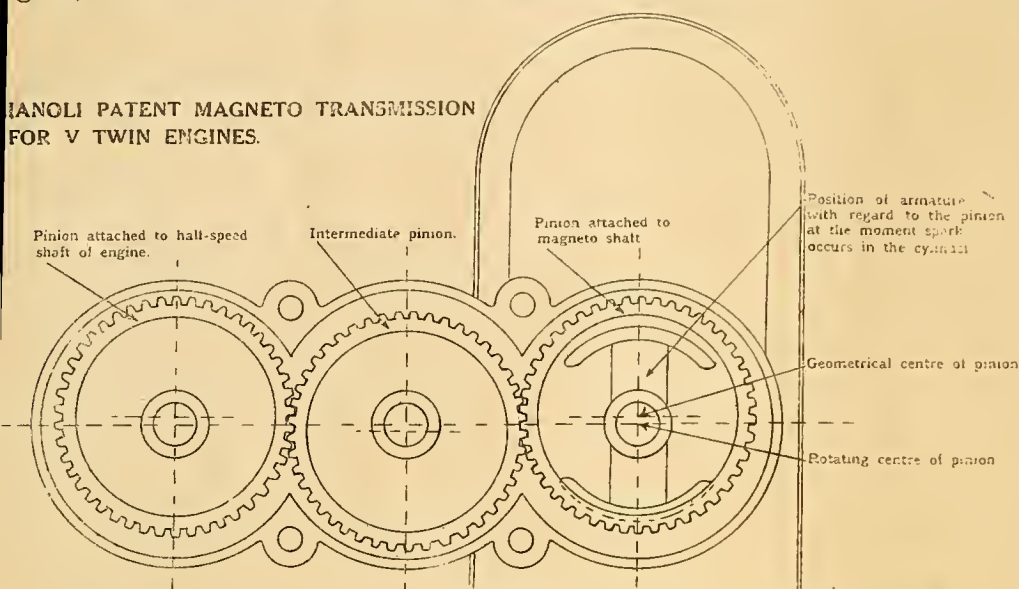


FIG. 2.

larger diameter. The result is that the driven wheel at this point of revolution runs slower than the driving wheel. The magneto therefore lags slightly behind the engine, causing the sparking point X to coincide with cylinder No. 1. As the gear wheels rotate, the effective radius of the left-hand gear wheel increases and that of the right-hand gear wheel (the one on the magneto) decreases. The effect is therefore for the magneto to be geared up slightly until the wheels

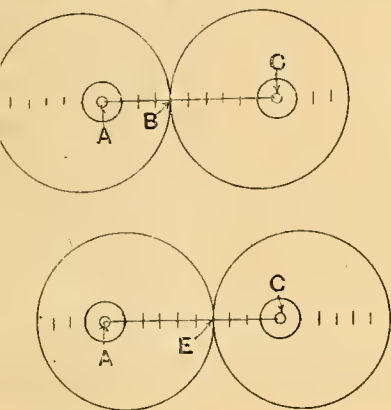


FIG. 3.

take up the position shown in the bottom diagram of fig. 3. Here the largest radius A E of the left-hand gear wheel engages the right-hand gear wheel (the one on the magneto) at a point of smallest radius E C. To all intents and purposes, this is the equivalent of a large gear wheel meshing with a small one, transmitting a higher speed to the gear wheel on the right, and causing the magneto to accelerate so that the firing point X is caused to coincide with cylinder No. 2.

In this manner the speed of rotation of the magneto armature, and consequently the contact-breaker, is constantly varying to slow down to coincide with one cylinder and to accelerate so that firing takes place correctly for the second cylinder.

The idea can be applied to cylinders at any angle, the formula employed for finding the angle of eccentricity of the gear wheels

being $\frac{\text{angle of cylinders}}{7}$, where two gear

wheels only are employed. If three gear wheels are employed, the divisor must be 7×2 . If four gear wheels, 7×4 , this formula determining the angle of eccentricity—that is to say, the angle θ shown on the diagram in fig. 4. After determining the angle θ from the above formula, the gear wheels must be centred at Z, the angle θ and the centre Z being the same in all the gear wheels.

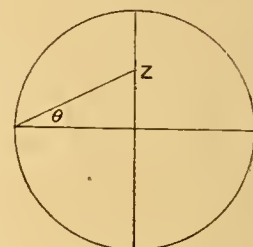
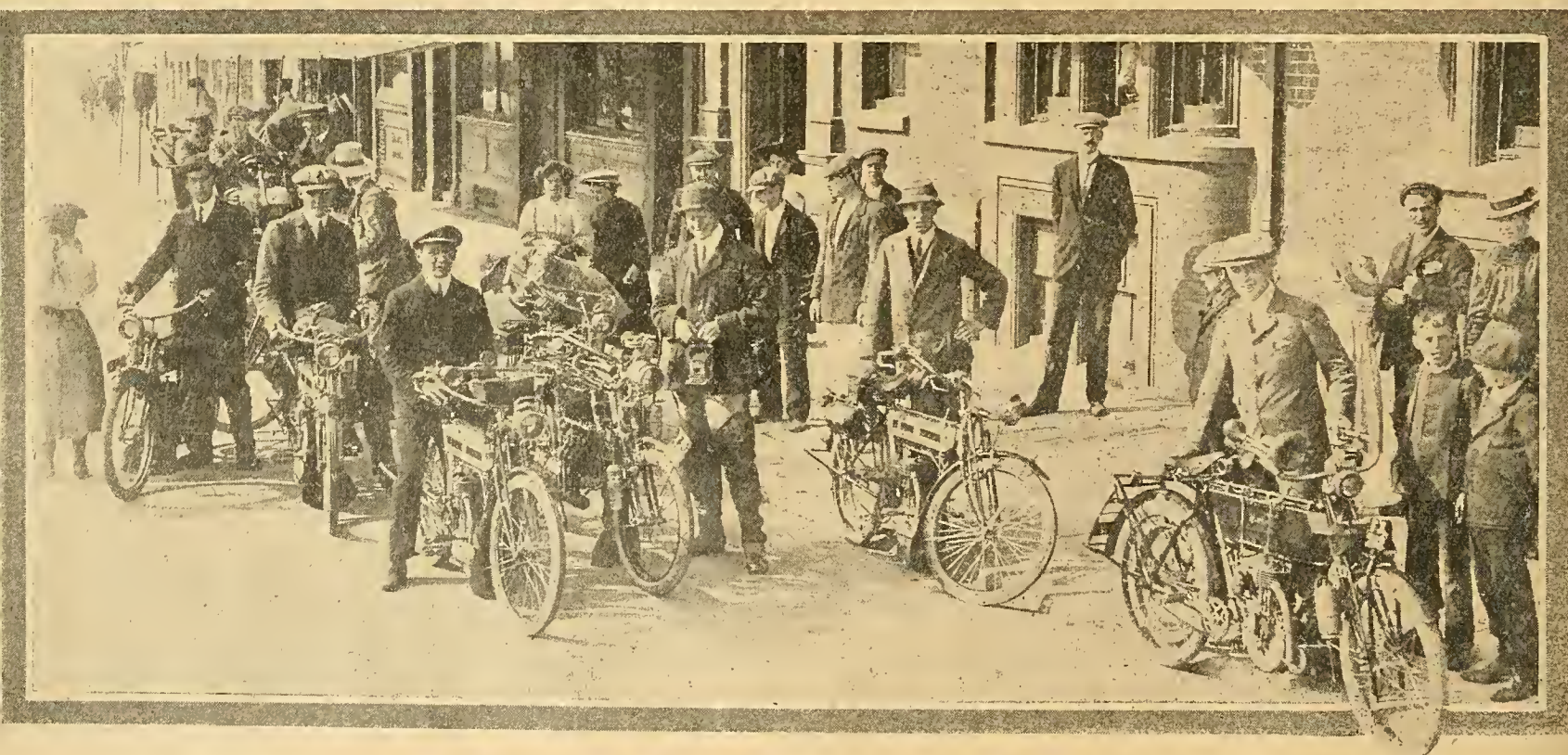


FIG. 4.

This system of gearing the magneto is employed on the twin-cylinder Moto-Rêve motor bicycle with perfect results, the object being to do away with the necessity for a specially shaped and wound armature, and the system is applicable to all twin-cylinder V engines.

ERIC W. WALFORD.



Naval officers ashore. Lieutenants, members of the Naval M.C., meet with their motor cycles outside the Portsmouth Dockyard for an evening spin.

A 1,000 Miles Tour by Sidecar.

DURING July I arranged to spend a fortnight's holiday on my motor bicycle and sidecar, our object being to run up to Scotland and back.

Some of my friends were of the opinion I had undertaken a big job, but I knew my machine (although practically a novice), and my wife and self now agree that it was the best holiday we ever had. We started from Gloucester at 4.45 a.m. on July 27th, the bicycle—a 5 h.p. Dreadnought-Chater Lea, with Peugeot engine, Bosch magneto, three-speed gear, and free engine—being hitched to a Mills-Fulford castor wheel sidecar. I cannot give particulars of the gear (which, however, worked most satisfactorily), as it is at present going through the Patent Office, but the maker of it is Mr. S. Sperry, Cheltenham.

We carried on the machine a two-gallon tin of petrol, a small can of Wilburine, and a spare cover, besides a regular wardrobe under the sidecar in a basket made to fit, and a cardboard box fastened at the back. I really believe some ladies would like to take the house as well!

The morning was fine and the air grand, so in the best of spirits we reeled the miles off at legal limit (not more, of course!), staying about an hour at Wellington for a second breakfast, and off again through Warrington, Wigan, Preston—in fact we followed the End-to-end route, with the exception of running round the towns to gain a glimpse of the various places. Once, while we were getting along quite comfortably, I asked my wife a question or two, and getting no answer, found she was quite at ease and fast asleep, which says something for the comfort of the sidecar. A blow or two of the horn soon woke her up, and as we were nearing the district of police traps I handed my watch over and asked her to time us over the miles in the open, so that I could be sure we were keeping within the law.

A Trap-infected District.

Right from Preston to Kendal I kept the throttle barely open, but nearing the latter town bang went the back tyre. This gave me a chance for a smoke. I patched the cover and put in a spare tube, and repaired the punctured tube ready for future events.

After restarting it began to drizzle, and as we were near Kendal we decided to halt, as we had done fairly well. I make it just 200 miles, counting the ins and outs we went. At Lancaster I felt sorely tempted to wire our friends in Scotland, saying we would try and reach our destination—321 miles from home—that night, but when the rain and the puncture caused us to change our minds, we pulled up at the King's Arms Hotel, Kendal, just after 6 p.m. I had never been over any part of the road except to Worcester.

The morning opened fine, and we made a start about 10 o'clock to see what the great Shap was like. We had just got on the flat part before commencing the climb proper, when away went the screw of the belt fastener. This, however, was soon put right, and we congratulated ourselves it did not happen on the middle of the hill. What a grand view can be obtained from Shap Fell! But I should not care to be stranded up there at midnight. During the climb the speed gear came into use. Except for this I do not think I could have got up with a passenger and the load we had on. Just before dropping down into Penrith the belt fastener pulled out again, and while putting this right, Miss Hind came up the hill in fine form, driving a car. Nothing of note happened except that we ran through a two-mile trap just after leaving Carlisle. On we

went to near Gretna, where we left the End-to-end route and travelled through Annan, Dumfries Castle, Douglas, and Kirkcudbright, thence to a village beyond named Twynholm. Tea here was most refreshing, and we had a most enjoyable time in the neighbourhood, making short trips daily from this centre until we started on our homeward journey. We returned *viâ* the Lakes, Ullswater and Patterdale, over Kirkstone Pass (let those with single gears try this with a sidecar and passenger, and see how they get on).

Two Exciting Incidents.

Running down into Windermere, we came across a car with a broken axle on a nasty corner; luckily for the occupants the driver managed to steer it into the bank as it ran backwards. While speaking to the driver, a man on a push bicycle came down the hill, having lost control of his machine, dashed round the corner and hit a large stone, which sent him flying over the handle-bars. I wonder he did not break his neck, but we picked him up and he soon came round. Little else happened of interest, but we were much impressed by the fine scenery among the Lakes. We stayed the night at Preston, and followed the old route home, having done as nearly as possible 1,000 miles in the fortnight. The weather was at its best, barring the evening of the first day. We had no mechanical trouble whatever. The same plugs (Bosch), same everything except back cover, which was worn to the canvas. I might say I have tried numerous first-class plugs, and my machine would fairly eat them, but the Bosch are as good as ever after the tour. I found no trouble with the sidecar, and the tyre did not require touching right through, neither did the front one on the bicycle. W. B. GIBB.



Mr. and Mrs. W. B. Gibb on the Motor Bicycle and Sidecar referred to in the accompanying article.

The pocket soldering case recently mentioned by "Road Rider" may be obtained from Leo Ripault et Cie., 64a. Poland Street, Oxford Street, W.

My Record Ride

By Arthur W. Bentley.

(Concluded from page 702.)

At last I came to cross roads, and the inevitable signpost which I was most devoutly pleased to see, as I thought that now, at any rate, I should get back on my right road.

Leaning my bicycle up against a tree, I laboriously clambered up the wall, and, striking a match—no easy task, as everything was wet—I peered anxiously at the names written on the four arms of the fingerpost.

They might have all been written in the deadest of the dead languages for all the use they were to me. I knew none of them, and I had no option but to ride along until at last I espied a house just off the road I was traversing.

Leaving my machine in the road, I went up to the front door, and knocked loudly for some minutes, and, failing in this to attract attention, I used the bell handle. At last I heard an upper window open and an angry voice assail me out of the darkness.

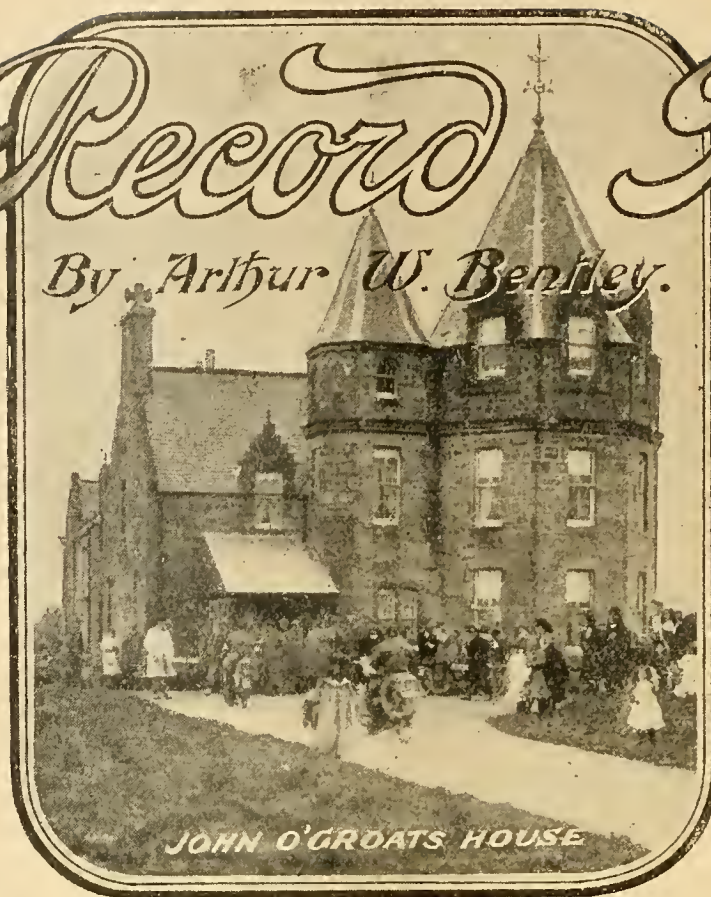
With many excuses and with many modest blushes I addressed myself to a gay young spinster, and after I had explained my enviable position to her I am glad to say that the voice lost a great deal of its severity, and the directions given were most precise.

If she had thought of casting a cake of soap out of the window at me I think I should most certainly have devoured it, but as she did not appear likely to do anything of the kind I thanked her, wished her a very good night, and trudged out into the darkness again.

Further Disturbances.

The story of my experiences during the remainder of the night is too painful and miserable a one to recount in detail.

Suffice it to say that a number of times was I obliged to repeat this performance, and always a voice trembling with suppressed emotion would answer from above. The owner of the voice would listen to my tale of woe, and give me directions as to the road I should take. In this manner I progressed; it seemed to be nothing but stopping, starting, climbing walls, and barking my shins. Once I nearly put a finish to the ride by coming down heavily in rounding a sharp corner I did not notice in time. All thanks for this be to my two "trusty" lamps, which were both clean out. I might really have given up at this point, but as day was beginning to break and my little steed seemed still anxious to be getting along I hopped stiffly into the saddle, and, dropping the exhaust lifter, I



JOHN O'GROATS HOUSE

pottered along until daylight found me once more on a known road at Bridgnorth.

I now practically dozed for the whole of the run into Gloucester, or rather I should say that I was in a comatose condition, and took not the least interest in anything. Nevertheless, I made really fast running through Kidderminster, Worcester, Tewkesbury, and finally into Gloucester, where Mr. Bellenger was awaiting me, having arrived in Gloucester somewhere about midnight. He had since been busy with another machine of mine he was riding, and which refused

to behave satisfactorily, and it was only a very few minutes before my arrival that he induced it to behave itself in a proper and docile manner.

Although he was standing right out in the middle of the road when I arrived, I did not slow up in the least, and should have ridden straight out on to the Bristol Road had he not caught hold of my coat as I passed, and in this manner attracted my attention, and, incidentally, aroused me from the pleasant doze I conclude I must have been enjoying.

Another Disappointment.

Upon dismounting I enquired anxiously after my breakfast, and my joy (?) can be imagined when I learnt that in no way had he been able to induce the proprietors of the hotel to prepare a breakfast for me at so early an hour, and that all he had been able to get for me was a plate of cold mutton and some warm coffee, which the "boots" had kindly but not very ably concocted for me.

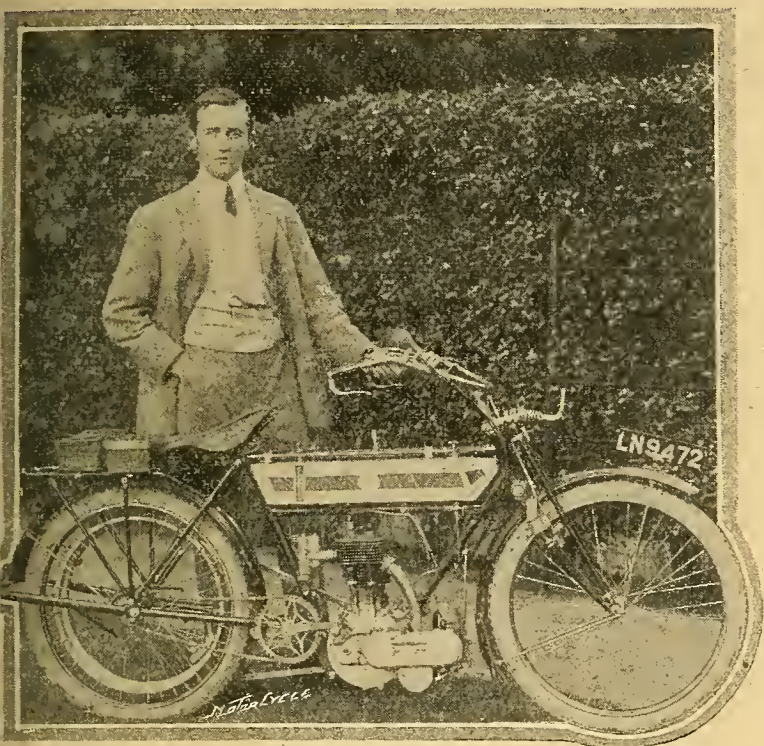
I had now travelled from Perth, a distance of 388 miles (with a bad night thrown in) on five bananas, an apple, two plates of soup, and one or two biscuits, and in consequence was feeling so empty and ill that upon attempting to eat the cold mutton I felt so sick that I had to desist and content myself with the coffee, to which was added a small dose of brandy.

After drinking this there was nothing for it but to resume my little journey, which by this time I most fervently wished was at an end, as little by little my strength was leaving me, and I realised that it was touch and go whether I could hold out against this drastic challenge against nature.

Fortunately or unfortunately, I do not know which, the brandy immediately found its way into my head, and in consequence of this, for a little time, I forgot my hunger and fatigue and drove at a real good pace through Bristol, Cross, and on to Bridgwater, after which time I was in so deplorable a condition, having

Record Ride.—

In addition to my other misfortunes several spills rounding corners too fast, that Mr. Bellenger made me dismount and drink some coffee at a wayside inn. While this was being prepared I put my head under a bush for a minute or so, after which I managed to keep



The author with his 3½ h.p. Triumph.

going until we reached Cullompton, where I had to stop again, this time for a cup of tea with an egg beaten up in it.

Semi-dazed after 600 Miles.

I did not realise now what I was doing, and in fact I did not even know that I was driving a motor bicycle at all. I had covered the first 600 miles or so at an average speed of about twenty-six miles an hour, including stoppages for meals, three punctures, etc., and these 600 miles include some of the very worst roads I have been my misfortune to traverse in England or Scotland. Although I was too dazed at the time to remember anything about it now, I am told that frequently when I came to a hill I would practically let the machine stop before I realised what I was doing, and that when I did tumble to what was going on I would dash everything open with one fell swoop, in spite of which terrible driving the engine would at once answer to the throttle and swoop up the hills at almost full speed.

A machine that will stand the fearful jacketing that my Triumph endured during those 41h. 28m. of June 11th and 12th has nothing much wrong with it.

At last Exeter came into sight, and it appears that breakfast was ready for me, but I was so thoroughly dazed that I did not know that it was Exeter we were passing through, much less that a breakfast was ready for me, and I didn't even hear the shouts to stop that were levelled at my senseless head. I rode straight through the town, and by the time Mr. Hobgen, who had been with us here, had caught us up we were miles down the road, and it was too late to turn back.

If only I could have been made to realise that I had stopped here and eat some food it might have saved the situation, but as it was I struggled on to within a few miles of Launceston, where things began to look very black indeed.

Travelling in the Wrong Direction.

From what I have been subsequently told, it appears that both Mr. Hobgen and Mr. Bellenger had trouble hereabouts, and that I continued my ride alone.

In about twenty minutes they were surprised to see me tearing back along the road into Exeter, and not taking the least notice of them, disappear round the corner. Luckily Mr. Hobgen had mended his puncture, and in under a minute was in hot pursuit, and after a keen chase caught me and made me return with him along the proper road.

Somehow or other I managed to get ahead of them again, and when they next saw me I was snugly lying at the side of the road fast asleep.

As no amount of persuasion, either gentle or otherwise, made the least impression upon my inanimate carcase, it was decided that Mr. Hobgen should ride into Launceston, and order food, etc., and that Mr. Bellenger should wait with me and see what could be done.

I do not know how long I slept there, but the next thing I remember was riding up to some hotel in Launceston, dismounting, and eating some proper food which Mr. Hobgen had carefully chosen, and which seemed just what was needed to stiffen me up for the last burst into Land's End. In a few minutes I felt as fit as the proverbial fiddle, and it was not long before we were through Bodmin, Mitchell, and Redruth, with only twenty-eight miles separating us from the coveted goal and the end of this most unlucky ride.

Knowing that we had the bicycle and also the car record safe I did not endeavour to finish at any great pace, but keeping at a steady 28 m.p.h., we ran through Penzance and out on to the last ten miles, through the winding little lanes of the most extreme south-west of England.

The Goal in Sight.

At last the Land's End Hotel loomed up on the skyline, and outside the door we saw quite a large crowd of spectators silently waiting with their eyes glued to the strip of road we were traversing.



The Land's End Hotel, the finishing point of the Record.

With a final "all out" burst the exhaust valve was lifted and we were over the finishing line, having covered the journey in 41h. 28m.

After answering a hundred and one questions about the numerous experiences that I had undergone on the way down, I sought out Mr. Bellenger, and having ordered dinner, we detached ourselves from the precincts of the hotel and went for a stroll along this beau-

My Record Ride.—

tiful coast, in order to quietly go through all the ride together from beginning to end.

We estimated that fully 930 miles had been covered, as the total distance going the best and shortest route is 886 miles, to which must be added about fourteen miles when I came back along the road before Launceston, and some thirty miles that I went wrong during the night.

Of the arrangements we had a lot to say, and next time I go I will see to this part of the programme with the greatest care, as upon successful management a great deal depends, more than can be imagined from a perusal of this short article.

Of my machine I cannot speak in high enough praise,

a broken exhaust valve being the only trouble—truly a marvellous performance—and I think the Triumph Company should be congratulated upon such a splendid machine, which, it must be remembered, was an ordinary standard touring machine (except that I had a larger tank fitted).

The rubber-studded Clincher tyres also stood up splendidly, only three nails—and large ones at that—causing stops during the whole journey. As regards the transmission, I have to thank Mr. Stanley Webb for a really first-class belt and fastener.

And in conclusion I should like to thank all those who so kindly assisted me, and to whom I owe so much.

Good luck to the next man!

Appreciation of a Two-speed Gear.

HAVING read a good deal lately about two-speed gear and free engine attachments for machines of $3\frac{1}{2}$ h.p. when used with a fore or sidecar, I feel that some experiences of my own during the last few weeks might be of some benefit to those about to experiment, or to those who are afraid, through lack of experience, to try a change-speed gear.

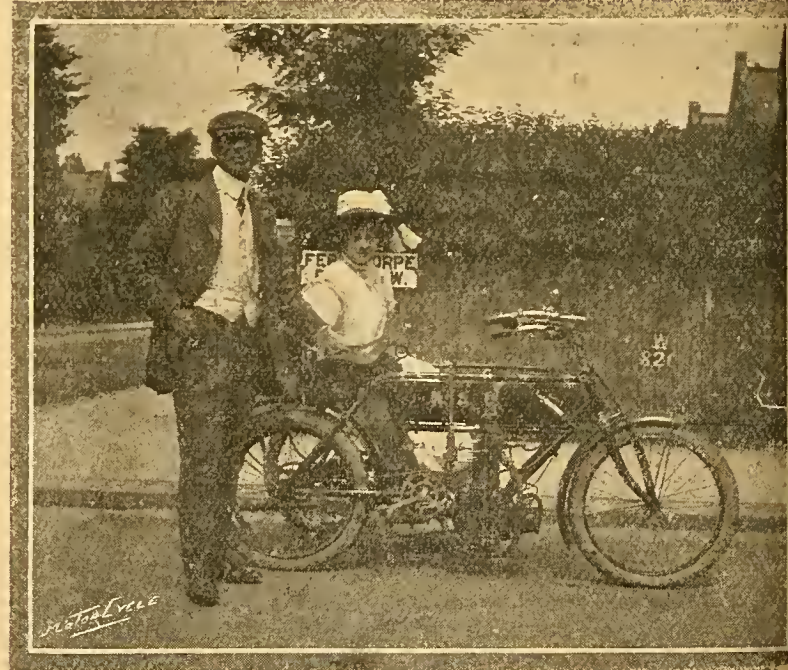
After a deal of reading, some personal enquiries, and a lot of thought, I decided to fit a sidecar to my $3\frac{1}{2}$ h.p. N.S.U., also a two-speed gear of that make. I had ridden the bicycle singly for about six months. After getting the sidecar and gear fixed, I started away from London to Maidstone with my brother, who weighs 12 stones, as passenger, my own weight being 11 stones. There are no hills to speak of on the Maidstone Road, and I completed the run all right. During the week following we thought of testing the two-speed gear on the Blue Bell Hill. Anyone who knows the hill will admit that it is a pretty severe test. The machine took us up quite well, but the engine got very hot through want of lubrication, and the piston seized just as we got over the crest of the rise, so we turned round and ran down into Chatham (three miles) with the gear in free engine position. We had to pedal a little, but we found that the piston had only just seized, and we managed to free it by working in plenty of paraffin.

The next journey I made was from Maidstone to Norwich. I first went to Gravesend, crossed the ferry to Tilbury, and then got on the main road for Norwich. On the occasion of this run, having no passenger, I tied a box firmly into the seat of the sidecar, with about ten or twelve paving stones to balance same.

A Twenty Miles an Hour Average.

I was able to average twenty miles an hour on the whole run, not being overloaded, and the country fairly level with the exception of one hill between Maidstone and Gravesend—a very stiff bit indeed, which would have been too much for the bicycle had I not possessed a low gear. On succeeding journeys I was accompanied by my wife, whose weight is $10\frac{1}{2}$ stones, the tour taking me from Norwich to Ipswich, then Lowestoft, Leicester, Newark, Doncaster, Penrith, Carlisle, Glasgow, Manchester, Leicester, and back to London. On the run from Penrith to Carlisle we encountered some very steep ascents, and from Carlisle to Glasgow we had a continuous climb of about fifteen miles, rendered more severe by the fact that a strong

head wind was blowing. This, of course, necessitated my using the low gear most of the time. I could not possibly have climbed this and a great many other hills but for my "emergency" gear. It is asking a great deal for a $3\frac{1}{2}$ h.p. motor bicycle to carry two passengers, weight with baggage over 22 stones, over the roads above mentioned, but we completed the tour quite successfully, averaging 125 miles a day, usually starting about eleven o'clock in the morning and



Mr. and Mrs. Harry Delevine with their N.S.U. Motor Cycle and Sidecar.

finishing about seven to eight o'clock in the evening. I did not carry a lamp the whole time, so I *had* to finish before lighting-up time.

I am not advocating the common use of a low powered machine for passenger work, but merely recording what can be done with the aid of a reliable two-speed gear, and I must say I never found it fail in its action, and it has undergone some very severe tests.

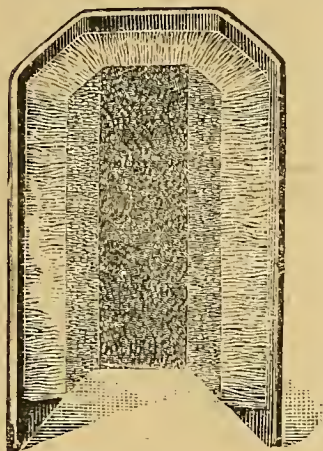
HARRY DELEVINE.

Mr. H. V. Colver, who established the new hour record for 76×76 engines of 52 miles 1,650 yards at the Stadium on 22nd August last, uses a Nilmelior coil on his Matchless-J.A.P. motor bicycle. The coil was formerly known as the Bassée and Michel, and is now sold by Nilmelior (England). Ltd., 37, Alfred Place, Tottenham Court Road, W.C.

A NOVEL BELT CLEANER.

ONE of the most practical small devices that we have yet had the opportunity of using is a belt cleaner which reached us a day or two ago.

The annexed illustration is fairly explanatory of the way in which the article is shaped, the metal part being lined inside with file-card. To the uninitiated file-card is a piece of leather to which is sewn or woven a quantity of wire bristles; these file-cards are used for cleaning out the grooves of files in factories and workshops. Every user of a leather belt knows how prone it is to collect dust, which, mixing with the grease which oozes from the pores of the leather, makes a compound which is highly conducive to slipping. The belt cleaner, which has been introduced by Warren and Co., 139, Hanford Road, Ipswich, cleans all this dirt off the sides of a belt without entailing the removal of the belt from the machine.



The same firm are introducing an air tube cleaner on similar lines, which we can guarantee will clean the sulphurous deposit from an air tube, previous to applying the repairing solution, in a quarter the time it can be removed with sandpaper or the moistened heads of matches.

A MAGNETO EXPERIENCE.

AN instructive experience befell one of our staff last week while riding a 3½ h.p. Rex engine fitted with Bosch magneto ignition, two-speed gear, and handle starting through live axle and Roc clutch. On starting up, it was noticed that something was evidently wrong, as the engine would only fire after much handle turning at a fast speed. As time was valuable, and the engine would just run, the rider pushed on to his destination, and found on arrival that the sparking plug central wire was broken off, and the gap measured at least one-eighth of an inch, yet the magneto would send a spark across this gap under compression, which is all the more remarkable as the usual gap recommended for a magneto sparking plug is ½ mm., or 1-50in. approximately. Possibly the wide gap placed a certain amount of strain on the armature of the magneto, but it shows no signs of distress. It is an excellent proof of the good workmanship and material in Bosch magneto machines. For the one above mentioned fired the charge with this wide gap for a distance of ten miles or more. When the engine was slowed down round a corner, it failed to pick up again until the engine speed was increased (by using the low gear), but, once firing, provided the gear was not changed too suddenly, the magneto continued to spark regularly. Of course, an appreciable difference was noticed in the running immediately a fresh plug was inserted, but we were under the impression that no motor cycle magneto would spark across so wide a gap as one-eighth of an inch at moderate armature speeds. One of the most successful competition riders told us the other day that he always placed the plug points 1/32 in. apart.

SPARE PARTS CASE FOR MAGNETOS.

THE neat case of spare parts which we illustrate herewith has been placed on the market by the Bosch Magneto Co., Ltd., 23, Store Street, Tottenham Court Road, W.C. It contains every spare part which is likely to be required by the owner of a Bosch magneto ignited machine, and is sold at

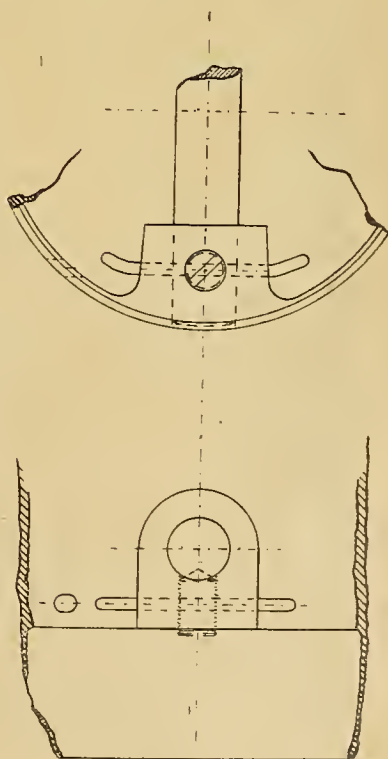


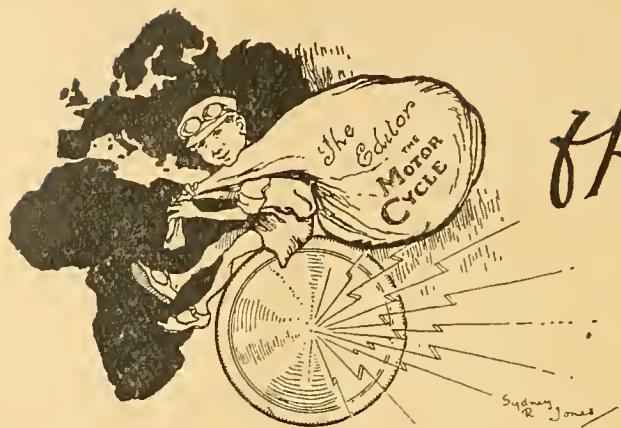
Contents of Spare Parts Case for DA2 Bosch Magneto.

- | | |
|--------------------------------|--------------------------------|
| 1 contact breaker No. 5b. | 1 short platinum screw No. 21b |
| 1 carbon holder 4a. | 1 spring No. 14. |
| 1 carbon and spring No. 40. | 1 complete oil screw No. 18. |
| 1 carbon and spring No. 61a. | 1 screw No. 10a (long) |
| 1 nut No. 47. | 1 screw No. 83. |
| 1 washer No. 48. | 1 washer No. 84. |
| 1 long platinum screw No. 21c. | 1 spanner. |
| 1 nut for do. | 21d. |

a reasonable price. Similar cases are, of course, provided for the D.A.I. and D.A.V. magneto machines, the variation in price being trifling. The numbers and letters following each part in the inscription under the illustration coincide with the numbers and letters in the maker's catalogue.

A correspondent who signed himself "Prentice" sent us a sketch of a gudgeon pin fixing (see issue of the 26th ult.) Seeing "Prentice's" method illustrated, Messrs. J. A. Prestwich and Co., of 1, Lansdowne Road, Tottenham, N., write that they are often asked about the fixing of gudgeon pins in J.A.P. engines, and send us a drawing, which we have reproduced, showing the method they adopt. It will be seen that a pin passes right through the boss on the piston and the centre of the setscrew, and the makers assure us that they have never known this method to fail.



Letters
tothe
Editor

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Formula in Hill-climbs.

[3539.]—The A.C.U. hill-climb formula for motor cycles cannot fairly be used in comparing two-stroke motors with the usual four-stroke type unless the cylinder capacity of the two-stroke type is doubled to allow for the fact that it is filled with mixture twice as often. Judged merely on the basis of efficiency, the two-stroke cycle is undoubtedly inferior to the four-stroke, but it may have other advantages to compensate for its want of efficiency.

H. L. CALLENDAR.

The Scott Two-stroke Engine.

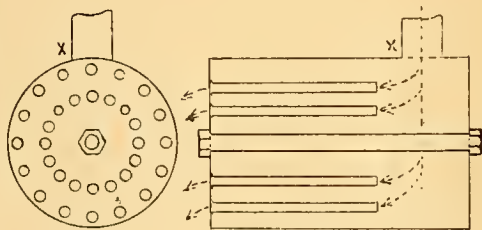
[3540.]—Will you allow me to correct an erroneous impression which I find, from the numerous enquiries regarding the Scott motor bicycle, is caused in my description of the machine by the somewhat unhappily worded phrase, "customary knock"? It seems necessary to explain that this refers to the action common to all ordinary engines in which legitimate wear has taken place, but which cannot occur in my engine, at all possible speeds on the road, owing to the system of "constant thrust."

ALFRED A. SCOTT.

Silence.

[3541.]—Referring to the vexed question of efficient silencers for motor cycles, I should like to describe that which is fixed on my $2\frac{3}{4}$ h.p. R. and P. motor bicycle.

The silencer consists of a round sheet iron box 6in. by 4in. diameter. Brazed into one end are about 32 tubes 4in. to $4\frac{1}{2}$ in. long, having a bore of about $\frac{3}{8}$ in. The position of these tubes will be seen from the rough diagram, the exhaust simply coming from engine into silencer at X.



The two ends are flanged and held in position by one bolt, with a nut on each end.

This is a very silent silencer, and as the aggregate area of the small tubes is about equal to, or slightly greater than, that of the exhaust pipe, there is practically no back pressure.

NO NOISE.

Standard Machines in Hill-climbs.

[3542.]—In answer to Mr. J. T. Clarke [3532], the commonsense of a fairly practised rider is quite enough to discern the presence of engines with extra high compression. For instance, no experienced rider could see a car like Lane's Mercédès jump off the starting line at Brooklands without realising that the engine developed an extraordinary degree of power for its size, and we know how much power in proportion to capacity is usually obtained. If Mr. Clarke rides a standard roadster of known make, let him attend the next big hill-climb, and notice how the trade entered machine, nominally the dead spit of his own, leaves the starting line. But, as a matter of fact, I had no need to rely on my own discernment unaided. Three makers have confessed to me, without invitation, and in the plainest words, that they use

engines of different compression ratios. One maker told me he turned out engines of three different compression ratios. The lowest he sold as standard, the medium he sold to speed-loving amateurs whom he could trust to handle them, and the top ratio he reserved for his own trade riders.

I think it is admitted that the trade riders would normally win the hill-climbs if every racing amateur were supplied with copies of their machines, *but what is wanted is to compress all these special machines into a class of their own*, and then obtain a class in which the private rider riding a literally standard roadster can compete against his brethren with a fair chance of securing an award.

B. H. DAVIES.

[3543.]—I read with great pleasure the articles in the two last issues by Mr. Davies upon "Standard Machines in Hill-climbs."

The ordinary amateur with his standard touring machine has no chance whatever against the trade rider on his special machine with light frame and tyres, high compression, special fuel, etc. I suggest that a solution of the problem would be to incorporate in the twenty-four hours' rides a hill-climb, to be taken after a fifty miles non-stop. Such a test as this would, I think, prevent the use of these special machines. In the A.C.U. six days trials of last year the times were taken up Birdlip, and before this was reached several special machines were knocked out.

In the present state of things the genuine amateur (not the maker's special pet amateur) has no inducement to enter hill-climbs when he knows he has absolutely no earthly chance against these special machines, which are often brought to the hill by train, make one glorious rush up, and are then carted off home.

CLAUDE H. BARFIELD.

[3544.]—Although I do not wish to be embroiled in a newspaper correspondence, I must write to defend myself and my machine against Mr. Day's attack.

My machine was a genuine Tourist Trophy model, and complied with the rules. It has been ridden this year over 5,000 miles by my diaries. Surely this is the supreme test of a genuine touring machine. Taking his objections singly—

Two-inch wired-on tyres were fitted, and were allowed by the rules; they were worn smooth by long use on the road. A Brooks motor cycle saddle was used. I borrowed a lamp in Daventry, as I never ride at night and have not one of my own. My toolbag is exactly the same as used when touring this year; it contained more than the requisite weight of spares and tools. The machine had no horn, as I find a whistle much more effective. If I choose to have rigid forks fitted, I believe I am allowed to. The handle-bars were not dropped, but were the standard T.T. Triumph pattern. The machine was ridden to the hill-climb, and back to Oxford after it.

It is surely most unsportsmanlike to protest, after an event has been run and won, and I am sure the judges had every opportunity of inspecting my machine at the time, and disqualifying it if they thought necessary.

W. G. McMINNIES.

[3545.]—I find some difficulty in accepting Mr. Davies's theory that the great differences between stock machines and trade machines at hill-climbs is chiefly due to the fact that weight is cut down. After all, the amount of weight that

to be got rid of and yet preserve a close resemblance to the standard article is not very great, and would not make much difference in a powerful motor cycle. But a huge increase in power at the expense of comfort and handiness may be obtained by using large jets and increasing compression. Now why should we not have carburettors with more than one injection chamber? With different size jets the machine might be tuned up so as to give the maximum of comfort and the maximum of power at will. Of course, if we could so alter the compression that would be still better, but there are no doubt practical difficulties in doing this.

H. M.

The Standardisation of Motor Cycle Rims.

[3546.]—When are covers and rims going to be made to some standard other than imaginary?

I have a standard 1908 Triumph, and needing a new cover, and seeing Gamage's advertisement in your paper, wrote them asking for a Shamrock Excelsior, 26 x 2½ studded cover. It was sent, with Gamages' usual promptitude. It is marked 26 x 2½—so is my original cover. The Shamrock Excelsior will not go on the rim. On laying the two covers on a table and carefully measuring along the beading it is apparent that the Shamrock is 2in. less in circumference than the original Clincher.

BD 552.

Routes for the Holidays.

[3547.]—In a recent issue you requested readers to forward any information to you that is likely to be useful to riders when on holiday tour. Being in London last week with my motor cycle I was very much surprised and disappointed to find that petrol is not retailed in the City. I went to six different places and was told at each that no one was allowed to stock it in the City.

Another point is, I have a London to Manchester strip map, and it advocates going to Manchester by Coventry and Lichfield. We know it is all right from London to Coventry, but the road from Coventry to Lichfield, *via* Kingsbury, is very lumpy, and not at all easy to find.

R. WHALEY.

Many riders travel *via* Stonebridge, Coleshill, and Bassetts Pole, but that is not much better, owing to the state of the surface between Coleshill and Bassetts Pole.—ED.]

Is the Tricar Dead?

[3548.]—With reference to your comments on the tricar and its popularity, I think you are certainly right in advocating the light and simple type of machine. One of the chief drawbacks to the tricar has been the short life of the back tyre, owing to the inefficient or non-springing of the frame (this has much to do with the life of a tyre) and the high power which it has had to transmit. Therefore, if by the aid of a good change-speed gear we can do away with high power and water-cooling, and consequently lighten our machine, then, with the adoption of a good system of springing, we have done much to ensure long life to the tyres.

There is another thing very essential to a passenger machine, and that is the ability to start from a standstill slowly and smoothly. A machine which is harsh and jerky in its drive can give little pleasure.

It seems to me that there is the possibility of a fine little tricar in a machine embodying the Gradua gear and system of springing as introduced by Zenith Motors, Ltd. Such a vehicle, and with a 4 to 5 h.p. twin air-cooled engine and magneto ignition, would be a delight, and surely receive a large amount of appreciation.

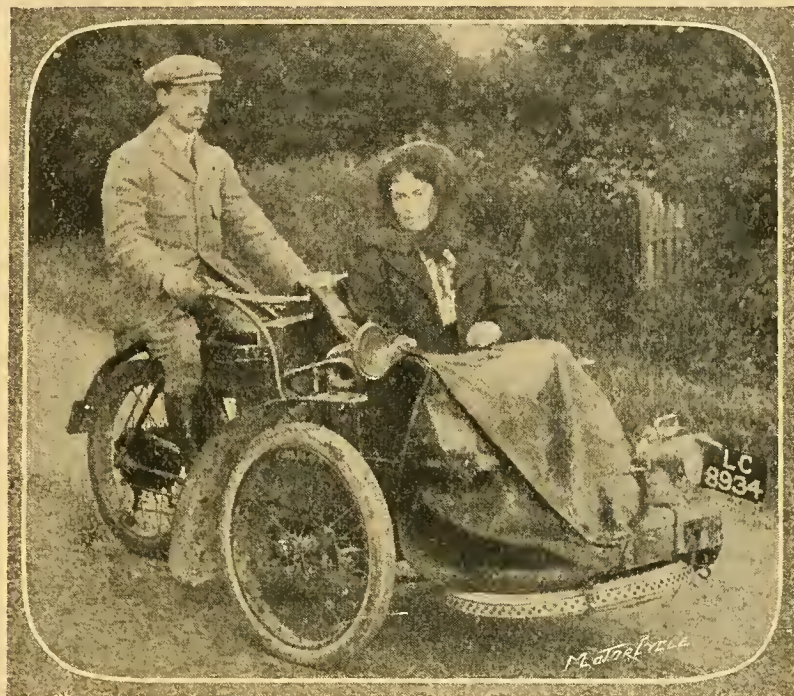
I venture to make this suggestion on account of a run of seventy-five miles which I recently had in a sidecar attached to a Zenith motor cycle. The way in which this run was accomplished was an effective demonstration of the utility and value of a good speed gear. And this was done with an air-cooled engine of only 3½ h.p., single cylinder.

The tricar has certain possibilities which, as you say, should ensure its recognition as a vehicle of value, provided the right type is placed on the market.

G. H. JONES.

[3549.]—With reference to your article *re* moderate-powered tricars, I herewith enclose a photograph of my tricar, which I think is a type that would meet with general approval in this country if marketed. The machine is a

4 h.p. Mototri Contal, water-cooled, single cylinder. Transmission is by pinion on engine-shaft to large pinion on counter-shaft, thus getting a reduction gear, then from counter-shaft to road wheel by Hans Renold chain. The rear wheel hub contains an epicyclic two-speed gear and metal to metal clutch, the low gear is operated by a pedal on left of machine, while a pedal on right operates clutch and brake. The clutch can be held out permanently by a small lever on top tube of frame; this is, of course, for starting purposes. The starting handle is on counter-shaft, which is an obvious advantage. Dry cells were fitted, and although they were satisfactory I have substituted two P. and R. accumulators. Control was originally by spark only, but I



have now fitted a throttle; 2½in. tyres are fitted to all wheels, the back being a studded cover. The front of frame is sprung, and the coachbuilt seat is bolted direct to the chassis; under the seat is a capacious tool or luggage box, while under water tank are two cupboards for sundries.

I have just returned from a fortnight's holiday on this machine, and with the exception of two punctures and cleaning trembler blade I have had no trouble at all. I can climb the majority of hills on top gear, while the low will take me up practically anything. I made a non-stop run of about seventy miles on a day when it poured in torrents, but in spite of the heavy rain the engine did not even misfire, although I got several shocks when switching off in traffic.

MODERATION.

[The Mototri Contal has been illustrated in our pages on several occasions and described in our reports of the Paris Salon. It is easily the most popular make of tricar in France.—ED.]

Motor Cycle Finish.

[3550.]—I have noticed in your paper a letter signed "First Aid," and I can fully endorse everything stated therein. I had great difficulty in obtaining "Robbialac," and when I did obtain it, it was in a colour which is not conducive to the good appearance of a motor cycle after the weather we have been having of late. It was white, and I must say the appearance after a week of mud, slush, petrol, oil, etc., surprised everyone who has seen the machine. After the application of hot water with a spoke brush my cycle returned to its former new condition.

I have tried every other enamel and compound advertised, and have met with nothing but failure. A decorative enamel is absolutely unsuitable for the hard wear entailed by a motor, and I am sure my brother motorists will bear me out in this.

MOTORIST.

[The enamel should, of course, be stoved. There is no doubt about the better appearance of a machine after a run on ordinary roads if enamelled French grey in comparison with black. The one looks clean, the other shabby. London mud on a white frame would, of course, look bad.—ED.]

Magneto Covers and Short Circuiting.

[3551].—Messrs. Bosch do the patent leather covers a great injustice when they say they cause short circuiting, as the misfiring will occur with fibre covers unless the following precaution is taken. Fit tightly over the cable a piece of rubber gas tubing 2in. long where the cable goes through the round hole in cover, and see that tube and cable fit the hole in cover tightly. It is the water running down the cable on to the terminal that causes misfiring. As an extra precaution vaseline the terminals.

ENAMELLED LEATHER.

[3552].—In *The Motor Cycle* of September 2nd you published our letter on magneto covers. When writing this we understood that the enquiries made regarding such covers had reference to those made from leather, and our remarks were correct as far as leather is concerned. One of your readers who happened to notice our letter communicated with us regarding his experiences, and we requested him to forward the cover in question for our inspection. On testing same we find that the material from which it is made is not leather, neither has it in its composition any rubber at all. It is difficult for us to say from what material it is made, but in any case we find it to be an absolute conductor of electricity. We think it advisable for you to mention this matter again in your next issue, as every purchaser of such a cover will experience the same difficulties, as contact or close proximity of the cover to a high-tension conductor will produce short circuit.

We are endeavouring to find out who are the manufacturers of these covers, and should we be successful we will endeavour to put them right in the matter and advise them as to the correct material to use.

THE BOSCH MAGNETO CO., LTD.

Running on Naphtha.

[3553].—In answer to Mr. Bellerby's letter in your issue of August 26th, I beg to point out that I did not recommend naphtha as a motor spirit, but simply stated that I was running on it, and that it was giving fairly satisfactory results at the time. Also giving the address of the firm who supplied me with sample. My experiences since then have, however, been anything but pleasant. I much regret my error in the specific gravity, which was due to a faulty hydrometer. The fact of my engine starting easily from cold led me to believe my figure was correct. Using a new hydrometer I find specific gravity to be 0.915.

The engine starting from cold may be due to the fact that the more volatile constituents of the spirit evaporate at a low temperature, leaving the heavier parts, creosote, etc., in the float chamber and jet tube. After three or four days' running I found that the percentage of solid matter had increased to such an extent that the spirit had turned a tarry black, and cleaning the carburetter out every five miles became a necessity owing to the clogging up of the fine jets. I was back on petrol inside a week, convinced that the ordinary carburetter is not suitable for crude naphtha. I shall be very pleased to publish the results of my fuel tests through *The Motor Cycle* when completed, as the results should be of great interest to motor cyclists, to whom your paper is almost a necessity. Thanking you for past help.

CYRIL V. ABRECHT.

Footrests v. Pedals and Stands.

[3554].—Referring to your correspondent, "Practical Experience" [letter No. 3521], I quite agree with him with regard to the 1908 Roc two-speed gear. I ride a 1908 5-6 h.p. twin Roc, fitted with the two-speed gear. The greatest trouble is the clutch slipping (top gear clutch being the worst sinner) through oil getting on the bands. I might say I know one or two riders who are in the same street with clutch troubles. The way I get over the difficulty is to squirt petrol on to the clutch bands about every fifty miles, and then they grip well.

Mr. Wall himself tells us it is imagination that oil causes slip on a metal to metal clutch; multiple disc and other varieties of metal to metal run in oil. The question is, does the Roc clutch run in oil? There is a vast difference between running in oil and being splashed with oil from the gears. To

my mind the latter is the cause of the slipping, by the very fact that after being washed by petrol, it at once begins to perform its duties as it should. As to taking the precaution to use the adjustment provided for the clutch, mine was adjusted to its greatest extent some two months ago, so in this respect I should still have been looking for the "sough" for result."

Another correspondent [No. 3537] remarks about starting. I find no trouble in handle starting, and as to pedals, on my previous mounts they were always getting bent or broken. As to footrests, they are very handy, but a stand is still necessary for many purposes. Also, this correspondent says he has seen it take three persons to start these machines with handle starting, and that the machine will not fire unless in a vertical position. If the machine is in good order and flooded well, and the magneto is in tune, there is no reason why it should not fire while resting on the footrests, in any case to get a start. My engine has run two or three minutes with machine resting on the footrests without a single misfire.

In conclusion, I for one am still looking for a permanent cure for a slipping clutch without using petrol.

P. H. LANGTON.

Brown Paper Joints. A Warning.

[3555].—I recently purchased a second-hand 1907 3½ h.p. Triumph bicycle, and after running it for some time I found that the joint between crank case and cylinder was leaking very badly. I tried to tighten this up, but could make no impression on it. I put in a brown paper washer soaked in raw linseed oil, and screwed up the four nuts on the studs which hold the cylinder in place.

The next time I went out on my machine after running about fifteen miles I happened to stop, and noticed that a small crack had developed just along the bottom of cylinder. I had still some twenty miles to go before getting home, but it looked a very small thing. This distance I covered at good speed and arrived home in safety.

On the following evening I had a short distance to go (about two miles). I examined the crack and it looked very small, so I thought I would risk it, especially as I had covered twenty miles after having first observed the crack and it seemed no worse. I had just started off down the road, and had not gone more than twenty or thirty yards when an explosion took place and the machine stopped instantly, portions of the cylinder being blown right across the road.

On taking off lower rim of the cylinder which was left on the crank case, I found embedded in the piece of paper from which the joint was made a hard substance just like a small flattened pea, which did not allow the cylinder to be down accurately. I attribute the cracking of the cylinder to the fact of overstraining the snug owing to its being overhung from the top of this hard material in the paper.

I am sending you this little account, which if you think fit you might publish, not because I do not think very highly of the Triumph machine, but to warn any other rider of an machine from looking lightly on a slight crack.

Glasgow.

ALEX. CRAIG.

[A number of interesting letters are held over, and will be published as space permits.—Ed.]

EXPERIENCES WANTED.

"Rothbury" would like readers' experiences of the National two-speed hub.

If any of our readers happen to know of a suitable device for facilitating the carrying of golf clubs on a motor cycle "H. W." would be glad to have particulars.

"F. W. F." would like readers' experiences with the Auto-clipse and Hella motor cycle lamps, especially the latter.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

Two Years' Experience of the Twin Vindec.

By B. H. DAVIES.

WHEN one is lucky enough to hit upon a really sound motor, it is one's plain duty to one's brother motor cyclists to publish the fact, and as I have now had two years of extraordinarily regular and faithful service from Vindec twins, I should like to describe some of the excellences of these machines. I should estimate that I have probably covered upwards of 10,000 miles on Vindec twins, and in this distance I have required absolutely no large replacements, and have only encountered a single awkward stoppage. That came very early in my experience with them, and was due to the spark advance rod from the tank lever to the magneto receiving a blow. This set the brass timing lever out of truth on its bearing, and as a consequence the fibre ring rapidly wore down, and one day the engine, after a short period of feeble running, stopped altogether. I found there was no spark at the plugs, and after uncovering the magneto contact breaker, I found the platinum points were not breaking. I happened to have a small court plaster case in my pocket book, and a little strip of plaster laid on the place where the missing cam had once existed restored the "break" at the points, and enabled me to get home. While waiting for a fresh fibre ring, it dawned upon me that if I lowered the fixed platinum point, the heel of the bell crank would press further out towards the fibre ring, and so I scraped some metal off its bed, and, hey presto! the "break" was restored with the worn ring. The break being now too big, another little piece of plaster was cut in washer form, and pierced centrally, to go under the moving platinum on the bell crank, and then the break was correct again.

Only Minor Troubles Experienced.

Apart from this my stops with the twin Vindec have consisted solely of the following: Sparking plug troubles, choked jets, punctures, and mud on the H.T. terminals of magneto, when riding without a cover. The Truffault spring forks are the best on the road, and reduce the vibration to such a point that in the distance named I have only had two bits of the machine drop off, viz., a nut off the exhaust valve lifter rod, and one exhaust valve cotter. I have never had a serious skid with a Vindec on which I had retained the belt drive. I have converted to chain drive, and even with that can only remember one bad skid, due to hitting an unsuspected patch of slime at very high speed. In climbing hills with them I like a gear of about $4\frac{3}{4}$ to 1, which dispenses with the necessity for a rush, though with uniform rushing and a higher gear, they will romp up the worst hills.

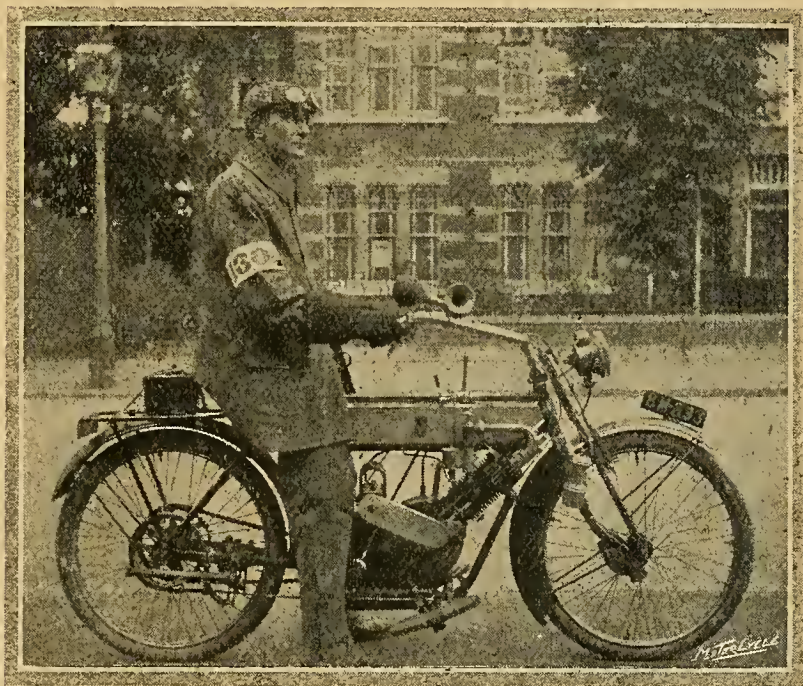
Given speed, comfort, and entire reliability, the question as to whether a machine may be ranked in the highest class or not is answered by the way in which it maintains its power. No machine—and particularly no twin-cylinder machine—can maintain the very pink of perfect compression and adjustment indefinitely, and the Vindec is no exception to this invariable law. But I know no twin which will maintain its power quite so well, either in a racing or a touring sense.

Maintenance of Maximum Power.

As regards maintenance of racing power and adjustment, I once drove mine 150 miles to the scene of a hill-climb, after tuning it up, and on arriving at the hill found it needed absolutely no attention; it was

simply laid aside till the time for starting, and then won. That lesser degree of perfection which suffices for touring purposes is also excellently maintained. In about 1,000 miles of hard work the maximum pace drops about five miles to the hour, and the attention required to restore the original kick then consists of pulling out the inlet valve springs and grinding in the exhaust valves, while if a two-speed be fitted, as is normally the case with mine, the exhaust valve springs may be burnt out and need replacing.

The engine brasses will stand a year's work with a variable gear and a sidecar; they would probably stand two years with solo work and the belt drive. All cylinders wear appreciably in two years, and especially with a very high speed engine, heavy load, and two speeds. The upper part of the Vindec bore will wear



The latest Phelon and Moore two-speed gear chain-driven motor bicycle, which was ridden in the Motor Cycling Club London to Edinburgh 24 Hours' Ride and the Essex Motor Club 24 Hours' Ride Woodford to York and back by W. Pratt, in both of which events a gold medal was gained.

under the trying conditions referred to, to the extent of about $1\frac{1}{2}$ mm. The hasty amateur may then leap to the expense of two new cylinders and six new rings, at a cost of about £3. Some recent notes in *The Motor Cycle* have shown us a more economical treatment. When new in 1906, my Vindec 75 mm. piston was fitted with narrow rings with slot cut ends. This year the same piston was refitted (after two years with sidecar and low gear of 10 to 1) with 76.5 rings, double width, and with step cut ends; the ring grooves were, of course, turned out to double width—an economical method of restoring the piston and rings to a true fit.

I have only one complaint against the standard machine, and that is, the carburetter, as sent out, seldom supplies as much extra air as the engine will take when running all out on a hot day. I therefore drill the inlet pipe, and fit a loose slide over the orifice, running with this wide open in hot weather as soon as the engine is started, and governing by the hand lever on the tank. In conclusion this machine is as smooth, reliable, and speedy a mount as any motor cyclist could desire to own, and will keep running without constant attention and without replacements.

OCCASIONAL COMMENTS.

By "IXION."

Variable Pulley Gears.

I regret to see so many designers wasting time and money upon that type of variable pulley the diameter of which can be varied by a lever without pausing or dismounting. The ordinary dismount-to-adjust type of variable pulley supplies most solo riders with all they need, and the variable pulley presents grave defects from a passenger enthusiast's point of view, for not only is the ratio of his low gear limited by arbitrary considerations respecting the necessary diameter of the crankshaft and the pulley, but, further than this, just when he wishes his belt to have the most prehensile grip, *i.e.*, in climbing the steepest hills, the pulley is at its very smallest diameter, and his gear is still insufficiently low. One or two really sound gears of this type may certainly expect a decent vogue, but there will by no means be room for all the inventors now assailing motor cycles in this point to repay the cost of their experiments, much less to amass a round profit.

Stripped Timing Gears.

I have a letter from a reader who has thrice replaced his timing gear pinions in one year, owing to stripping of the teeth; his machine, incidentally, is fifth or sixth-hand, and rather ancient. I should like to remind him that to merely replace damaged parts with identical counterparts is a very short-sighted policy; there is always a reason for fractures, and in the case of these pinions it is not at all likely that inherent weakness of the pinions is the cause, as the gears are usually cut by a good firm of engineers, and are amply strong enough for the light work they have to perform. For the benefit of other sufferers I will suggest a few causes. In cases where one set of pinions fails, and the failure is not repeated, the smash is almost always due to a pin coming adrift and jamming the wheels. The cure then is to use a longer pin, so that the thin end projects a trifle from its hole, and can be burred over slightly. When the trouble is repeated a defect in some other part is casting an unnecessary strain upon the teeth. Such strains are variously caused by overstrong valve springs, a bent or close fitting valve stem jamming in its guide, loose fitting tappets jamming in their guides, worn mainshaft or camshaft brasses, preventing the pinions from meshing accurately, and so on. A careful examination of the damaged set will often reveal the cause. If the stripped teeth happen to be those which are in mesh as the valve is lifted, the fault is likely to be one of the above points causing an obstruction to the lifting of the valve.

Petrol Spraying Out of Air Inlet.

One of our contributors in an account of the End-to-end described how Mr. J. O. M. Dixon suffered from a spraying of liquid petrol from the extra air intake when his machine was on the run, although there was no flooding with the machine stationary, and although the inlet valve appeared to be in perfect order. My correspondent says he has been afflicted with a similar trouble, and in his case the trouble was due to the spraying cone of his F.N. carburetter being set too low down, so that it impinged too closely upon the jet, and the petrol hit the cone before it had

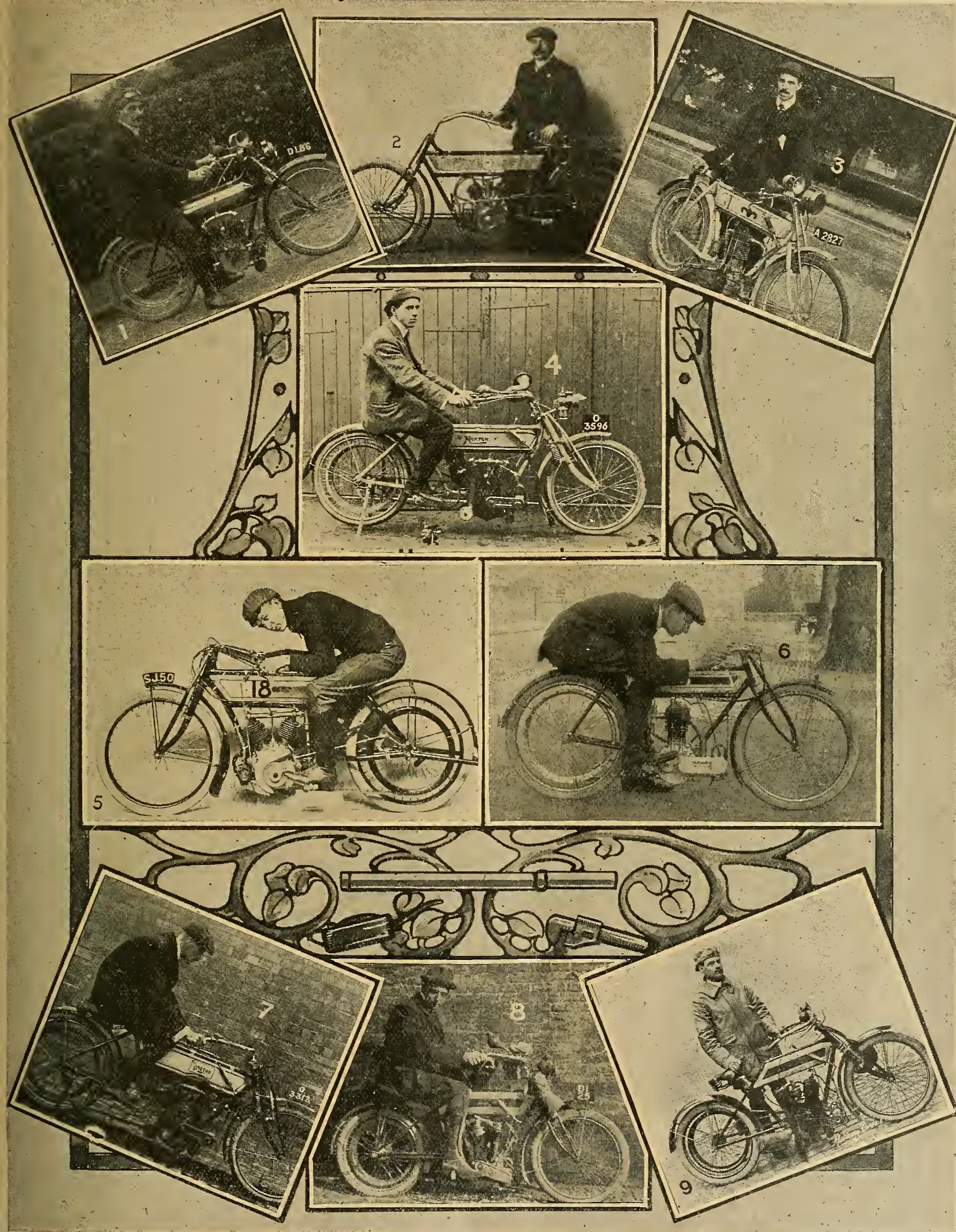
time to spray properly. Consequently no adjustment of the level of the spirit in the jet or of the inlet valve effected the slightest improvement. He put in a shorter jet tube and altered the collar on the float needle till the level was right for the shorter jet, and the spraying promptly ceased. If, as I believe, Mr. Dixon's machine has an F.N. carburetter, it will be interesting to hear whether this is the solution of his trouble also.

Lubrication.

The one detail in which the motor cycle has made no advance during the last six years is lubrication. The ancient system of dismounting, extracting a plug from the crank case, and injecting a charge from a bottle or can every twenty miles soon died a natural and well-merited death, but it was only replaced by the makeshift device of a hand pump and two-way tap; and with various minor modifications this device survives on every machine but one of to-day. It survives because it is simple, cheap, and (in skilled hands) satisfactory. But it is eminently crude. Every maker knows he must expect about ten per cent. of the machines he sells in every year to visit the works as the direct result of scanty engine lubrication. Makers are further beginning to realise that over-lubrication, though preferable to under-lubrication, is not without its peculiar drawbacks. Riders are realising that for an engine to be flooded with oil for five miles, accurately supplied for five more, and then to gradually proceed towards starvation for another ten, is bad practice. When are we going to see a simple system of automatic lubrication in vogue on all high grade motor bicycles? The hand pump system is scoffed at on cars. One car came through the recent 2,000 miles R.A.C. trials and lubricated itself perfectly and automatically for the whole of the distance, without a drop of fresh oil being added to its tank. Whatever system is employed must be proof against breakage, and include a tell tale. The sight gauge of any pump or pressure system might well lie horizontally along the top tube. We are flattering ourselves that half a dozen makes of machine in this year of grace are well nigh perfect (*pace* the two-speed gear enthusiasts). Well, here is something for designers to exercise their brains upon from now till the next Stanley. The makers would have fewer engines sent back to the works, the duffer would have fewer tremors of heart, the amateur would find his power better maintained, and the skilled rider would need to dismount his cylinder less often, with a lubricating system that regularly fed the engine with neither too much nor too little oil.

The Moto-Rêve Co., Ltd., 138-142, Gray's Inn Road, W.C., have just issued a booklet on the upkeep and adjustment of the Moto-Rêve light twin-cylinder motor bicycle. The book contains clearly printed instructions with regard to the management and adjustment of this excellent little engine. All the various parts are separately dealt with, and provided with a book of instructions an owner or prospective owner of one of these machines will easily grasp the whole of the mechanical movements, as well as the adjustments necessary to keep them in perfect order.

RIDERS IN NEXT TUESDAY'S TOURIST TROPHY RACE.



1. H. Reed, Manchester (5 Dot).
2. E. G. Young, Nottingham (3½ Bentline).
3. C. R. Collier, Woolwich (3½ Matchless).

4. H. Rem Fowler, Birmingham (5 Norton)
5. C. E. Bennett, London (5 Vindec).
6. W. G. McMinnies, Oxford (3½ Triumph)

7. S. C. Perryman, Birmingham (5 Norton).
8. A. J. Moorhouse, Manchester (5 Rex).
9. W. Heaton, Stockport (5 Rex).



CURRENT CHAT.

SPECIAL FEATURES.

AN INTERESTING MAGNETO TRANSMISSION.

A 1,000 MILES TOUR BY SIDECAR.



TIME TO LIGHT LAMPS.—Sept. 16th, 7-14 p.m. ; Sept. 19th, 7-7 p.m. ; Sept. 23rd, 6-58 p.m.

Light Machines in the T.T. Race.

The two Bentinck motor bicycles which will be ridden in the Tourist Trophy Race on Tuesday next are fitted with Acme twin-cylinder engines which have mechanically-operated valves, the cylinders measuring 2½ in. by 3½ in. Ignition is by Bosch mag-



F. E. Barker (3½ h.p. Rex), one of the competitors in the T.T. Race (Single-cylinder Class).

neto, and the tyres are Continental 2½ in. The complete machines are stated to scale about 150 lbs. It will be interesting to note how these moderate weight twin-cylinder machines perform. Like most of the other machines in the race, they have handle-bar-controlled carburettors.

American Journalistic Methods.

As an instance of the manner in which some American cycle and motor papers are conducted, we may remind our readers of the fact that whole articles are frequently lifted from *The Motor Cycle* without the slightest acknowledgment, the principal offender in this direction being the *Bicycling World* and *Motor Cycle Review*. By the way, the same journal is at present making a big fuss about a record by Jacob Derosier on a 7 h.p. twin-cylinder Indian motor bicycle. Derosier rode a quarter of a mile in 13½ s., which is equal to a speed of 68.18 miles per hour. Our American contemporary says that "he rode the fastest quarter of a mile ever done on a motor cycle." It may be a quarter-mile record, but the speed has many times been beaten on this side. Cissac's ride at Blackpool on July 27th, 1905, is still a world's record, the kilometre with a

flying start being covered in 25½ s., which equals 87.3 miles per hour. Considering that 63 miles 1078 yards were covered in one hour (world's record) by Guippone at the Parc des Princes track, Paris, in 1905, there is nothing very startling in riding a quarter of a mile only at the rate of 68.18 miles per hour.

Imports of Motor Cycles and Parts.

The imports of foreign motor cycles during August have not recovered at all, the value being £2,331 lower than in the case of imports in August, 1907. For the eight months ended August 31st the figures were :

Motor cycles—		
1906.	1907.	1908.
£44,290	£42,189	£30,958
Parts thereof—		
19,534	22,592	17,441
£63,824	£64,781	£48,399

It would appear from the above figures that the manufacture of British motor cycles is increasing.

Exports of British Machines.

Eighty-one British made motor cycles were exported last month as against seventy in August, 1907, and sixty-eight in August, 1906. The parts, however, have fallen from £2,569 in August last year to £1,025 this year. During the eight months ended 31st August the values of the British exports were :

1906.			1907.			1908.		
Motor cycles—								
£15,480			£16,093			£19,053		
Parts thereof—								
19,420			19,482			13,652		
£34,900			£35,575			£32,705		

It will be seen from the above figures that, whereas the value of complete machines exported has increased, the value of the parts despatched from this country has fallen considerably.

Re-exports of Foreign Motor Cycles.

In addition to the above exports, forty-nine foreign motor cycles of the value of £1,512, and parts to the value of £6,096, were re-exported from this country during the eight complete months of the present year. Altogether the exports from Great Britain of home and foreign made motor cycles and parts reached a value of £40,313, so that the imports still exceed the exports by £8,086.

Belgian Motor Cycle Race.

The official results of the recent motor cycle race between Liège and Bastogne (a distance of 170 kilometres) are as follow : (1) Gagard (Sarolea), 100 points; (2) Lassois (Antoine), 149; (3) Dache (Sarolea), 209. The competitors were divided into two classes according to the power of the engine, and in accordance with the classification the speeds have been worked out for an average of 18½ and 25 miles an hour. Out of twenty competitors ten were mounted on Sarolea machines. The other competing machines were chiefly Antoinettes and F.N.'s.

Police Traps.

We have received information of a police trap from the top of Manchester Road, Wilmslow, to Cheadle Village, a distance of five miles. The trap is only worked at week-ends.

A timed section 220 yards long is being operated on the Shooter's Hill Road, just by the Sun in the Sands publichouse. A motor cyclist was recently stopped and accused of travelling at twenty-six miles an hour.

We have received information concerning a police trap on the Brighton Road, opposite the Red Deer, South Croydon, which is working day and night.



O. C. Godfrey, who rode a Twin in last year's T.T. Race. This year he will mount a 3½ h.p. single-cylinder Rex.

Coupe d'Evreux.

Two Herdtle-Bruneaus, three Moto-Rêves, and an Albatross have been entered for this contest, which will be held on the Route de Cambolle, near Evreux, Normandy, on Sunday next, the 20th inst.

Motor Cyclist's Mysterious Death.

A well-known North country contractor, Mr. John Thomas Coxon, died at Holywell Village on Tuesday of last week under mysterious circumstances. He was found seriously injured on the highway on the Monday night, with his motor cycle lying close by. It is supposed that a collision occurred between some passing vehicle, and the police are conducting enquiries.

The T.T. Motor Cycle Race.

In the T.T. Race last year, it will be remembered that the first single-cylinder machines accomplished a better average speed than the higher-powered twins, but it is unlikely that history will repeat itself this year. Some experienced riders consider that an average speed of over forty miles an hour will be maintained by the winner of the twin class this year, notwithstanding the reduced allowance of petrol. Most of the competitors are now in the Island practising over the course.

Fast Running Singles.

The brothers Colliers' T.T. racers are said to have the smallest engines in the single-cylinder class, the bore and stroke measuring 85 by 76 mm., which can scarcely be called 3½ h.p. The engines will, of course, turn round at a tremendous speed with so short a stroke.

A Manchester Rider's Racer.

H. Reed's T.T. racer is a real "Dot." It is a compact looking little machine fitted with a 5 h.p. Peugeot engine, Bosch magneto, Amac handle-bar controlled carburetter, petrol gauge, rigid forks, and Dunlop tyres, and should render a good account of itself.

The Cycle and Motor Trades' Benevolent Fund.

At the monthly meeting of the Executive Committee of the above fund a bank balance of £475 15s. 4d. was reported to the credit of the current account, and twenty-one new subscribers and six new members were elected.

The A.C.U. and Affiliated Clubs.

Members of the A.C.U. and its affiliated clubs number upwards of 2,350. The Organising Committee which has charge of the administration of the scheme of affiliation has been strengthened by the addition of two motor cyclists, Messrs. A. G. Reynolds and Victor Hart. Mr. H. G. Cove, another prominent motor cyclist, will also serve on the Legal Committee, while Mr. Robert Todd, the chairman of the A.C.U., is also the chairman of the Legal Committee, in addition to filling the office of hon. treasurer of the funds of the General Committee.

Next Week's I.O.M. Programme.

The following programme will be of service to readers who are visiting the Isle of Man next week for the motor races: Tuesday, September 22nd, 9 a.m. Start from St. John's of the Motor Cycle Tourist Trophy Race, distance 158 miles 220 yards. Course, Ballacraigne, Kirk Michael, Peel (ten circuits). Wednesday, September 23rd. Car race for the Graphic Challenge Trophy between Silverburn and Foxdale; car hill-climb for the "Henry Edmunds" Trophy on the mountain road between Ramsey and the Bungalow. Thursday, September 24th. "Four Inch" Race for cars, start 9 a.m. The start is above Hilberry Corner, Douglas, Ballacraigne, Glen Helen, Kirk Michael, Ballaugh, Ramsey, Snaefell, Hilberry, Willaston, Douglas.

In the Isle of Man.

Messrs. C. B. Franklin and N. E. Drury were putting their T.T. machines through their paces on the I.O.M. course last week, but subsequently left the Island. The Rex and Triumph trade riders, we understand, left for the I.O.M. early this week.

Motor Cycles at Brooklands.

We note with pleasure that a motor cycle handicap race is announced for the next Brooklands meeting on October 3rd. This should provide a good opportunity for T.T. competitors to indulge in a little speed work on the finest racing track in the world.

The Muratti Trophy Trial.

A further stage in connection with this competition was reached on the 9th inst., when J. Stewart and C. E. Murphy (both riding 3½ h.p. Triumphs) started from Belfast to re-ride the second half of the course, both having been equal in points at the end of the trials on 22nd ult. J. J. Kennedy, another Triumph rider, was able to prove to the committee that he was equal with the two riders named, and he was allowed to go also. When the start took place at 7 a.m. the weather was favourable, but before many miles had been covered rain commenced to fall and continued almost throughout the entire day. At Ballycastle Kennedy retired after covering sixty-three miles, and the other two riders were left to complete the course. Every control was reached prompt to time, notwithstanding that at Londonderry it was necessary to ride through water nearly a foot deep. When the finish was reached both men were drenched, but they experienced no trouble whatever with their machines. On examining their check books it

was found that they had kept together throughout the day's ride and secured the maximum number of marks at every control, secret and otherwise, the distance covered being 203½ miles. The destination of the trophy is therefore still undecided, and the matter will be considered by the committee at an early date.

Police Traps.

Information has been received by *The Motor Cycle* concerning the following police traps:

Between the villages of Antony and Torpoint, on the main road to Liskeard. On the Wakefield-Bradford Road, from the Halfway House to the Stump Cross Hotels, about 400 yards in extent.

Holyhead Road, between Llangollen and the village of Vroncysyllte, four miles in the direction of Shrewsbury.

Great North Road, at Colsterworth, six miles from Stamford to a point two miles from Grantham.

From the bottom of Gonerby Hill, three miles on the Newark side of Grantham to Bennington, six miles from Newark. Four A.A. scouts patrol this section of the Great North Road.

Eastern Counties, between Scole and Harleston via Brockdish.

FUTURE EVENTS.

- Sept. 19—Motor Union Provincial Meeting at Oxford.
- " 20—Semmering Hill-climb, A.C. of Austria.
- " 22—The International Auto Cycle Tourist Trophy Race in the Isle of Man.
- " 24—"Four Inch" Car Race in the Isle of Man.
- Oct. 2—Gaillon Hill-climb, France.
- " 3—Bradford M.C.C. Open Hill-climb for Motor Cycles.
- " 3—Brooklands A.R.C. Meeting (Motor Cycle Handicap).
- " 3—Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.
- " 10—A.C.U. Council Meeting at Leamington Spa.
- " 17—Auto Cycle Union Quarterly Trial of Motor Cycles, Uxbridge to Banbury and back.
- " 21—Motor Union General Committee Meeting.
- Nov. 20-28—Thirty-second Annual Stanley Show, at the Agricultural Hall, Islington.
- " 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.
- Dec. 16—Motor Union General Committee Meeting.

"The Autocar" Motor Car Lectures.

Following the information regarding the above lectures on page 698 last week, we now have pleasure in calling our readers' attention to further particulars which will be of interest to those who contemplate attending the lectures. At Newcastle-on-Tyne the lectures will be held in the Armstrong College on Monday evenings at 7.30, commencing October 26th or November 2nd. In Leeds, in the Lecture Hall of the Yorkshire College, commencing Thursday, October 15th. In Manchester, at the Lecture Hall of the Manchester Geographical Society, afternoon and evening, commencing Friday, October 23rd, at 4 and 7.30 o'clock. Birmingham on Wednesday evenings, commencing October 14th. (The name of the hall and time will be announced next week.) Readers who contemplate attending these lectures are kindly asked to send their names without delay to the secretary, Lecture Dept., 20, Tudor Street, E.C. The fee for the course of eight lectures is £1 1s. Members of the Motor Union may obtain the tickets at a reduced charge of 12s. 6d., on application to the secretary, 1, Albemarle Street, W.

The M.C.C. Consumption Trial.

ON Saturday afternoon last the annual petrol consumption trial organised by the Motor Cycling Club was held on a circular course near Gerard's Cross, Buckinghamshire. The motor cycle section was extremely well supported, since there were twenty-five entries, of whom only three were non-starters. The method of measuring the consumption of fuel was as follows: To every machine Shell motor spirit was doled out to the amount of 1 pint for 300 lbs. total weight, increasing to $1\frac{1}{2}$ pints for 600 lbs., and to $2\frac{1}{4}$ pints for 1,200 lbs. in the passenger class, in which the only motor cycle representative was F. Cozens (10 h.p. Lagonda). Multi-cylinder motor bicycles were allowed 30% extra petrol. The machine covering the greatest distance on the allowance of spirit was declared to be the winner. The speed over the course was kept down to twenty miles an hour. According to the rules, "unjustifiable" pedalling was not permitted. Unfortunately, this led to some confusion, as there were not enough observers to watch the performances on the hills.

The Weighing Operations.

Each machine was weighed on a capital contrivance consisting of three iron legs supporting a long iron lever bearing a spring balance, while the latter had attached to it either a seat for the drivers or a pair of hooks for the motor bicycles as occasion required. Before the officials had got very far on with the weighing and filling a heavy rainstorm came on, which caused a good deal of delay, since for some time it stopped the proceedings altogether. At last the rain cleared off and the sun came out; but it was so late in the evening that the roads had not a chance to dry up, but, though wet and a trifle heavy, they were not greasy, and the surface was very fair. Following on the last motor cyclist to start, we made a tour of the course on a $3\frac{1}{2}$ h.p. Zenette kindly placed at our disposal by Zenith Motors, Ltd. The course (five miles in extent), which was practically circular, consisted of a stretch of the London to Oxford Road as far as the second turning to the right after leaving the Bull Hotel, Gerard's Cross, where the road descended gradually at first, and then became rapidly steeper into Fulmer village (an exceedingly pretty spot). Out of the village came a steep ascent, then a long straight stretch, a turn to the right, followed by a steep descent and a good hill immediately afterwards, a mile after which the Oxford Road was again reached. It will be gathered that this is not by any means a level course.



G. L. Fletcher, 2 h.p. Moto-Reve, who won the M.C.C. Consumption Trial on Saturday last. His performance was equal to 120.7 miles to the gallon. W. Smith, on a similar machine, was second.

Magneto Troubles caused by Wet.

The chief troubles experienced by the competitors were magneto troubles owing to the wet, and some failure to climb the hills without pedal assistance. The following members of the club started: V. Olsson (5 h.p. Vindec), covered three and two-third laps; Dr. C. Gibbons ($3\frac{1}{2}$ h.p. Deacon-Minerva), stopped on hill; W. A. Sale (5 h.p. Vindec), magneto trouble through wet; F. Mussell ($3\frac{1}{2}$ h.p. Quadrant), covered two and three-quarter laps; W. H. Wells (5 h.p. Vindec), wet on magneto; S. Webb ($3\frac{1}{2}$ h.p. Triumph), stopped on Fulmer Hill; B. C. Cumberland ($3\frac{1}{2}$ h.p. Triumph), had one stop; J. P. Le Grand ($2\frac{1}{2}$ h.p. Matchless), showed promise of a good performance, but dismounted on a hill; A. D. Draper ($3\frac{1}{2}$ h.p. J.A.P.-Matchless), puncture about one and a half miles from the main road; J. V. Robinson ($1\frac{1}{4}$ h.p. Moto-sacoche), left the course; W. A. Jacobs ($3\frac{1}{2}$ h.p. Rex), dismounted on a hill; A. W. Bentley ($3\frac{1}{2}$ h.p. Triumph), stopped top of Fulmer Hill; S. J. Seed (5 h.p. Vindec), dismounted on a hill; F. White (5 h.p. Rex), stopped half a mile from Fulmer; A. G. Fenn ($3\frac{3}{8}$ h.p. Rex), covered two and a quarter laps; H. C. Sayer ($3\frac{1}{2}$ h.p. Triumph), stopped at corner near main road, while W. Pratt ($3\frac{1}{2}$ h.p. P. and M.) did likewise; R. C. Davis ($5\frac{1}{2}$ h.p. Griffon), broke his belt on the last hill; S. G. Frost ($4\frac{1}{2}$ h.p. Minerva), reported to have pedalled on a hill.

The successful competitors were: 1, G. L. Fletcher (2 h.p. twin-cylinder Moto-Rêve), covered four and seven-eighth laps, petrol allowance 24 oz. 2 drams, about 120.7 miles to the gallon; 2, W. Smith (2 h.p.



The M.C.C. Consumption Trial. J. P. Le Grand ($2\frac{1}{2}$ h.p. Matchless-Jap) and W. A. Jacobs ($3\frac{1}{2}$ h.p. Rex), two of the competitors.

twin-cylinder Moto-Rêve), covered four and three-quarter laps, petrol allowance 22 oz. 2 drams, about 128.1 miles per gallon; 3, H. G. R. Slingo (6 h.p. Griffon), covered three seven-eighth laps, petrol allowance 31 oz 3 drams, about seventy-five miles to the gallon.

According to the rules, pedalling, except when hampered by traffic, or stopping for any reason except for the exigencies of traffic, or the want of a clear course, led to disqualification.

The chief officials taking part in the organisation were: Messrs. F. J. Jenkins, E. B. Dickson, J. Van Hooydonk, H. G. R. Slingo, R. C. Davis, S. H. Fry, and R. H. Head.

The Motor Cycle Tourist Trophy Race.

Rail and Steamer Services to the Isle of Man.

The steam boats of the Isle of Man Steam Packet Co., Ltd., sail from Liverpool daily at 10.30 a.m. and 2.45 p.m. up to the 21st inst., and from Douglas: Tuesday, 22nd, to Friday, 25th, 9 a.m.; Saturday, 26th, 9 a.m. and 3.30 p.m.; Monday, 28th, 9 a.m. and 3.30 p.m.; Monday, 28th, 12.30 a.m. (Sunday night); Tuesday and Wednesday, 29th and 30th, 9.0 a.m. The fares are: First-class saloon return, six months, 10s.; first-class saloon, single, 6s.; third-class steerage, return, 6s.; third-class steerage, single, 3s. 6d.



The three riders who tied for first place in the Muratti Trophy Reliability Trials, Messrs. C. E. Murphy, J. J. Kennedy and J. Stewart. They all rode 3½ h.p. Triumphs. Our photograph was taken at the start of the ride to decide the winner on the 9th inst., but Messrs. Stewart and Murphy again finished with equal points.

Week-end tickets are issued on Fridays and Saturdays available to return on the following Monday or Tuesday, or four days' excursion tickets issued on Mondays available until the following Thursday: First-class saloon, return, 8s. 6d.; third-class steerage, return 5s. 6d.

Fast express services are run from London to Douglas in connection with the boats, leaving Euston at 10.30 a.m., and arriving at Liverpool (Lime Street) at 2.20 p.m. The afternoon boat is due in Douglas at about 6.30 p.m.

The rates for motor cycles are as follows: Motor bicycles accompanied with passengers, 2s. 6d. each; motor tricycles with more than one seat, 2s. per seat extra each.

The Rex Motor Mfg. Co., Ltd., Coventry, has notified the Auto Cycle Union that it is the company's intention to present a gold medal for the best performance by a private entrant on a Rex machine in the T.T. Race.

The Hotel Sefton, Harris Promenade, Douglas, Isle of Man, is to be the headquarters of the A.C.U. and the Dunlop Tyre Co. during the Isle of Man races. The hotel is situated facing the sea in a central position, and has an excellent motor garage attached to it.

For the information of competitors in the Motor Cycle T.T. Race who use Continental tyres, Mr. Harness, of the Continental Tyre and Rubber Co., Ltd., Manchester, will be in attendance at the Villiers Hotel, Douglas, I.O.M., where a large stock of motor cycle tyres of all sizes will be obtainable.

The T.T. Prize Fund.

Additional donations to the Auto Cycle Tourist Trophy Fund are as follows:

	£	s.	d.
W. H. Wells	1	1	0
Society of Motor Manufacturers and Traders	10	0	0
Robert Todd	5	0	0
Motor Press Agency	2	2	0
Manchester Motor Club	2	2	0
E. W. Brewerton	1	1	0
Stanley Show, Ltd.	26	5	0
J. H. Brereton	1	1	0
J. F. N. Templar	10	6	
F. S. Barnwell	2	2	0
S. F. W.	2	0	0
W. W. Powell	10	6	

The previous list will be found on page 710 of the foregoing issue.

The T.T. Shilling Fund.

In accordance with the announcement made in our last issue, we now have pleasure in publishing the names of the donors to the above fund, communicated to us by the Secretary of the A.C.U.: *The Motor Cycle* (100 shillings), E. Stanton (2), W. A. Mass, A.L., C.A.C., B.E.S. (2), R. S. Vinter (5), N. S. Vanhouse, G. A. Burnand, E. J. Jupe, R. H. Head, Dr. Gibbons, W. G. K. Barnes, R.N., Triumph, J.H.S., C. H. Butcher, F. Hansford, Dr. S. G. Longworth (5), A. D. Draper, H. Rem Fowler (5), Enthusiast, A. Grafton Sprague (5), Vanguard, H. G. Potts (5), D. V. L. Fellows, Two Limerick Motor Cyclists (2).



The Hull and East Riding A.C.C. Non-stop Run from Hull to London and back. A group of the five starters who left New Holland early on Saturday morning last. Their names and the machines they rode will be found in a paragraph on the next page.

CLUB NEWS.

Western District M.C. (London).

Members of the above club are reminded of the hill-climb which will take place on the 20th inst. Meet at Milford Hotel 9.30 a.m. sharp.

Bolton and District M.C.C.

The above club held a petrol consumption trial on Saturday, September 5th. The winners proved to be as follows: 1st, J. Fishwick (6 h.p. N.S.U.), winner of gold medal; 2nd, A. J. Moorhouse (3½ h.p. Triumph); 3rd, J. Mellor (3¼ h.p. Rex).

A Club for Ashton-under-Lyne.

A motor cycle club has been formed for the above district, with headquarters at the George and Dragon Hotel. The name of the club is the Ashton and District M.C., and the first meeting was held on the 9th inst., when nineteen members were enrolled. The subscription is 5s., with an entrance fee of 2s. 6d. Prospective members can have full particulars on application to the secretary, Mr. E. B. Brooks, 11, Dean Street, Ashton-under-Lyne.

Newcastle M.C.

The selling handicap competition held by this club on the 9th inst. would have been very successful if the weather had been more settled. The result was what the committee had aimed at, viz., to give machines which had been in use for some time a chance against newer models. A machine entered at £24 won the competition, receiving sixteen points started from the competitor next in merit. Results:

£24, G. S. Walker (3 h.p. F.D.W.), first prize; £40, J. Bates (3½ h.p. Dene), bronze medal for non-stop, finishing in schedule time; £40, Thos. Lee (4½ h.p. Frank tricar), special prize for best performance in passenger motor cycles.

M.C.U.I. (Ulster Centre).

On the 5th inst. a reliability run took place for prizes kindly presented by Mr. R. Graham Lindsay, over a course specially mapped out by himself, namely, Belfast to Newry *via* Lisburn, Lurgan, Portadown, Tandragee, and Poyntzpass, thence along Dublin Road to junction with road to Greenore (three miles from Dundalk), then to Bush Station and on through Carlingford and Omeath, back to Newry, thence through Banbridge and Dromore to Belfast; total distance 115 miles. The entries were: J. Stewart (3½ h.p. Triumph), R. Sharp (3½ h.p. N.S.U.), W. Wilson (2¾ h.p. Minerva), J. Holden (3 h.p. Rover), T. Greer (5 h.p. Rex), J. M'Allen (3 h.p. Rover), J. Lavery (3 h.p. Triumph), W. J. Andrews (3½ h.p. Rex), J. S. B. M'Murray (3½ h.p. Triumph), J. J. O'Rawe (3½ h.p. Rex), and L. MacLaine (10 h.p. Lagonda tricar).

The first rider was due to reach the finishing point at 7.49 p.m., but it was 8.5 when Stewart arrived, his starting time being 2.6. Lavery followed immediately afterwards, having started at 2.9. Both these riders secured full marks at each control except at the finish, where Stewart lost 10 and Lavery 7. The latter was therefore declared the winner with a total of 43 points, Stewart being second with 40.

Great Yarmouth and District M.C.C.

On Thursday, the 10th inst., the club held a gymkhana in the Recreation Grounds. The event went off very well, but, unfortunately, the audience was small. Musical chairs and bobbing for apples were perhaps the popular events. The tortoise race, in which the competitors were started at the half-way mark, was won by the man who was last to arrive who kept his engine firing all the time.

Class A.—1 (or rather last), F. Worths (2¾ h.p. Anglian); 2, H. Collins (twin Sarolea); 3, A. H. Watts (3 h.p. Singer).

Class B (in which gears and clutches were allowed to be used).—1, F. G. Galley (2¾ h.p. Anglian); 2, F. W. Barnes (3½ h.p. Zenette); 3, — Hallinstein (3½ h.p. Wanderer).

Bending Race.—G. L. Fletcher (2 h.p. Moto-Rêve) was first, Dr. V. Blake (2½ h.p. Ariel) second, and F. C. North (4 h.p. Roc) third.

Saturday to Monday Race.—1, W. Smith (2 h.p. Moto-Rêve); 2, A. G. Reynolds (5 h.p. Vindec); 3, G. L. Fletcher.

The Musical Chairs Event.—1, Mr. Galley; 2, Mr. Scott (1½ h.p. Motosacoche); 3, Mr. Watts.

The Academy Race.—1, Dr. Mayo (2 h.p. Moto-Rêve); 2, Mr. Smith (2 h.p. Moto-Rêve); 3, Mr. North (4 h.p. Roc).

In the rings and balloons event the riders had to catch a ring on a stick and burst a balloon. 1, Mr. Watts; 2, Mr. Galley; 3, Mr. North.

Egg and Spoon Race.—1, Dr. V. Blake; 2, Mr. Smith; 3, Mr. Barnes.

The last event was bobbing for apples. 1, Dr. V. Blake; 2, Mr. Barnes.

The Victor Ludorum medal, presented by the M.U., was won by Mr. Galley with eight points; and Dr. Blake second, with seven points.

Sutton Coldfield A.C.

Owing to objections raised at the last moment by the police it was found impossible to carry through the hill-climb which had been arranged to take place by the Sutton Coldfield Automobile Club at Gentleshaw on Saturday, September 5th. It has been arranged to hold the postponed competition on Saturday, September 26th, on a private road at Coalport, near Ironbridge, Salop.

Hull and East Riding A.C.C.

The outward journey of the Hull-London-Hull non-stop run resulted as follows: T. Wiles (3¾ h.p. N.S.U.), non-stop; C. Nicholson (3½ h.p. Rex), one stop; R. Pearson (3½ h.p. Minerva), one puncture; C. Harman (3½ h.p. Rex), one stop; R. Darnley (3½ h.p. Rex), retired at St. Neot's, magnet trouble.

A speed-judging trial will be held on Saturday next, the 19th inst. This will take place on the Hedon Road, Hull, at 3 p.m., starting from Marfleet.

Picnic to Kilnsea on the 20th inst. Meet opposite the Town Hall at 10.30 a.m.; proceed *via* Hedon, Patrington, and Easington, to Kilnsea Warren.

Southern M.C.

At the committee meeting held on Thursday last, the 10th inst., the following classes were decided on for the club hill-climb, which takes place on the 26th of this month: Class 3, passenger motor cycles, tricars, sidecars, and quad cars; Class 4, motor bicycles (twin-cylinder); and Class 5, motor bicycles (single-cylinder), A.C.U. formula. Gold medals will be given in each class to the winners. Members will receive entry forms in due course, and are requested to fill them up and return at once.

A slight error occurred in working out the times at the last monthly hill-climb, which gave the winner as E. K. Davies, T. E. Goodley 2, and W. J. Jones 3. This should read Goodley 1, Davies 2, Jones 3.

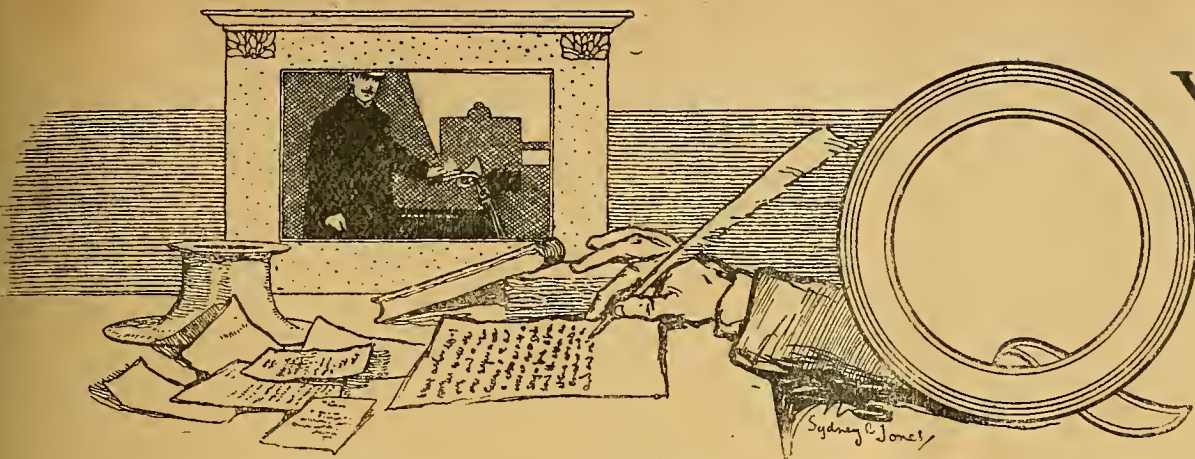
Nottingham and District M.C.C.

Thirteen competitors started in the first reliability run of the above club, commencing from the junction of the Melton and Loughborough roads, West Bridgford. The route was through Loughborough, Leicester, Market Harborough, Desborough, Rothwell, to Kettering; home *via* Rockingham, Uppingham, Oakham, Melton Mowbray, to Nottingham. The competitors were: G. H. Pearson (2¼ h.p. Bentinck), Hedley Castle (3½ h.p. Minerva), B. W. Maltby (4½ h.p. Minerva), Oswald Parker (3 h.p. Triumph), C. R. Smith (3½ h.p. C.C.R.), Robert W. Doughty (4 h.p. Roc), Harry Carnell (3½ h.p. Triumph), R. T. and E. L. Thornton (3¼ h.p. tricar), Claude H. Johnson (3½ h.p. Triumph), L. A. Nolan (3½ h.p. Triumph), and — Powell (2¾ h.p. Browne). The winner of the cup will be announced in due course.

SPEED TRIALS AT PORTMARNOCK.

ON Saturday afternoon last the Dublin and District M.C.C. held a race meeting on Portmarnock beach, when a programme of three events was decided. The afternoon was very favourable, and the sands were found in unexpectedly good condition after the storm in the earlier portion of the week. Two of the three events were won by R. H. Taaffe (3½ h.p. Triumph), and were it not that the handicaps were adjusted after each event he would probably have secured the three. The other race was won by N. J. Chambers (2¾ h.p. F.N.), the hon. sec. of the club. Mr. T. W. Murphy acted as starter and timekeeper.

In consequence of the Tourist Trophy Race being held on Tuesday next, the 22nd instant, "The Motor Cycle" will be published one day later next week, viz., Thursday, Sept. 24th, instead of Wednesday.



QUESTIONS & REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, **must be accompanied with a stamped addressed envelope for reply.**

Tyres with Sidecar Attachments.

?

(1.) I have a 4 h.p. Roc motor bicycle with Mills-Fulford sidecar, and should be much obliged by your usual sound advice as to whether you consider it would be better to fit some form of protection band on the rear tyre of the cycle (Clincher 26in. by 2½in.)? I understand that the wear on this tyre is heavy with any sidecar. (2.) Also do you recommend for spare tubes the butt-ended pattern or detachable ones with a continuous air current?—J.B.M.

(1.) An extra band on the back wheel of your machine would be desirable, as there is a much greater strain on the back tyre when a sidecar is used. It would be better to fit an extra heavy 2½in. tyre. (2.) Detachable tubes with a continuous air current are, we think, preferred by most riders.

Wear of Armature Bearings.

?

In the Simms-Bosch high tension magneto, if through loose or worn bearings, the armature in its revolutions scrapes against the pole shoes of the magnets, is there any weakening of the high tension current caused thereby with consequent misfiring at the plug? Now all the Melbourne experts whom I have asked about the matter agree that there is no weakening of the current by such scraping, and thus no effect is produced in the working engine, whilst they differ as to whether more rapid demagnetisation occurs or not. Now I claim to have absolutely proved in my own machine (F.N. four-cylinder) that such a fault in the magneto as I have described does very much weaken the current, and a friend of mine with a single-cylinder Peugeot (Bosch mag.) states he has proved it in his own machine also. Will you kindly give me the final opinion on the matter?—Dr. H. L., Victoria.

If the bearings are so much worn that the armature scrapes against the pole shoes, the strength of the magnets is considerably weakened, and this is a state of affairs which should be remedied without delay. This weakening is probably due to friction setting up a hard skin upon the surface of the iron which affects the magnetism seriously.

Overheating due to Alteration of Valves.

?

I have a 2½ h.p. F.N. which has run splendidly until a week or so ago. I took it to a garage to have valves ground in, etc., and since then it has run very poorly. I had a new exhaust valve and spring fitted. After running a few miles (about four) it overheats, the plug gets red hot, and the engine stops. I use as little gas and as much air as possible. Would a too weak or too strong valve (exhaust) spring cause this? It has nothing like the power and life it had. Everything seems in perfect order. I shall be glad to know if you could inform me of the source of the trouble.—U 369.

What has probably happened to your hitherto good running machine is this: The valve has been ground in causing the head of the valve to sink more deeply into the seating. This has increased the opening of the automatic inlet valve and weakened the spring. Or it may be that the new exhaust valve is not exactly the same length as the old one, and is either lifting too much or too little. If the stem is too long, you will have to soften the end of the valve stem, and file it down until there is 1-32in. clearance between the end of the valve stem and the tappet. It must then be hardened again. The tension of the exhaust spring would not be likely to cause the engine to overheat.



A Royal Roe Motor Cycle with Two-speed Gear and Montgomery Sidecar, owned and ridden by Mr. G. T. Willan, M.R.C.S., a medical practitioner of Sittingbourne, Kent, who informs us that he has used the sidecar almost daily for 3½ years. The extra child's seat is an idea gained from "The Motor Cycle" of a few years ago, and consists of a child's upholstered chair provided with footboard, and attached to underneath and sides of sidecar by bolts and wing nuts. Dr. Willan finds the motor cycle and passenger attachment cheaper and faster than a heavy single-cylinder car.

Various Interesting Queries.

?

(1.) Will a short wheelbase and also sitting well over the back wheel prevent sideslips? (2.) What sort of brake do you recommend for the back wheel—a wheel rim or a belt rim brake, and should it be applied by hand or through the pedals by back pedalling? (3.) Of the following, which do you think best to have control on the handle-bar instead of levers attached to the tank: (1) Exhaust lifter, (2) spark regulator, (3) throttle, (4) air? I have had several sideslips lately, and have been told it is owing to the long wheelbase and not sitting well over the back wheel.—F.W.

(1.) To prevent sideslip a medium wheelbase is required, and the rider should sit as nearly as possible midway between the back and front wheels. (2.) For the back wheel a brake acting on the belt pulley would be desirable, preferably controlled by means of a separate foot lever and within easy reach. (3.) We should recommend the spark to be adjusted by a lever on tank, and the exhaust, throttle, and air levers controlled from the handle-bars.

Queries respecting a New Mount.

?

I have a 1908 military model Roc machine, and should be glad if you will inform me on the following points: (1.) I find it somewhat difficult to start engine with handle from cold, even when petrol is injected in head. Should the magneto ignition be advanced fully before starting, or will this cause backfiring? (2.) Only one pedal brake is fitted. Can the low speed clutch pedal be used as a brake when the high speed is in without risk of injury to the gears? (3.) While travelling at high speeds on rough road the carburetter floods, and on one occasion caught fire. On examination I found that the petrol pipe is only $\frac{1}{4}$ in. away from magnets of magneto machine. Is it possible in such a case that the spark jumped from magnet to petrol pipe and caused the fire, and if so will the fitting of a magneto cover obviate the danger? I did not notice any misfiring on the occasion mentioned. (4.) There is apparently no means of lubricating the gears. Is this necessary, and if so, how can it be accomplished?—H.E.C.

(1.) Advance the magneto almost to its fullest extent, and if the machine still starts badly let us know and we can give you further advice. (2.) The engine can be used as a brake through the medium of the low speed gear, but when the high speed is in engagement the low speed is out of engagement. (3.) It would be advisable to have a tray underneath the carburetter to prevent the petrol dripping on to the magneto, though there should be no spark from the magneto at all at this point. The fire may have occurred owing to a backfire. (4.) The wheels are well packed with grease when gear is sent out if this has been used up, further out; if this has been used up, further rear wheel; when belt rim is detached the gears are exposed. There is a lubricator in the hub for oiling the axle.

Knocking and Loss of Power in Engine.

?

I have a $2\frac{3}{4}$ h.p. F.N. engine and carburetter, and just lately I have noticed a knocking sound which appears to come from the piston when being pushed over the top of the stroke. It seems to me that the gudgeon pin may be loose, but I have tightened up the set screws, and it makes no difference. There is also a loss of power which was remedied after reassembling engine, but after a short run it has disappeared. Can you account for this? Valves re-ground, new washer on plug, and apparently everything in order.—J.B.

The knocking sound doubtless comes from a worn gudgeon pin bearing or bush. The loss of power is probably due to slots in piston rings having got in line, which means taking the cylinder off to alter them.

Pre-ignition, Not Overheating.

?

Can you offer any reason for my $3\frac{1}{2}$ h.p. Minerva engine pre-igniting? The details are $3\frac{1}{2}$ h.p. 1906 Minerva engine, compression good, gear $4\frac{1}{2}$ to 1. The carburetter is a Minerva-Longuemare, No. 22 adapter, and eight slots in spray. The valves both lift about $\frac{1}{2}$ in., and the springs are nearly new. I purchased the machine second-hand,



J. C. Smyth, who will bestride a 5 h.p. Twin-cylinder Rex in Tuesday's T.T. Race.

and noticed afterwards that it has a 1907 cylinder, as there are slots cast in the radiator ribs for the two long bolts. I have tried the following without any improvement: Taken off cylinder and cleaned head of cylinder and piston. Tried different sparking plugs and different gaps in them. Tried different levels of petrol in spray chamber (raised and lowered it). Tried the engine without the adapter in carburetter. Engine will take all extra air when running very fast; in fact, it seems to pre-ignite worse with extra air open. The engine will not run slowly with spark retarded (accumulator ignition). I do not think it is overheating. Pre-ignition is so bad that after a short run I can switch off and run quite a long way on pre-ignition alone, without a misfire even. In other respects the engine runs very well, and will climb almost anything.—N.B., Westfield.

Examine the cylinder head carefully and see if there is any roughness of the casting which might cause pre-ignition. Provided the cylinder head and piston are clean, and that the compression is not too high, there should be no pre-ignition. You might try a steel washer about 1-16 in. thick between cylinder and crankcase, and so reduce compression a little. Do not omit to lengthen tappets or put caps on them 1-16 in. thick to make up the extra length. A smaller jet to the carburetter might also effect some improvement. The cylinder dimensions have not been altered since 1906.

Driving on the Exhaust Valve.

?

What harm can there be in lifting the exhaust valve at corners? When valve wanted grinding I was told I drove too much on the exhaust, and now I am told it is the right thing to do. If I knew the lifting or partial lifting of valve in moderation in traffic did no harm it would save me altering levers.—H.E.S.

The theory of driving on the exhaust valve is that the actual flame of the charge is in contact with the valve seating longer than is desirable, with the result that the valve gets badly burnt. The use of the exhaust valve in moderation is not harmful if the valve is entirely raised. This is the usual method of controlling speed in traffic.

Carbon Deposits and Amount of Oil.

?

I should like to have your opinion on the following: I have a 1907 $3\frac{1}{2}$ h.p. magneto Triumph motor cycle which runs perfectly, except that carbon deposit collects on piston top and top of cylinder very soon. The carbon deposit comes within a 100 miles after cleaning quite clean, which spoils the power at once. I use Price's Motorine A for lubricating, and give half charges about every eight or nine miles. Do you think a change of lubricating oil would remedy matters? What oil do you recommend for the Triumph engine?—J.O.J.

It would be rather interesting to get the carbon deposit analysed. Probably if you do this you will find that most of it is road dust. New piston rings should not allow the oil to get past them. You seem to be lubricating rather too freely, and we should recommend you to do this rather less often. The oil you are using is good, and we know of none better. Be careful to drive with as much air as possible.

READERS' REPLIES.

A Flooding Carburetter

I have had fitted to F.N. carburetter needle an adjustable collar carrying the two discs between which the toggles work. Formerly the discs were separately attached to the needle and soldered thereto. Now I can alter the position of needle as easily as is the case in the Longuemare by simply tapping with a very light hammer. The collar is, of course, a "driving fit" on needle.—J.S.W.

Mr. Lenette Rider.

At home—never thro' any fault of machine.

Reliability

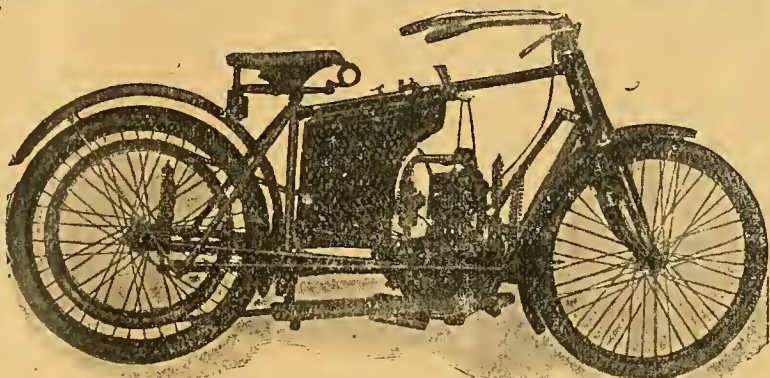
and absence of vibration are the key-notes of the construction of the

'ZENETTE'

In designing, our aim has been to produce a machine luxuriously comfortable, durable, and which can be relied on to start easily, and to "get there" without unnecessary delay.

The result we are anxious to demonstrate, and shall be pleased to arrange a trial on receipt of request.

It should be borne in mind that the spring frame of the "Zenette" not only ensures absolute comfort in riding, but reduces the possibility of crystallisation. Every engineer and steel expert knows that excessive vibration will crystallise and finally break the finest steel, and many serious accidents have been caused through this alone.



Price 39 Gns. nett cash; or with Free-engine Clutch, 42 Gns.; or with the marvellous "Gradua" Gear, 50 Gns. nett. A few exchanges entertained.

ZENITH MOTORS, LTD., 101, Stroud Green Road, Finsbury Park.

P.S.—"Zenette" Spring frame Tricar-de-Luxe, 6-7 h.p. JAP engine, twin-cylinder, water cooled, 90 Guineas nett. "A little gem."



A NECESSITY When on Tour

The Autocar
FOLDING MAP for Motor Cyclists

(In Strong Case).

When on tour the motor cyclist is often faced with the question of which road to take or the best way to reach a certain place. All such difficulties can be overcome by carrying "The Autocar" Folding Map in your kit. It occupies very little space, as when folded it measures only 7½ in. x 9½ in. All main roads are marked in red, and the distances between all important towns are given.

PRICE 8/10, Carriage Paid.

Please mention that the folding map is required when ordering.

The Offices of "The Motor Cycle," 20, Tudor Street, London, E.C.

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London, by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

BIG STOCKS NO CROCKS

AT THE PREMIER

No other firm can offer such a fine selection of new and second-hand machines as the Premier Motor Co. The second-hand ones are all carefully examined; no worn out or faulty machines are offered. All are covered by a Certificate of Fitness. The following are **SECOND-HAND or SOILED.**

SINGLE CYLINDERS.

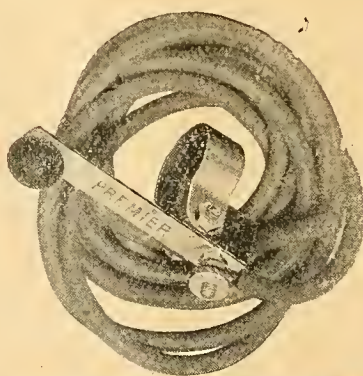
TRIUMPH, magneto, 1907	£28 0
VINDEC SPECIAL, 1907	30 0
REX DE LUXE, 3½ h.p., 1908, two-speed, soiled only	38 0
WARWICK, 4 h.p., shop soiled, two-speed and clutch	33 0
N.S.U., 3½ h.p., spring forks, Roc clutch, two-speed	23 0
QUADRANT, 3½ h.p., 1906, very good order	13 0
N.S.U., 3 h.p., spring forks	15 0
BIRCHFIELD, 3 h.p. Spray, 1907	11 10
WHITLEY, 3½ h.p., spray, running well	8 0
EXCELSIOR, 2½ h.p., spray, splendid order	8 0
MINERVA, 2 h.p., M.O.V., spray, girder forks	6 10
UNIVERSAL, 1½ h.p., vertical engine, spray carburetter	3 5

LIGHTWEIGHTS.

F.N., 1½ h.p., 1907, magneto, spring forks ..	£21 0
F.N., 1½ h.p., 1907, " " special silencer ..	21 0
N.S.U., 1½ h.p., 1907, magneto, perfect	18 0
N.S.U., 1½ h.p., 1907, magneto	16 0

TWINS.

G.B. ZEDEL, 5-6 h.p., 1908, two-speed, spring forks, hand starting	£35 0
ROC, 5 h.p., twin Peugeot, magneto, clutch ..	25 0
MINERVA, 7-8 h.p., R.O.M. contact breaker, perfect	30 0
N.S.U., 6 h.p., magneto, two-speed	28 0
N.S.U., 5½ h.p., magneto, good order	18 0
WERNER, 4 h.p., perfect order	11 0
JAP, Chater Lea, 6 h.p., magneto, nearly new ..	25 0
JAP, Chater Lea, 6 h.p., accumulator, fine order	18 0
RILEY TRICAR, 5 h.p., two-speed, spring frame, wheel steering, water cooled, splendid order	52 0



THE Premier Magneto Cut-out

with six feet
of insulated
wire,

3/-

Or without insulated wire 2/-

Beautifully made and finished. Sent on three days' approval. Post free.

PREMIER ACCUMULATORS.

PREMIER LUGGAGE CARRIERS.

PREMIER STANDS.

PREMIER ROAD-CLEARERS.

PREMIER SEARCHLIGHTS.

WRITE FOR LISTS.

PREMIER MOTOR AGENCY,

Aston Road, BIRMINGHAM.

Telephone: 4310.

Telegrams: "Primus," B'ham.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20 Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard this silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

1½ h.p. Minerva, running order; bargain; £5 10s.—Gardiner, Esklith, Hous Blyth.

2 h.p. Minerva, Palmer tyres, splendid running order; bargain, £8 10s.—J., 13 Croft Terrace, South Shields.

FOUR-CYLINDER F.N., magneto, spring forks, excellent condition, tyres nearly new, long bars; £19; trial near Stockton.—Box No. 762, The Motor Cycle Offices, Coventry.

3½ h.p. Rex, magneto, spring forks, 1908 model, good condition, with spare belt, tube, sparking plugs, etc.; a bargain; £15 10s.—J. H. Cockburn, 57, Durham Road, Blackhill.

1908 Lightweight Rex (new July), £20, perfect, bargain; 1905 Rex, thorough good machine, and in good order, only £4 or exchange light car.—T. Sill, Wood Turne West Hartlepool.

4 h.p. Twin Werner, magneto, two-speed and free engine, spring forks, in splendid condition, £22; also 3½ h.p. Ormonde, Kelcom engine, £13 10s.—Lambert, glass and china dealer, 307, High Street West, Sunderland.

SECTION II.

York and Lancashire.

ROC, 4 h.p., magneto, free engine, single gear, brand new; £30.—Below.

N.S.U., 3½ h.p., magneto, spring forks, perfectly new; £35.—Below.

N.S.U., 5½ h.p., twin, magneto, free engine, 24 by 2½ tyres, condition as new, with Montgomery sidecar; £42.—Below.

TRIUMPH, 3 h.p., 1906, newly overhauled by makers; £18.—Hartley Clegg, Motors, Burnley.

NEW 1908 Wolf, 2½ h.p., recently cost £3 accept £20; giving up.—19, Mountfield, Prestwich.

4 h.p. Magneto Antoine, fast, new condition; any trial; £22.—Lord, Mountfield, Prestwich.

4 h.p. Roc, with free engine, 1907, new Continental and Dermatine belt, also rigid sidecar; offers.—Mallison, Newland Hull.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

TRIUMPH, 3½ h.p., 1908, last two of contract; £48.—The Victoria Garage and Electrical Co., Ltd., Coventry.

TRIUMPH, 1908, four weeks delivered, only slightly soiled; £40.—The Victoria Garage and Electrical Co., Ltd., Coventry.

ZENITH Bicar, 3½ h.p., two speeds, chain drive; £25.—Below.

REX, 5½ h.p., twin, Roc clutch, two-speed; £28.—Below.

MINERVA, 3½ h.p., M.O.V., good condition; £14.—Below.

TRIUMPH, 1907, magneto, splendid order, 3½ h.p.; £30.—Below.

REX, 1905, 3½ h.p., good order; £10 10s.—Below.

NOBLE, 2½ h.p., very good condition; £11.—Below.

BUCHET, 2½ h.p., very low frame, going order; £9 10s.—The Victoria Garage and Electrical Co., Ltd., Coventry.

5 h.p. Twin Alyon, spring forks and pillar, magneto, B. and B. handle-bar control; £22.—E. Turner, The Grove, Sutton Coldfield.

4 h.p. Minerva, girder forks, Longuemare carburetter, Palmer tyres, 26in. wheels; bargain, £12.—Gamble, 111, Humberstone Road, Leicester.

3½ h.p. Triumph, magneto, not ridden 32 many miles, new Continental tyre on back; best cash offer.—Carter, 139, Sneinton Boulevard, Nottingham.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

5 h.p. Twin Kerry, in running order, very fast; offers.—Dixon, Aylsham, Norfolk.

3½ h.p. Rex, Tourist Model, as new, 1908, not ridden 100 miles; too fast for owner; £25.—Apply, 90, Wenlock Street, Luton, Beds.

4½ h.p. Four-cylinder F.N., run about 600 miles, guaranteed perfect, spring forks, magneto; £27.—The Ashes, Stowmar, ket.

3 h.p. Werner, Eadie frame, new Stanley-Dermatine belt, in good order; £5 10s.—E. Harnwell, Archdale Street, King's Lynn.

1908 3½ h.p. Quadrant, magneto, Clincher tyres, spring forks, low-built, latest model, absolutely new, never ridden, complete with Montgomery sidecar; £33, or separate, £26, quick sale; no offers.—Catton, 15, Out Risbygate, Bury St. Edmund's.

BRAND New 3½-4½ h.p. Peugeot-engined motor cycle, Vindec adjustable pulley, butted tubes, Clinchers, Gloria belt, very low built, finished in grey, and lined black, just been tested on the road, too powerful for owner; accept £22, or Rex lightweight and cash.—"Motor," 70, Mawson Road, Cambridge.

REX de Luxe, late 1907, 5½ h.p., twin-cylinder, Roc clutch, twin tyres, spring forks, cantilever seat, magneto, fitted with extra large luggage carrier, Lucas horn, watch, Premier searchlight lamp, separate generator, together with tools and spares, an ideal touring mount, in perfect running order; trial allowed; price £30.—Box 767, The Motor Cycle Offices, Coventry.

STANDARD Model, 4½ h.p. twin Minerva, Bosch magneto, Minerva spring forks, new studded tyre on back, Watawata, engine, magneto, and tyres guaranteed all sound, and condition good as new, a nice running machine, low built, fast climber, and one of the best on the road; for spot cash accept £22, or lightweight and cash.—Wallis, Grocer, Hills Road, Cambridge.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

4 h.p., Roc style, free engine clutch, two-speed, Duplex frame; cost 45 guineas last June, perfect order; sell £30.—No. 763, The Motor Cycle Offices, Coventry.

SPECIALLY Built 1908 Roc, 5 h.p. twin Peugeot, extra heavy all-speed gear and clutch, Druid spring forks, not ridden 150 miles, unscratched, packed in crate; £40 or complete with Fulford sidecar, £45.—Tyler, Pleasant View, Tylorstown.

SPEAK UP.

If you are wanting bargains, go to MAUDE'S, the fair factors.

MABON, 3½ h.p., magneto	£18
VINDEC, 3½ h.p., magneto	£22
N.S.U., 5½ h.p., two speeds, magneto	£29
CLYDE, 2½ h.p., magneto	£15
C.I.E., 3 h.p., magneto	£19
TRIUMPH, 3½ h.p., 1907, magneto	£28
REX, 5 h.p., 1907 model, blue finish	£18
REX, 3½ h.p., 26in. wheels, very low	£12
MINERVA, 4½ h.p., 2½in. tyres	£23
REX, 1907, like new, with sidecar	£25
SAROLEA, 5 h.p., very low, new tyres	£23
WERNER, 3½ h.p., twin good condition	£17
ARIEL, 3 h.p., B. and B.	£13
MINERVA, 3½ h.p., M.O.V.	£16
CLARENDON, 3 h.p., vertical	£11
REX, 3 h.p., 50-guinea model	£10
BAT, 3½ h.p., spring frame	£19
REX, 3½ h.p., two speeds	£14
QUADRANT, 3 h.p., spring forks	£12
BAYLISS, 3 h.p., special price	£8
F.N., 2½ h.p., splendid puller	£12
HUMBER, 2½ h.p., very fine mount	£10
GIVAUDAN, 2½ h.p., perfect, non-skid rear	£15

LIGHTWEIGHTS.

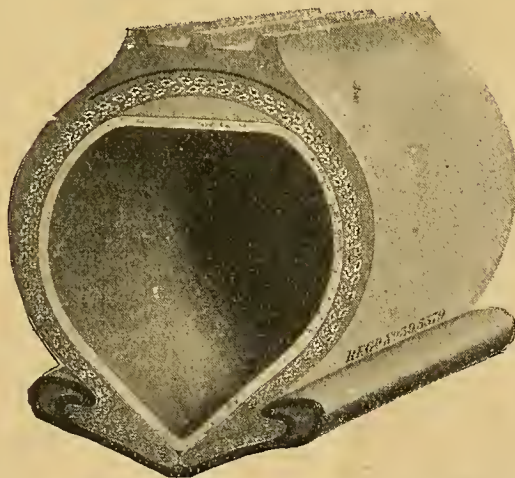
£11 ZEDEL, 2 h.p.	£11
£11 LLOYDS, 2 h.p.	£11
£7 QUADRANT, 2 h.p.	£7
£8 MINERVA, 2 h.p.	£8
£7 JAP, 2½ h.p.	£7
£7 HUMBER, 2 h.p.	£7
£8 MINERVA, 2½ h.p.	£8
£10 ARIEL, 2½ h.p.	£10

50/- DOWN AND 5/- PER WEEK SECURES:

3 h.p. EXCELSIOR	£11
2 h.p. SINGER	£9
2½ h.p. JAP	£11
3 h.p. REX	£10
2 h.p. ORMONDE	£8
2 h.p. WERNER	£10
2½ h.p. MINERVA	£10
2½ h.p. CUNARD	£12
2½ h.p. LLOYDS	£11
2½ h.p. HUMBER	£8

ACCESSORIES.

PALMER TYRES (Cord).



Cover.Tube.	Cover.Tube.	Cover.Tube.
26×2 43/6 10/-	26×2½ 59/8 16/3	28×2½ 63/6 11/-
26×2½ 58/9 11/-	28×2 50/3 10/-	28×2½ 64/3 17/6

11/- allowed on old covers, and 2/6 on tubes.

TUBES (fully guaranteed).

26×2in. .. 5/6	26×2½in. .. 7/6	28×2½in. .. 7/-
26×2½in. .. 6/6	28×2in. .. 6/6	28×2½in. .. 7/6

APPROVAL.

TUBES (butt-ended).

You cannot do better than try one. Money returned in full if not perfectly satisfactory.

26×2in. .. 7/6	26×2½in. .. 8/3	28×2½in. .. 7/9
26×2½in. .. 7/9	28×2in. .. 7/6	28×2½in. .. 8/3

Dermatine 1in. belting
12/6 per 8ft. 6in. length.

MAUDE'S MOTOR MART, Powell St., HALIFAX
National Telephone 433.

MOTOR BICYCLES FOR SALE.

3½ h.p. Rex, spring forks, Longuemare, Continental tyres and belt, splendid order, winner of reliability run; £12, offers.—Ernest Cook, Foregate Street, Worcester.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

2½ h.p. Minerva, 1908, as new, not ridden 50 miles; £27 10s., or near offer.

3½ h.p. Quadrant, magneto ignition, 1907, hardly used, perfect condition, headlight, separate generator, bell, horn, Brooks spring seat, cut-outs; a bargain, £32 10s., or near offer.

2½ h.p. Excelsior, surface carburetter, Palmer back tyre, Clincher front, in good order; £8, or near offer.

4½ h.p. De Dion Car, seats four, in good running order, lamps, tyres in good condition, genuine bargain; sale or exchange, £30, or near offer.

5-6 h.p. Stirling Panhard, horizontal engine, dogcart body, three speeds and reverse, brand new gears, lately painted, tyres as new, wheel steering; sale or exchange, £25, or near offer.

8 h.p. Rover, 1907 type, seats four, splendid order, hood, screen, lamps; £170, or near offer.

1½ h.p. Werner; £5.

THE above cycles are to be seen at W. J. Randall's Garage, 3, High Street, Andover.

LIGHTWEIGHT N.S.U., new, spring forks; 32 guineas.—N. Fairbank, Bulford Camp, Salisbury.

£5.—Hobart-Vaf, 1½ h.p., fair condition, tyres good.—C. Hodges, Lansdowne, Bournemouth.

FAIRY Motor Cycle, nearly new, not been ridden 150 miles.—Apply, W. Rossiter, 23, South Road, Kingswood, Bristol.

2½ h.p. Quadrant, spring forks, new Dermatine belt, splendid condition; £8 10s.—Hayes and Son, Pontywan, Mon.

5-6 h.p. Twin Kerry, long handle-bars, new tyres; sacrifice £18, or nearest offer.—James, Wotton-under-Edge, Gloucester.

TRIUMPH, 1908, cord Palmer and Clincher tyres accessories, condition as new; £38.—Pearson, Wickham Street, Portsmouth.

1½ h.p. Minerva, less coil and accumulator; £2 10s.—Harriss, Engineer, Ropley, Alresford, Hants.

3½ h.p. Minerva, 1908, spring forks, little used, perfect condition; £26, or near offer; any examination; Oxon.—Box 724, The Motor Cycle Offices, Coventry.

3½ h.p. Brown, 1905, holder reliability cup; quick sale accept £11, bargain; bought twin; examination and trial by appointment.—Mathews, 6, St. Aldate's, Oxford.

3 h.p. Triumph, good condition, new studded non-skid, brass headlight and generator, stand, carrier; expert examination; bargain, £11.—J. Collings, 178, Shirley Road, Southampton.

3½ h.p. Triumph, 1907, magneto, condition as new, steel-studded non-skid and Peter-Union tyres, separate generator lamp, horn, spares; accept £29.—John Webber, Craufurdise, Maidenhead.

TRIUMPH, 1908, horn, lamp, generator, plugs, valves, butted tube, cyclometer, belt, magneto, spares, number plates, license, tools, spares, case, studded tyres; £35.—Hart, 41, Cambridge Road, Aldershot.

1906 3½ h.p. Rex, in good working order, spring forks, cut-out back tyre nearly new, a bargain £12; also 3 h.p. Stevens Chater-Lea No. 6 frame, in good order, £7, and decent push bike.—Heybourne Motors, Maidenhead.

1908 Wolf Motor Cycle, Stevens 1½ h.p. engine, Palmer tyres (unpunctured), stand, carrier, Bowden lift, B120 saddle, etc., not ridden 200 miles, perfect order; £15 or offer; trial.—Hatfield, Rectory Stables, Greatham, Hants.

MOTOR BICYCLES FOR SALE.**SECTION VIII.**

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECOND-HAND and Surplus Stock.

2½ h.p. Fairy Motor Cycle, battery ignition, new, slightly shop-soiled, £23.

2½ h.p. Fairy Motor Cycle, battery ignition, second-hand, good condition, quantity of accessories; £16.

2½ h.p. Fairy Motor Cycle, battery ignition, second-hand, excellent condition; £14 14s.

TWO Douglas 2½ h.p. Motor Cycles, complete, new, only run 100 miles; £26 each.

5 h.p. Twin-cylinder Antoine, 77 mm. by 80 mm. Motor Cycle, with sidecar, large quantity of spares, tools, etc., good condition; bargain, £26.

3½ h.p. Linon Motor Cycle, battery ignition, good condition; £15 10s.

2½ h.p. Talbot Motor Cycle, Stevens engine, battery ignition, just overhauled; £8 10s.

WE Shall be pleased to advertise your machines in our register, and we have a considerable number of bargains always on our books. Write us when in want of a machine or accessories.

THE Fairy Motor Co., Fairy Works, Blackheath. Telegrams, Frostbite, London. Telephone, 1021, Deptford.

£6.—2 h.p. Minerva, in good running order. —Apply, Sharp, Oxted.

2½ h.p. F.N., 2½ Palmer cord tyres; cheap. —A., 24, Fulham Road, London.

3½ h.p. Twin Griffon, spring forks; £20, or near offer.—H., 116, Stondon Park, S.E.

2½ h.p. Minerva, Longuemare, etc.; £7 10s. —79, King George Street, Greenwich, S.E.

2 h.p. Minerva, everything perfect, in running order; any trial; will accept £5 10s.—Below.

3½ h.p. Rex, in good condition, not had much use; £6 10s.—Barker, opposite Station, Worthing.

1905 Rex, 3½ h.p.; £10; good running order, tools, etc.—Clark, jun., Royston, Herts.

£12 12s., genuine bargain.—Long bars, low, spray, trembler, etc.—45, Burton Road, Brixton.

F.N., 2 h.p., going order; £7 10s.—Phillips, Queen's Arms, Norland Road, Notting Hill, W.

3 h.p. Quadrant, 1906, spring girders, equal new; closest £13.—25, Tamworth Park, Mitcham.

4½ h.p. Four-cylinder F.N., just new; cost £50, price £36.—The Red Lion, Redbourn, Herts.

3½ h.p. Rex, 38 guinea machine, not unpacked; offers invited.—E.P., 14, Westgate, Chichester.

ORMONDE 2 h.p. Motor Cycle, 26in. wheels, coil, and accumulator, in perfect running order; price £7 10s.

MINERVA 2½ h.p. Motor Cycle, 28in. wheels, coil and accumulator, in perfect running order.

QUADRANT 3 h.p. Motor Cycle, in good running order; price £6 10s.

TRENT Motor Cycle, 2 h.p., lightweight, in good condition; price £4 10s.

KERRY 2½ h.p. Motor Cycle, in perfect condition; price £7 10s.—Carey Bros., 10 and 12, Elephant Road, London, S.E.

QUADRANT, 2 h.p., perfect running order; bargain, £6.—8, Queen's Road, Stonebridge, Willesden.

3½ h.p. Brown, 1907, splendid condition, new tyres and belt; £16.—W.H., 15, Radlix Road, Leyton, E.

TWIN Kerry, two speeds, perfect condition; £25.—MacDonald, Princes Street, Tunbridge Wells.

1908 New 3½ h.p. Brown, Chater, magneto, free engine, finest equipment; sacrifice.—24, Aldbourne Road, Shepherd's Bush.

TWINS

BE IN TIME. We want room for 1909 Models. Hence the sacrifices.

TWINS—Offers Wanted.

6 h.p. Twin Rex, £17 17s. or £4 and '07 Single Rex, or £8 and '05 Single Rex, or level exchange with Single Magneto Rex.

SPECIFICATION.—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

5½ h.p. N.S.U., magneto, new, 1908	£52 0
5 h.p. Twin VINDEC, magneto	35 0
5½ h.p. REX DE LUXE, soiled	35 0
6 h.p. Twin REX, blue lines	17 17
5½ h.p. Twin REX, spring forks	17 17
5½ h.p. REX DE LUXE, magneto	27 10
Twin REX, blue lines, new tyres	18 13
6 h.p. Twin REX, non-skids	18 13
5½ h.p. Twin REX, magneto, 1907	23 10
4-5 h.p. Twin ALCYON, two speeds	20 0
5 h.p. Twin SAROLEA, long frame	18 18
6 h.p. Twin ANTOINE, R.O.M.	22 0
Twin CLEMENT, spring forks	14 0
5 h.p. Twin ONAWAY, very low	19 0
6 h.p. Twin ANTOINE, spring forks	22 0

SINGLES—Offers Wanted

4½ h.p. N.S.U. Lightweight	£21 0
3½ h.p. N.S.U., magneto, new, 1908	42 0
3 h.p. SINGER, H.T. magneto	23 0
3 h.p. TRIUMPH, magneto	24 10
3 h.p. TRIUMPH, spring forks	21 0
3½ h.p. Magneto REX Racer, a flier	25 0
3½ h.p. N.S.U., magneto	22 0
3½ h.p. 1906 REX, spring forks	15 0
3½ h.p. 1906 REX, spring forks	15 0
6 h.p. CHATER-SAROLEA, low	27 0
2½ h.p. Magneto REX, 1908, soiled	22 0
3½ h.p. MINERVA, M.O.V.	16 10
3 h.p. GIVAUDAN, nearly new	16 0
3 h.p. QUADRANT, spray	13 0
3 h.p. LLOYD'S, 26×2½in. Palmers	13 10
4 h.p. ANTOINE, vertical	16 0
2½ h.p. MINERVA, fine condition	13 10
2½ h.p. CLYDE, magneto	15 0
4 h.p. ANTOINE, 26×2½in. tyres	16 10
3½ h.p. SIMMS, magneto, 2½in. Palmers	17 10
3½ h.p. QUADRANT, 1906	13 13
3½ h.p. CENTAUR, free-engine	16 0
2½ h.p. F.N., special frame	12 12
3 h.p. HUMBER, spray	10 13
3 h.p. FAFNIR, very low, spray	13 13
3½ h.p. REX, 22in. frame	11 13
2½ h.p. MINERVA, 26×2in., spray	11 13
3 h.p. BROWN, spray	12 13
3 h.p. M.M.C., spray, very low	10 0
3½ h.p. EXCELSIOR, spray	10 10
2½ h.p. COVENTRY EAGLE	10 0
3½ h.p. Two-speed REX	13 10
2½ h.p. F.N., light, low	12 0
2½ h.p. CLEMENT, very low	11 0
2 h.p. KERRY, spray, low	10 13
2 h.p. RALEIGH, spray, smart	8 0
2½ h.p. ROYAL, vertical, spray	7 15
2½ h.p. HASKARD, spray, smart	11 10
1½ h.p. MINERVA, spray	5 10
2½ h.p. EXCELSIOR, trembler coil	8 0
2 h.p. HUMBER	6 10
2 h.p. PEUGEOT Lightweight	9 10
2 h.p. Magneto SIMMS	6 10

TRICARS.

4½ h.p. W.C. BRADBURY	£37 10
5½ h.p. QUADRANT Carrette	35 0
5½ h.p. REXETTE, W.C., two speeds	35 0
REX, Mills-Fulford	13 0
Twin REXETTE, W.C., two speeds, 8 h.p.	47 10
5 h.p. HUMBER, open frame	35 0
REX, Phoenix Two-speed	18 10

"PERFECTION" LEATHER V BELTING.—
3in. 9d., 3in. 10½d., 3in. 1/-, 3in. 1/1.

"SERRATRIX" RUBBER CANVAS BELTING.
Best on test.—3in. 9d., 3in. 1/-, 3in. 1/4, 3in. 1/3 per foot.

SPECIAL 2½in. CALMON COVERS, fit 26×2in. rims, 17/9; 28×2in. tubes, new, 4/9; new Peter Union tubes, 24×2½in., 5/6.

High-class magneto machines wanted for spot cash.

The Halifax Motor Exchange,

16, Westgate, Halifax.

Telephone—766.

Telegrams—"Perfection."

MOTOR BICYCLES FOR SALE.

BAT, 3½ h.p., spring frame, genuine De Dion engine and carburetter, almost new; £17 10s.—Below.

BAT, 3½ h.p. M.M.C. engine, De Dion carburetter, like new; great bargain, £15 10s.—Below.

ROVER, 3½ h.p., M.O.V., late model, belt drive, perfect order; cheap, £14 10s.—Below.

1907 Roc, latest model, magneto, clutch, practically new; £25.—Whittle, 41, Skelbrook Street, Wandsworth.

2½ h.p. Minerva, splendid condition; bargain, £10 10s.; after 7.30.—227, Underhill Road, E. Dulwich.

BEESTON Humber, 3½ h.p., perfect condition, new tyres; sacrifice £13.—2, Whitehall Gardens, Acton, W.

3½ h.p. Werner, footboards, very fast, in good condition; £10.—P. Dainton, 234, Belsize Road, Kilburn, N.W.

KERRY Twin, 5 h.p., perfect condition; any trial; bargain, £18.—53, Kingsley Avenue, West Ealing, London.

2½ h.p. Quadrant, fine running order, like new; £6 10s., bargain.—16, Northumberland Avenue, Manor Park.

STAMFORD HILL.—5 h.p. twin Hamilton, footboards, B. and B. twin carburetter, fast racy machine, splendid order; £15.

STAMFORD HILL.—2½ h.p. Rex, B. and B. carburetter, excellent machine, in perfect condition, lightweight; £7.

STAMFORD HILL.—2½ h.p. Humber, light machine, Longuemare, grand hill-climber, fine condition; £7 10s.

STAMFORD HILL.—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL.—Colossal sacrifice, 2½ h.p. Bradbury, perfect, complete, grand powerful machine; £10 15s.—128, High Road, South Tottenham.

2 h.p. Ormonde, running order, spray carburetter; £6 10s.; take cycle as part.—Clark, 109, The Grove, Stratford.

£6.—2½ h.p. motor cycle, Chater-Lea loop frame, Clincher tyres, going order.—Redmill, Fountain Hospital, Tooting.

£11.—Minerva, 3½ h.p., 1908, Continental rubber non-skids, exceptionally reliable.—26, Lansdowne, Bromley, Kent.

3½ h.p. Phoenix Cob, two-speed gear, magneto, F.N. spring forks, new condition.—111, Greencroft Gardens, N.W.

4 h.p. Water-cooled Antoine Cycle, low, fast, powerful, long handle-bars; £15.—Barrett, 332, High Street, Manor Park.

MOTOR Cycle, 3½ h.p. Ariel, late 1907, as new, not ridden 200 miles; £27 10s.—Glendene, Station Road, Leyton, Essex.

1908 Rex Featherweight, magneto, new, cannot take delivery; £22.—"Minerva," Mytchett Road, Frimley, Surrey.

2½ h.p. Cycle, Jap engine, not run fifty miles, strong frame, excellent condition; £12.—44, St. Alban's Road, Watford.

3½ h.p. Rover, excellent condition, accessories; any reasonable cash offers.—Manager, 16, Bethnal Green Road, London.

TRIUMPH, 1907, new Shamrock back tyre, all spares, perfect condition; £31.—Triumph, 47, Lamb's Conduit Street, Holborn.

GRIFFON, 2½ h.p., lamp, horn, stand, carrier, tools, spare belt, tyres sound; going order; £6.—180, St. Alban's Road, Watford.

6 h.p. Chater-Lea-Antoine, practically new, complete; any trial; also 3½ h.p. Centaur; offers.—120a, Cranbrook Road, Chiswick.

TRIUMPH, 3 h.p., magneto, condition as new, with £5 worth of spares and extras; £25; no offers.—R. T. Geale, Ripley, Surrey.

5½ h.p. Twin Magneto N.S.U., 1907, spring forks, new Peter-Union 2½ covers and butted tubes, many spares; must be sold; £32, or near offer.—G. West, Heath House, Hampstead, N.W.

MOTOR BICYCLES FOR SALE.

1 h.p. N.S.U., two-speed, footrests, magneto, spring forks, etc., very complete.—Ingleside, Golden Manor, Hanwell, London.

1 h.p. Ascot Motor Cycle, perfect condition; room wanted; sacrifice £9 15s. Brown, 4, Yeoman's Row, Brompton Road, London.

If you want bargains in second-hand motor cycles, you can get them at Wauchope's, 9, Shoe Lane, Fleet Street, London.

TRIUMPH, 1907, lamp, horn, and several spares, in splendid condition; £32.—A. Crafter, Draper, Green Street Green, Orpington, Kent.

N.S.U., 4½ h.p., four-cylinder, latest, handle-bar control, purchased February, 1908, carefully driven, quantity of spares; £32.—see below.

ARIEL, 3½ h.p., 1in. Watawata, engine practically new, Brown-Barlow carburettor, very fast, powerful machine, climb anything; £12, bargain.—Randall, 90, Beckenham Lane, Shortlands, Kent.

SPECIAL 3½ h.p. Triumph, 1907, cup and medal winner, perfect condition, many spares; 30 guineas.—30, Ferncroft Avenue, Hampstead.

1 h.p. Humber, free engine, splendid condition, minus front wheel; £15s. lowest.—Motorist, 47, Montague Road, Dalston, London.

1 h.p. Twin Peugeot, No. 6 Chater frame, magnificent machine; £35; full details and photograph on application.—186, Peckham Rye, S.E.

BRADBURY, 2½ h.p., practically new condition, very powerful and reliable; sacrifice £10.—12, London Place, London Fields, Hackney.

1908 Triumph, as new, ridden 400 miles, spare belt, Hella searchlight; £39; trial, deposit.—Hunter, 63, Woodside Green, South Norwood.

EXCELSIOR, 3½ h.p. M.M.C., long bars, trembler coil, Watawata, splendid condition, Chater-Lea frame; £11.—102, Mare Street, Hackney.

1908 4 h.p., military model, clutch, speed, etc., magneto ignition; cost 48 guineas, accept £22 10s.—108, Colehill Lane, Fulham Palace Road, S.W.

1 h.p. White and Poppe, two speeds and free, bucket seat, wants one new tyre; £15.—Box L3 192, The Motor Cycle Offices, 20, Tudor Street, E.C.

1908 Moto Reve, splendid machine, just been tuned up, everything as new; great bargain, £28.—East Ham Garage, High Street South, East Ham.

1 h.p. Late 1907 Triumph, hardly scratched; bargain, £33, or near offer.—Motorist, c/o Anglo-Saxon Motor Co., 31, Newgate Street, London.

1 h.p. Triumph, 26 Clincher, spring bars, all complete, perfect condition; £14, or exchange for twin.—6, Gascoyne Road, South Hackney, London.

1 h.p. Coventry Humber, very fast, good hill-climber, Longuemare; £14, near offer; sidcar, £4 10s.; owner bought car.—3, Cathles Road, Balham.

BARGAIN.—3 h.p. Triumph, in perfect order, new back tyre and belt, complete, with all spares; £18 10s., lowest.—Motorist, 53, Highgate Hill.

TOP!—1908 Chater-Lea twin Peugeot, 56 h.p., with all the latest fittings, practically new; offers; any trial.—26, Landseer Road, Holloway, London, N.

GENUINE Bargain.—3½ h.p. Ariel, Chater-Lea, spring forks, Osborne four-speed gear, perfect condition; 22 guineas.—West, 2, Elms Avenue, Eastbourne.

3 h.p. Genuine Minerva, 1907 pattern, 24 special road racing machine, 26in. wheels, 22in. frame, 2in. Dunlops, electric lamp, spring forks; £12. Also

8.—2½ h.p. Antoine, Vaf engine, F.N., 10 amp. Regent, 26in. wheels, new Thames pack, A1 front, two brakes; appointment only.—L. Dixon, 8, Poplars Avenue, Willesden Green.

SAVE TIME TROUBLE EMPER

and incidentally money by sending your old Motor Cycle to us to dispose of. We will store, advertise, and sell it for you without charge if you order your new machine through us, otherwise a nominal 5% only will be deducted. Ours is the best market, and now is the time for a quick sale.

We are agents for all leading makes, and owing to large contracts can offer early deliveries.

On receipt of postcard we will send a form and address label for your machine.

We have always a good stock of New and Second-hand Machines for Sale for Cash, Credit, or Exchange.

SPECIALS.

1908 Castor Wheel Sidecar, used for short tour only	£9 0 0
1908 Rigid Wheel Sidecar, soiled	8 0 0
1907 9 h.p. RILEY Car, with hood and lamps, many extras	110 0 0
6 h.p. ROVER, purchased March, 1907, in fine condition	80 0 0
3½ h.p. REX, magneto	15 0 0
3½ h.p. REX, accumulator, exceptionally good	12 0 0
5 h.p. REX Tourist, twin, magneto, used once	30 0 0

Write for full List of Second-hand Bargains.

USEFUL ACCESSORIES.

WHAT WE ADVERTISE WE STOCK.

NO BLUFF ABOUT OUR METHODS.

TYRES.—Michellin genuine, 26×2in., 18/-
26×2½in., 20/-
26×2½in., 28/-
Extra strong, with tread, 26×2½in., 40/-
26×2½in., 45/-

Service Stout Inner Tubes, strongly recommended.

26×2in., 6/6

26×2½in., 7/-

26×2½in., 7/6

Genuine Rich Detachable Tubes.



PATENT 9304/08



PASS WIRE THROUGH THUS.



DRIVE CENTRE DOWNWARD AND BURR WELL OVER

Latest patterns.

Fully guaranteed.

26×2in., 14/-

26×2½in., 14/6

26×2½in., 15/-

GRIPPLES.—The new nipple attachment for Bowden and other stranded wires. No soldering required. Repairs on the road made immediately. Price for six complete, 1/-, post free.

MAGNETO COVERS.—The Bosch Fibre Cover. Price 3/6, post 2d.

BOSCH SPARKING PLUGS.—Specially adapted for use with magnetos. Price 3/6, post 2d.

TURBINAMOS.—Charge your accumulator at home from the house tap. No attention or acids required. Price complete, £3 0 0.

SERVICE MAGNETO CUT-OUTS.—A really serviceable and very useful adjunct. Fit any machine. Price 2/-, post free.

ENGINE CLUTCHES.—The Mabon metal to metal. Very useful for traffic and sidcar work. 55/-

ADJUSTABLE PULLEYS.—The Albion Adjustable, price 16/-. The Advance, price 20/-. Enables gear to be lowered or raised to suit road requirements.

OSBORNE FOUR-SPEED GEAR.—We have one 1908 pattern to offer for £3 17 6; cost £7 10 0.

ROC CONVERSION.—Famous Roc Two-speed Gear and Free-engine, built up with wheel complete ready for fitting to Triumph, £9 17 6.

FOOT BRAKES.

No. 1, back-pedalling pattern. Price 16/6.

No. 2, footrest and brake complete. Price 26/-. No. 3, to fit on crank case, stud provided to take the place of crank bolt. Price 16/6, carriage paid.

REGISTER! REGISTER!! REGISTER!!! your name for our revised Accessory List. Most complete ever issued. Ready in a week or two.

The SERVICE CO., LTD.,

292, High Holborn, London, W.C.

(Almost facing First Avenue Hotel.)

Telegrams, Admittedly. Telephone, 260 Central

MOTOR BICYCLES FOR SALE.

23 h.p. F.N., splendid condition, tyres nearly new, lamp, horn, stand; £10 10s., bargain.—Box L3 204, The Motor Cycle Offices, 20, Tudor Street, E.C.

31 h.p. Twin-cylinder Peugeot, Truffault forks, R.O.M. ignition, new tyres, good order; must sell; room wanted; £14.—Motorist, 4, Lloyd's Avenue, E.C.

ZENITH Bicar, 50 guinea model, two-speed gear, new, but shop-soiled; a great bargain, £39.—Zenith Motors, Ltd., 119, Stroud Green Road, London, N.

SEVERAL 3½ h.p. 1904 Rex motor cycles, all at £6 10s. each, guaranteed sound and in good running order.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

TRIUMPH, 3½ h.p., 1908, magneto, splendid condition, several spares, Shamrock back; price £34, no offers.—Motor, Builders' Arms, Southfields, London, S.W.

TRIUMPH, 1906, 3 h.p., magneto, recently overhauled; £20, no offers; can be seen any day except Sunday at Empire Motor Garage, Shepherd's Bush Green.

31 h.p. 1907 Rex, spring forks, extra tank, 32 powerful machine, splendid condition, £16; also Mills trailer, £3, or near offers.—15, Pembury Road, Clapton.

QUADRANT, 3 h.p., long handle-bars, low saddle, Longuemare, tyres excellent, magnificent condition; £15.—Robert Barnett, Restormel, Brondesbury Park, N.W.

1908 4 h.p. Roc, two-speed, free engine, magneto, practically new, grand machine for passenger work; £32.—F.R., 36, King Edward's Gardens, Acton, W.

3 h.p. Quadrant, fast, in perfect order, climb any hill, all spares, and trial given, will guarantee it; £8, or near offer.—Lewis, 55, Oliver Road, Leyton, E.

1908 2½ h.p. Minerva, with magneto and spring forks, ridden 300 miles; accept low prompt offer.—Box L3 203, The Motor Cycle Offices, 20, Tudor Street, E.C.

31 h.p. Fafnir, Chater-Lea fittings, 26in. 32 wheels, Palmer Cord back, Clincher front, cost £45, is absolutely as new; first offer near £20 secures same.—Below.

MINERVA, 2½ h.p., low frame, 26in. wheels, complete with lamp, horn, and spares; accept £10.—Hancock, High Street, Battersea, S.W.

23 h.p. Kerry, low frame, long handles, 24 geared low for hills, quiet and comfortable, new tyres and belt; £8 10s.—Letzer, 136, London Road, Kingston-on-Thames.

23 h.p. Genuine De Dion, Chater-Lea fittings, 24 Palmers, footrests, spring seat, splendid condition; £20.—Box L3 213, The Motor Cycle Offices, 20, Tudor Street, E.C.

3 h.p. Humber, chain, excellent condition, 3 grand climber, good tyres, gas lamp, etc.; £8, or cash offer; ready to ride away.—147, Finborough Road, Earl's Court, S.W.

23 h.p. Brown, Longuemare, Palmers, 26 24 by 2, Continental belt, stand, tools, excellent condition; genuine bargain, 11 guineas.—62, Colvestone Crescent, Dalston.

BARGAIN.—3 h.p. Quadrant, Palmer tyres, Longuemare carburettor, two brakes, low position; £9 9s., or push bike part payment.—62, Rayleigh Road, Shepherd's Bush.

PEUGEOT, twin-cylinder, 7 h.p., footboards, large accumulator, long handles, splendid condition and order; £18 10s.—Invicta Motor Co., St. John's, Tunbridge Wells.

TWIN Werner, spring forks, just been done up, replated, and enamelled, new accumulators, coil, Rideasy saddle; £16, offers.—Rhuddlan, Portland Road, Portslade, Brighton.

31-4 h.p. Antoine Engine, £12; excellent 32 condition; owner going abroad.—Huntgrubbe, H.M.S. Albemarle, Atlantic Fleet. On view McGrath's Garage, New Brompton.

31 h.p. Minerva, splendid condition, faultless, new tyres (unpunctured), two new accumulators, very fast, good climber; £15, lowest.—Masters, 77, Barry Road, East Dulwich.

1908 Triumph, handle-bar control, everything latest, run 700 miles as new; what offers? must sell. Telephone, 457, Hammersmith.—Moore, 3, Avonmore Road, Kensington, W.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD.—Great Bargains this week.—5-6 h.p. twin Kerry, long bars, very low, new tyre, belts, Advance pulley, foot-rest, horn, lamp, and spares, grand condition; only £17.

HAMPSTEAD.—5 h.p. twin Vindec, magneto, 1908 model, splendid condition, with all accessories; £23.

HAMPSTEAD.—3½ h.p. 1908 Triumph, latest model, handle-bar control, almost new; £36, great bargain, all accessories.

HAMPSTEAD.—1½ h.p. Lightweight F.N., 1908 model, new condition; £18, with all accessories.

HAMPSTEAD.—4½ h.p. Twin Minerva, 1907 model, spring forks, grand condition, all accessories; £18.

HAMPSTEAD.—3½ h.p. 1907 Triumph, splendid condition; £26, with all accessories; bargain, guaranteed.

HAMPSTEAD.—5 h.p. Twin Peugeot, Chater-Lea No. 6 frame, splendid condition; £18 for quick sale.

HAMPSTEAD.—Four-cylinder F.N., splendid condition, complete with all accessories; £18, great bargain.

HAMPSTEAD.—Midget Bicar, Fafnir engine, 3½ h.p., good condition; only £10 10s., great sacrifice.

HAMPSTEAD.—5 h.p. Twin Vindec Special, Tourist Trophy, 1908, magneto, only run 700 miles; £42, with all accessories, and sidecar.

HAMPSTEAD.—6 h.p. 1908 Litette, magneto, water-cooled, good condition, three months old; £40.

HAMPSTEAD.—1908 Shop-soiled Griffons, 2½ h.p., £24; 3½ h.p., £28; 3½ h.p. twin, £33; 5½ h.p. twin, £44; 1½ h.p. lightweight, £26.

HAMPSTEAD.—Sole Agents for Griffon, F.N.'s, Minervas, Vindecs, Triumphs, etc.; good cycles wanted.—Rey, 5, Heath Street, Hampstead. Tel., 2678, P.O., close to tube station.

4 h.p. N.S.U. Twin, magneto, stand, footboards, good tyres, Riches to back, tools, spares, perfect running order; £25.—27, Mattock Lane, Ealing.

DAMS, 2½ h.p. Precision, Chater-Lea frame, Fuller accumulator, Nilmeior coil, Reflex-Clipper tyres; £8; after 8 p.m.—Medcalf, 20, Rylett Crescent, Goldhawk Road, W.

31 h.p. Ariel, B. and B. carburetter, two 34 new accumulators and coil, long handle-bars, and seat-pillar new, 26 by 2½ Dunlop; lowest price £13 10s.—Leete, 4, Highbury Hill, N.

21 h.p. Kerry, perfect going order and condition, two accumulators, new tyres and searchlight, lamp; £12.—Heming, 3, Torriano Buildings, Torriano Avenue, Camden Town.

LONDON.—Fafnir, 3 h.p. Chater-Lea, low, long, footboards, 26in. Continental make tyres and belt, 200 miles wear; come and try; guaranteed; £16.—H. Dew, 421 Battersea Park Road.

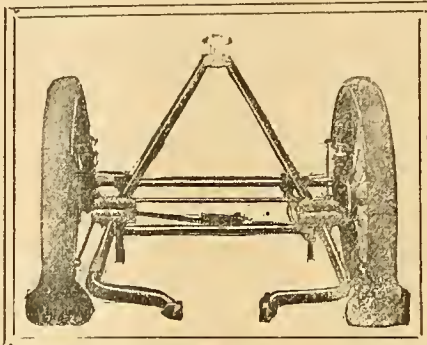
TRIUMPH-JAP, 2½ h.p., Clinchers, new Dermatine belt, Longuemare, Bassee-Michel coil, all accessories, stand, etc., very powerful; £7 15s.—Letters to Motor, 76, Pepys Road, New Cross, S.E.

FIRST Reasonable Offer has it.—Refitted throughout, and brought up-to-date, as good as new machine, 1½ h.p. Werner; may be seen by appointment after 7 p.m.—Watts, 29, Fordhook Avenue, Ealing.

5-6 h.p. Four-cylinder F.N., quite new (owner bought car), very fast, wonderful hill-climber, two spare tubes, full accessories; £40; inspection from 10 a.m. to 12.—Wurst-horn, 2, Golden Square, London.

23 h.p. Minerva Motor, good condition, 24 spare belt, accumulator, tubes, plugs, big brass lamp, horn, toolbag, and all accessories, ready for road; £11.—Powling, 10, Nutbrook Street, Peckham Rye.

A BARGAIN.—3 h.p. Auto Motor, Chater-Lea, long bars, Longuemare, two 20 amp. accumulators, Brooks saddle, Dunlops; £10, or nearest; after 7.30.—Hunt, 106, Coningham Road, Shepherd's Bush.

Why run
riskof Side-
slip

when you can fit the PHENIX attachment
for £12 10s.
For Passenger. £15
Lists by return.

PHENIX MOTORS, Ltd.,
Blundell Street, London, N.

**MOTOR CYCLISTS.—DO NOT BUY
DEAR WATERPROOFS when you can obtain
The Service Allweather Suit**



Jacket and
Leggings, for
25/-
(Sold elsewhere
at 35/-).
**Best value
ever offered.**

Thoroughly waterproof. Double texture material, fawn shade. Seams are stitched and solutioned, making garments extra strong. Fitted with storm cuffs. Leggings button at side and fit easily over ordinary trousers.

Approval, Deposit. State chest measurement.

Mr. E. W. C., of Leytonstone, in acknowledging receipt of Allweather Suit, says:
"It is the most satisfactory article that I have ever bought through 'The Motor Cycle'."

THE SERVICE CO., LTD.,
292 & 293 High Holborn, W.C.

VALVES ALL SIZES 1/6
CAST IRON REAR
PISTON RINGS ALL SIZES 3/6
REBORING AND IMPROVED PISTONS 1/2 6
CYLINDERS 10% VARIABLE FULL LEYS 8/6
GEARS CUT. REBUSHING. NEW PARTS
PLEASE GET OUR LATEST LIST FREE
THE MARCH MANUFACTURING CO. CLIFFE ROAD, SHEFFIELD.

ADVERTISERS — Please note
that **Friday** is the latest day we
can receive advertisement copy
for the following week's issue.

MOTOR BICYCLES FOR SALE.

1908 N.S.U. Lightweight, 75 lbs., magneto ignition, large tool kit, and spares new in June, and done about 200 miles only a bargain, £26.—May be seen at the Portland Road Garage, Portslade, Brighton.

33 h.p. Quadrant, winner A.C.U. hill-climb 34 magneto, handle-bar control, Rich tubes, spares, accessories, etc.; any inspection or trial; photograph; splendid condition; £30.—Bevir, Downhurst, Hendon.

5 h.p. Kerry, guaranteed sound, thoroughly good order, many spares, accumulators, lamp, stand; £18, or offer; owner buying Kerry tricar; any time after 8.—Lewis, 29 Jerningham Road, New Cross, S.E.

31 h.p. Quadrant, vertical, Advance pulley, Shamrock-Gloria belt, F.N. carburetter, accumulator ignition, and rigid sidecar, powerful machine; £17 10s., or near offer.—W.N., 1, Denbigh Road, East Ham.

VINDEC Special, 5 h.p., Truffault, magneto, two-speed gear, free engine, Millford sidecar, lots spares, splendid condition; trial; what cash offers? Bargain.—Apply No. 727, The Motor Cycle Offices, Coventry.

5 h.p. Vindec Special, fitted with Roe free engine clutch and two-speed gear starting handle, several spares and accessories; £33; exchange arranged.—Wauchope's, 9, Shoe Lane, Fleet Street, London E.C.

23 h.p. Scout, vertical engine, first-class 24 hill-climber, very reliable, practically new condition, absolutely greatest bargain this week; £13, honestly worth £17.—Motor, 86, Colvestone Crescent, Dalston, London.

6 h.p. Twin Antoine, Brown-Barlow carburetter, plain, two accumulators, two belts, spring forks, spares, only done 600 miles, £19; also 3½ h.p. Fafnir, £10, spring forks, tyres good.—B. Raper, 12, Gloucester Road, Peckham, S.E.

1907 5½ h.p. Rex de Luxe, magneto, Roe clutch, spring forks, cantilever seat only ridden 400 miles, everything guaranteed as new, absolutely unscratched, been stored; owner abroad.—On sale at 186, Lambeth Road, S.W. £24 10s.

31 h.p. Rex, fitted one of best engines ever 34 made, shoots up hills with sidecar low saddle, Brown and Barlow carburetter new tyres; exceptional bargain, only £10; trial with pleasure.—"E.S.," 4, New Norfolk Street, Curtain Road, London.

£9 10s. Only.—3 h.p. Falcon, magnificent condition, smart, very powerful, and most reliable, this is no catch, but a genuine machine, which will stand expert examination; trial on steep hill.—"S.," 86, Colvestone Crescent, Dalston, London.

3 h.p. Quadrant, spring forks, just thoroughly overhauled, re-enamelled, etc. equal to brand new condition, flies up terrific hills, light, neat, and thoroughly reliable; accept £12, cash needed.—"Motor," 7, Bodney Road, Hackney, London.

3 h.p. White and Poppe, Chater-Lea, long low built frame, Longuemare carburetter, tyres excellent, engine starts walking pace, fires behind donkey barrow, climbs mountains; £10 for quick sale.—"A.T.S.," 86, Colvestone Crescent, Dalston, London.

21 h.p. Kerry, new front rim, pulley wheel 22 belt, engine thoroughly overhauled new wiring, new exhaust lifter, toolbag pump, hooter and lamp, in perfect condition; £12; trial with pleasure.—Geo. R. Bird, 108, Aldborough Road, Seven Kings, Essex.

TWIN Rex, spring forks, R.O.M., splendid hill-climber, two accumulators, two way switch, Modele de Course back, Clincher front, all accessories, splendid condition; £17 10s., or best offer; giving up.—Nicholls, Holbrook Lane, Chislehurst, Kent.

VERY Special 3 h.p. N.S.U. Machine, fitted with patent wheel steering and Bowden control, also bucket seat, with drop back, two-speed gear, magneto footboards tools, etc., in fine condition; £39; trial by arrangement.—P., 126, Argyle Road, W. Ealing.

ROC, 1908, 4 h.p., all latest improvements, two speeds and free engine, ball bearing, spring forks, magneto, handle-bar control, Stanley-Dermatine belt, Palmer coroback tyre, very fast machine, equal to new not been ridden 250 miles; reason for selling, too powerful for owner; £42 10s.; no offers or exchange.—Lloyd, Lewes, Sussex.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TRICARS FOR SALE.

REXETTE Tricar, three-seater, 8 h.p., twin-cylinder, two-speeds, fitted with Dunlop tyres and Elastes fillings, complete with lamps, horn, and tools in thorough order; inspection invited; trial given; price £65.—Can be seen, Shanks' Garage, Chertsey.

ASHFORD 1907 Tricar, 6 to 7 h.p. Stevens twin-cylinder water-cooled engine, three speeds and reverse, coach-built seats, Chater-Lea fittings, Bowden control, wheel steering, 5 to 35 miles per hour; any trial; must sell; best cash offer over £30.—Senior, Holsworthy, Devon.

1907 6 h.p. Twin Rex Triette, brand new condition, guaranteed absolutely perfect; expert examination welcomed; 24in. Dunlops, cantilever seat; accept £25 cash, or exchange with a good motor cycle for 1908 Triumph—"Tricar," 86, Colvestone Crescent, Dalston, London.

6 h.p. De Dion-Eagle Tricar, two speeds, wheel steering, three brakes, car tyres, 760 by 90, new, non-skid on back, spare petrol tank, many improvements, perfect condition and order; photo; bargain, £50, or exchange.—Address, Clifford, 51, Weaste Road, Weaste, Manchester.

BARGAIN.—4½ h.p. Riley tricar, water-cooled, first-class order throughout, coach-built forecar, free engine, large clutch, two-speed gear, chain drive, front tyres almost new, back new Palmer cord, trembler coil, spare Riche's tubes, accumulator, etc.; any trial; £36.—Henderson, 250, West Parade, Lincoln.

5 h.p. Barnes Coach-built Light Tricar, Sarolea engine, fan cooled, P. and M. two-speed, Chater-Lea, shield, Bosch magneto and accumulator, Palmer cords, practically new, lamps, horn, tools, spares, including new Palmer tyre, with tube, excellent condition; any trial; £40.—Learmount, Gosforth, Newcastle.

1908 Practically Brand New 10 h.p. Twin-cylinder Rexette, two speeds and reverse, twin tyres on back wheel, seats two and child in front, climbs most hills on top gear, everything in absolutely perfect and new condition, not done 300 miles; accept £60 cash; any trial.—Stanton, 86, Colveston Crescent, Dalston, London.

5½ h.p. Water-cooled Rex Tricar, three seats, two speeds, just thoroughly overhauled, re-plated, and re-painted crimson, black and white lines, new back tyre, takes any hill, and keeps absolutely cool, pump circulation; bought car; trial and expert's opinion invited; price £35.—W. Fletcher, 21, Pleydell Avenue, Anerley, Upper Norwood.

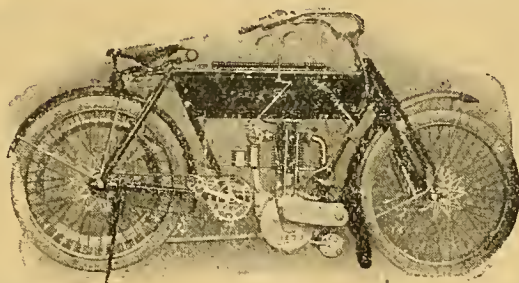
HANDSOME Tricar, 8 h.p., twin air-cooled Buchet engine, 85 by 90, two-speed, Chater-Lea gear box, open frame, sprung front axle, 650 by 65 Goodrich non-skid back tyre, Continentals front, Bowden wheel control, coach-built bucket seats, finished in Automobile red, with black lines; photo; any trial; £65; take motor cycle in part payment.—Ireland, St. Neots, Hunts.

8-10 h.p. Rexette, both seats coach-built, wheel steering, water-cooled, seats three, heavy 700 by 85 car tyres, back one brand new non-skid, the machine throughout in almost new condition, can easily touch 40, and will take nearly all hills on top speed, absolutely the finest tricar produced; will sacrifice, immediate cash, £35.—R. Else, Leawood, near Matlock.

9 h.p. Riley Tricar, three speeds and reverse, coach-built, open frame and wheel steering, guaranteed as perfect as new, has several spares, non-skid on the back wheel, lamps, horn, electric tail lamp; any severe trial can be given; it will do forty miles with a gallon of petrol; price £65, will take an up-to-date motor cycle in exchange.—Garaged at Wauchope's, 9, Shoe Lane, Fleet Street, London.

STAMFORD HILL.—Must be sold.—Twin Antoine, R.O.M., Mabon clutch, splendid machine, £30; twin Kerry, long bars, Millford front, very light and fast, R.O.M., grand goer, £28; 4½ h.p. Phoenix, Fit-all two speeds, footboards, etc., £25; 3½ h.p. Excelsior, two speed, starts like car, £18 10s.; 4½ h.p. Kelecom, plain drive, sound and fast machine, £17 10s.; any offer, cash or exchange; trials, trials; insist on trials.—128, High Road, Tottenham.

MATCHLESS MOTORS!!



The Tourist Trophy Winners, 1907!

Land's End to John-o'-Groat's, 1908: **GOLD MEDAL.**
200 Miles World's Record, 1908, also 4, 5, and 6 Hours' World's Record.

Artists' Federation Sports, Herne Hill—Scratch Race: **MATCHLESS FIRST.**

5 Mile Open Handicap: **MATCHLESS FIRST.**

5 Mile Music Hall Handicap: **MATCHLESS FIRST.**

Auto Cycle Union Race Meeting.

Stadium 1 Hour Race: H. V. Colver on **MATCHLESS FIRST, BEATING WORLD'S HOUR RECORD** for MACHINES 76×76.

Celtic Park Sports, Glasgow, August 8th, 1908: **HARRY MARTIN BEAT SCOTTISH RECORDS.**

1 Mile Flying: 66 seconds. 3 Miles: 3 mins. 24½ secs.
5 Miles: 5 mins. 42½ secs.

"Matchless" Motors for Speed and Reliability.

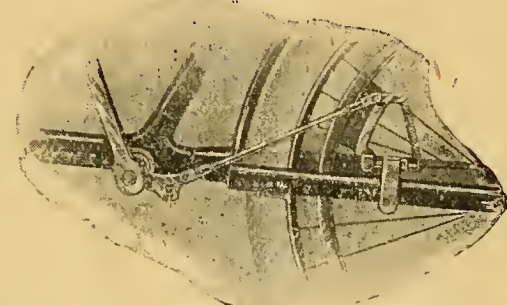
LONDON TO EDINBURGH:

3 STARTED.

3 FINISHED.

No Trade riders—ridden by private owners only.

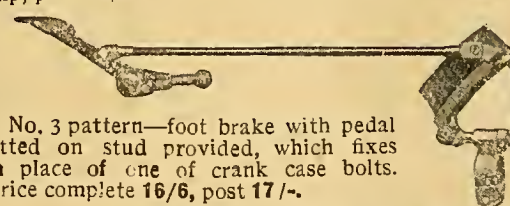
"CHASE" DRIVING RIM BRAKE.



No. 1 pattern—back pedalling brake. Machine can be wheeled backwards. Extremely powerful. Price 16/6, post 17/-.



No. 2 pattern—footrest brake, complete. Price, £1 6s. Footrests only, Price 12/- With either ¾in. or 1¼in. clip, post 12/6.



No. 3 pattern—foot brake with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete 16/6, post 17/-.



MATCHLESS PETROL FILTER.

No. 4 hooked carburetters.

4/6, p st 4/8.

MATCHLESS SPRING FORK ATTACHMENTS.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction!

15/6, post 16/-.

Catalogues of "Matchless" Motor Cycles and Accessories on application to

H. COLLIER & SONS, Ltd.,

Motor Experts and General Engineers.

Offices and Showrooms:

18, HERBERT ROAD, PLUMSTEAD

(Nearest Station: Woolwich Arsenal.

Telephone: 232 Woolwich.)

TRICARS FOR SALE.

~ h.p. Eagle Tricar, Buchet engine, Longuemare carburetter, Clincher tyres, very powerful and reliable, large gas lamp, pump, hooter, etc.; £25, equal to new, or exchange cycle and cash; private.—22, The Avenue, Bruce Grove, London.

SIDECARS AND FORECARS.

FORECAR, extra strong, one tyre, 26in. by 2½in.; £5 5s. adjustable.—Ellis, 1, Oxford Road, Kilburn, N.W.

FORECAR Attachment, wicker body, Clincher A Won tyres; 50s.—Spence, Durham Road, Spennymoor.

GENUINE Chater-Lea Sidecar, fit any machine, two months' wear; £5 10s.—Clark, jun., Royston, Herts.

MONTGOMERY Sidecar, 24in. wheel, good condition; £3 15s.—Stephenson, Moor-side, Cleadon, near Sunderland.

PHOENIX Forecar, coach-built, splendid condition, 26 by 2½ wheels; £6 10s.—G.W., 47, Montague Road, Dalston, London.

KERRY Forecar, 2½ h.p., in new condition; a bargain, price £12.—Carey Bros., 10 and 12, Elephant Road, London, S.E.

STAMFORD HILL.—Two-wheeled coach-built sidecar. 26 by 2½ Continentals, beautifully sprung; cost £18, price £7 10s.

STAMFORD HILL.—Famous rigid sidecars, instant delivery, none better, fit your machine, £4 18s. 6d.; sound second-hand sidecar, £3 5s.—128, High Road, Tottenham.

CHATER-LEA Sidecar (latest model, cost £11); sacrifice £5 15s., only ridden once.—B. Jackson, Post Office, Larkhall Lane, S.W.

SIDECAR, fit any frame, perfect condition, 26in. motor tyre; sacrifice £4 5s., lowest price.—C. A. Edgar, 123, Holloway Road, London, N.

£12 12s.—Castor wheel Sidecar, 26in., upholstered green, apron, etc., been used six times on Triumph; accept £6 6s.—23, Arden Road, Handsworth.

FORECAR, cane, band brakes, 26 by 2½ tyres, good condition; £4, near offer; exchange gent's new cycle.—Bone, 38, Scotland Green, Tottenham.

SIDECAR, for light powered motor excellent condition, £2 10s.; Clincher, 26 by 24in., Bates cover, good condition, 8s.—49, Browning Road, Manor Park.

SIDECAR, wicker, 26in. by 2in. Dunlop, upholstered green, £3 10s.; also Oppermann free engine clutch, £1, or exchange forecarriage.—10, Thornhill Road, Leyton.

NEW Forecar Coach-built Body, 45s.; Longuemare carburetter, 18s. 6d., suit 6 h.p.; new spring fork attachments, 8s. 6d., post paid.—Taylors' Motor Works, Edmonton.

FORECAR Attachment, 26in. wheels, Peter-Union tyres, wicker seat, upholstered, footboards, band brakes, good condition; £3 10s.—Stevens, 4, Goldhawk Mews, Shepherd's Bush.

BOOTH.—Several Montgomery sidecars, cheap, shop-soiled. A few second-hand sidecars very cheap. State requirements.—Booth's Motor Exchange, Wade Street, Halifax.

LIBERTY Art Cane Sidecar, new condition, adjustable, wheel 26in. or 28in., £5 10s.; new 26 by 2 Palmer tube, 7s. 6d.; 7ft. 6in. ¾in. Watawata, 6s.; wanted, 6 h.p., or similar tricar; no rubbish.—189, Bowes Road, New Southgate.

HAVE You seen the Oakleigh patent spring wheel sidecar, if not, come and have a ride in one. No more sudden shocks to the system; price £8, or your old present one converted for 50s. We are still building our £5 sidecars for those that prefer them. Remember £20 guarantee against sideslip. No other firm dare do this.—Oakleigh Motors, Ltd., inventors and originators of the sidecar, West Dulwich.

MOTOR TRICYCLES.

MOTOR Tricycle, genuine De Dion, fitted with large seat, tyres new last year, 1½ h.p., will go up most hills without assistance; £5.—Apply, 6, Brownswood Park, South Hornsey, N.

QUADCARS.

8 h.p. Phoenix Quadcar, 1907, two-cylinder Fafnir engine, water-cooled, magneto ignition, Palmer cord tyres; £55.—Richardson, King's Avenue, Buckhurst Hill.

6 h.p. Phoenix Quadcar, twin Fafnir, magneto, two speeds, reverse, excellent condition, three lamps, spares, valves, magneto, two covers, three tubes; £42; any expert examination and trial.—R. Moody, Nightingale Grove, Shirley Road, Southampton.

CARS FOR SALE.

61 h.p. Wolseley, two-seater, three speeds, in new condition; £50.—Below.

7 h.p. M.M., three-seater, very fine order; £30; accept motor bike and cash.—Below.

3 h.p. Rover, 1907, Cape hood, lamps, better than new; £100.—Below.

3 h.p. De Dion Regal, two-seater, three speeds, very smart; £48.—Below.

31 h.p. Beeston Humber, two-seater, hood, screen, lamps, very fine condition; £40.—Below.

16-20 h.p. Metallurgique, four-cylinder, m.o.v., side entrance, pressed steel frame, direct drive, fine order; bargain. £95.—Below.

14-16 h.p. Daimler, four-cylinder, tonneau, fast, silent, excellent condition; £85.—Below.

24 h.p. Mutel, four-cylinder, m.o.v., pressed steel frame, new condition; £100.—255, Earlsfield Road, S.W. Phone, 1135, Putney.

7 h.p. Oldsmobile, good tyres, glass screen, in good running order; £25, or motor cycle and cash.—Dunn, Blandford.

BELSIZE Motor Car, 10-12 h.p., just been thoroughly overhauled, to seat five, running order; price £25.

REX 16 h.p. Motor Brougham, in perfect order, guaranteed; price £60.

10-12 h.p. Two-seated Matthys Car, in good running order; only £25. — Carey Bros., 10 and 12, Elephant Road, London, E.E.

28 h.p. Touring Car, perfect; £75, cycle or tricar in part; appointment only. —6, Apsley Villa, Clapham Road, S.W.

31 h.p. De Dion Quad, two speeds, water-cooled, cane forecar; £12 10s.—Below.

41 h.p. Libena-De Dion Two-seated Car, two speeds, reverse, perfect; £19.—Below.

51 h.p. Humberette Two-seater, smart little runabout; £29, or offer.—Below.

31 h.p. Darracq Two-seater, three speeds, reverse, splendid condition throughout; £35.—Below.

3 h.p. De Dion Populaire, genuine licensed car, perfect in every way; £65.—Below.

0-12 h.p. Gladiator, tonneau, two-cylinder, three speeds, reverse, silent, reliable; £55.—Below.

6-20 h.p. Winton, 1907, side entrance, four-cylinder vertical engine, steel chassis, T. magneto; £100.—Below.

6-24 h.p. De Dietrich, tonneau, four-cylinder, magneto, four speeds, 45 h.p.h.; £145.—Below.

8-28 h.p. Gladiator, side entrance, four-cylinder Aster, fast, silent, reliable; £155.—Below.

24-30 h.p. Hurst, side entrance, four-cylinder, three speeds, reverse, cardan drive; £95.—L. N. Palmer, 190, Mellison Road, Footing. Telephone, 208, Streatham.

10-12 h.p. Duryea, two-seater, three cylinders, magneto, hood; £22 10s., or part exchange.—98, Potternewton Lane, Leeds.

51 h.p. Oldsmobile Car, splendid condition; £23 cash, or exchange good motor cycle.—Motor, 25, High Street, Ryde.

30 h.p. Wolseley, Limousine body, eight-seater, magnificent touring car; 75 guineas.—Claud Wayman, Field Cottage, Bennetts Road, S.E.

VAUXHALL, 6 h.p., two-seater, tiller steering, lamps, Stepney, spares, good hill-climber.—Tanish, Quarryhall, Hamilton, B.

STANLEY DERMATINE,

The Motor Belt of Merit,

HOLDS ALL RECORDS.

London to Edinburgh.

Land's End to John-o'-Groat's.

London to Land's End and back.

London to Plymouth and back.

71 GOLD MEDALS.

British Made Beware of imitations.

Read testimonials from End to End riders:

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"STANLEY DERMATINE MOTOR BELT CO.

"Dear Sir,—I write to inform you of the perfect satisfaction I obtained from your belt in the Land's End to John-o'-Groat's Trial. One belt only carried me from End to End, and to all appearance is in as perfect condition as new. Under the dreadful weather conditions experienced on this ride, it proves your belt, in my experience, a perfect production.

Yours faithfully,

"J. E. TASSELL."

"Birmingham.

"Dear Sir,—The belt behaved splendidly. I only had to take it up once during the trial (End to End), and it is still in grand condition. I had no trouble with it in the wet.

Yours faithfully,

"F. C. MUSTARD."

"Sheffield, July 24th, 1908.

"TO THE STANLEY WEBB CO.

"Gentlemen,—I used the belt you supplied me with in the End to End, and found it most satisfactory. I had no trouble whatever with it, and only had to take it up twice during the three days' heavy rain. I was not troubled in the slightest with it slipping.

Yours truly, F. DOVER."

"London, W.

"Dear Mr. Webb,—Thanks for sending me one of your new extra hook-fasteners to Warrington. I found it just the thing for Berridale. I simply slipped out the extra hook, and saved about ten minutes. Again thanking you,

I am, yours sincerely,

"GORDON GIBSON."

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3/4 in.	1 in.	1 1/4 in.	1 1/2 in.	1 3/4 in.	2 in.
1/2	1/4	1/3	1/2	3/4	1

POST FREE.

The Stanley Detachable Fastener.
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With Unbreakable Hook. Guaranteed. (Made under Simplex Patent.) In sizes 3/4 in., 1 in., 1 1/4 in., 1 1/2 in., 1 3/4 in., 2 in. Wholesale and Retail.

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CARS FOR SALE.

12 h.p. M.M.C. heavy chassis, suitable for van, solid tyres; £55.—Below.

8 h.p. Decauville, two-seater, in new condition; £55.—Below.

6 h.p. Vauxhall, two-seater; £40.

7 h.p. Car, low chassis, four speeds, suitable for van, chain drive; £50, or near offer.—Leigh Motor Co., Leigh-on-Sea.

SPLENDID 4 1/2 h.p. De Dion Car, new lamps and outfit, good tyres; must be sold; £28.—Apply, Singlehurst, Oliver Street, Northampton.

4 1/2 h.p. Orleans, two-seater, two speeds, splendid condition, good tyres, reliable; £25; seen any time.—12, High Street, Chesham, Bucks.

8 h.p. Horley, two-seater, three speeds, reverse, Rover carburetter, equal to new; £50; photo; motor cycle wanted.—7, Norwood Grove, Southport.

TWO-SEATED 10 h.p. Car, three speeds, reverse, direct top, Stepney wheel; £57 10s.; exchange 1908 Triumph and cash.—Uraotree, Bridgend, Lancaster.

6 h.p. Humberette, Dunlop tyres, fitted with Cape hood, lamps, etc., in fine running order; will accept £30 for quick sale.—Wade, Queen's Road, Peckham.

10-12 h.p. Airex Car, handsome tonneau, bucket seats, two cylinders, new tyres, car as new; bargain, £49, or near offer.—98, Potternewton Lane, Leeds.

6 1/2 h.p. Regal, two-seater, three speeds, equal artillery wheels, cardan drive, with new Stepney wheel, just overhauled; £45.—Weaver, Bridge Street, Kidderminster.

8 h.p. M.M.C., in perfect condition, new tyres, and just repainted and overhauled; £55. Tricar or motor cycle part exchange.—9, Linden Arcade, Chiswick, W.

14-16 h.p. Gobron-Brillie, in excellent condition, four-speed model, detachable tonneau, new chains; any reasonable cash offer; quick sale.—Dyer, The Square, Braunton, Devon.

6 h.p. Wolseley, just overhauled, tyres good, two tubes, spare valves, tools, etc.; take motor cycle in part, or sell £65.—Ward, 19, Trenville Avenue, Fulham Road, Birmingham.

DARRACQ 6 1/2 h.p. Two-seater, detachable back seats, perfect running order, Dunlop tyres; £40; three speeds and reverse; appointment.—Tailor, 5, Lauriston Road, Victoria Park.

6 1/2 h.p. Two-seater Car, three speeds, M.M.C. engine, Dunlop tyres, as new, thoroughly overhauled; cheap, or will exchange for good motor bike and cash.—Apply, 15, Montrose Street, Darlington.

5-6 h.p. Stirling-Panhard, three speeds, reverse, pneumatics, £25, exchange higher power, tonneau, and little cash; 3 h.p. Triumph cycle, accumulator, splendid order, £20.—Buckingham, Coggeshall.

3 1/2 h.p. Runabout, new, fitted with Quinton water-cooled engine, two-speed gear, chain drive, bucket seat; £22 10s., exchange arranged.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

6 h.p. De Dion Engine, two-seater, three speeds, reverse, bucket seats, 700 by 85 Continental tyres, splendid order; exchange for Triumph motor cycle.—Roberts, Strathmore, Washington Road, Worcester Park.

5 h.p. Sunbeam-Mabley Two-seated Car, in really good condition, very reliable, plenty of spares; accept reasonable offer, or take motor bike or anything useful in part exchange.—D., Wellington Lodge, Slough.

VAUXHALL, 12-14 h.p., side entrance, swing front seat, excellent condition throughout, canopy, curtains, and glass screen, quiet, good hill-climber, ideal doctor's car; £95.—Dean, 4, Yeoman's Row, Brompton Road, London.

DARRACQ, 8 h.p., single-cylinder, 1906 model, swing front seat entrance tonneau, Cape cart hood, wind screen, Stepney spare wheel, cover and tube, headlight, side lamps, back lamp, perfect condition; any trial; price £120; motor cycle or tricar taken in part payment.—Louis Davis and Son, Moseley, Birmingham.

¶ Readers who purchase, or contemplate purchasing, a new machine, should advertise their present mount in these columns. ¶ Experience has shown that "The Motor Cycle" is, in the majority of cases, successful in finding a purchaser. ¶ This applies also to accessories and spares. ¶

In answering any of these advertisements it is desirable that you should state the make and model of your present machine.

EXCHANGE.

MOTOR Cycle," 188 to 285, for motor coat, or offers.—175, Ribbleton Lane, on.

h.p. Minerva Tricar, magneto, Kent three-speed; £25, or exchange.—Gar-Brockley Cycle Works, Brockley, S.E.

CHANGE 3½ h.p. Rex, new condition, and cash for 1908 twin, any good make (or 25; Northam Road, Southampton.

CHANGE six New Cycles, Robin Hood make, for 1907, not earlier, motor car (magneto).—Hancock, High Street, Battersea.

p. Peugeot, 1907, two-speed, little used, for 3½ h.p. (magneto preferred) and — Hathersage, Park Road, Hale, ire.

Engines, 2½ h.p., good condition, exchange for Edison Standard phonograph, or cash offers.—Harrison, Front Wingate.

CHANGE, Twin Rex de Luxe, magneto, Roc clutch, twin tyre, new November, for high-grade magneto single. — 238, vard, Hull.

CHANGE, Two-seater 6 h.p. De Dion-Progress car for powerful tricar, or bicycle, or sell.—Arthur Kay, 55, 's Road, Blackburn.

TER Typewriter, No. 7, latest model, quite new, and unused; cost £17 6s. will exchange for motor cycle.—F. Lay-Springfield, Lancaster.

NO Player, new, £38 cash, with eight music rolls; exchange for 1908 3½ h.p. cycle, must be low. Triumph pred.—J. H. Cockburn, 57, Durham Road, hill.

CHANGE, 4 h.p. Motor Cycle, in good condition, for a good piano, or sell cash adjustment if necessary. New district.—No. 766, The Motor Cycle s, Coventry.

CHANGE for 1908 Triumph, 5½ h.p. twin N.S.U., magneto, two speeds, studded spares, very powerful, almost new: rial, or sell.—L. Hudson, Jesmond, Ar-n Road, Eastbourne.

CHANGE 3 h.p. N.S.U. motor cycle and cash, perfect order, spring frame, non-on back, for two-seated car, must be od order.—Letters to Green, Chapter t, Vauxhall Bridge Road.

p. Vindec, with Roc latest two-speed and free engine, everything in perfect con-a, spare valves, pulley, etc., exchange 1908 3½ h.p. Triumph, must be perfect.—inson, 87, Penny Street, Lancaster.

h.p. 1907 Twin Minerva, spring forks, footrests, good as new, guaranteed et, exchange, with cash, for four-cylin-F.N., sell £28.—Eardleys, Lawford and Great College Street, Camden Town.

ELSIOR Lightweight, Palmer tyres, treads, and new condition, and gent's gold watch, cost £8, exchange for rn tricar, coach-built, seat three. — 30, King Street, Camden Town, N.W.

3 Tourist Rex, 3½ h.p., ball bearing engine, adjustable pulley, hardly used, lete with rigid sidecar; exchange for car chassis, or water-cooled tricar.— fish merchant, Northam Road, South-on.

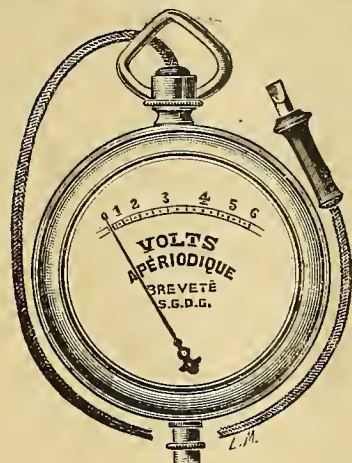
p. Madison, torpedo tank, spray, Pres- ted, plain coil, tyres, stand, belt, not completed, lightweight; exchange gramophone and records, or sell £3 Becks, Summer Hill, Fakenham, Nor-

CHANGE, for good motor cycle, tricar, or reliable small car, new high-class ture, any description, valued whole- direct from works.—Furniture Manu- rers, 9, French Place, Shoreditch, Lon-

CHANGE, 3 h.p. Bike, M.M.C. engine, new Dunlops, Watawata belt, just been auled, for any good make push bike little cash; also cane Millford trailer, used, 45s.—Palmer, 4, Kingsway, kenham.

IE, exchange, two Dunlop covers, fitted Samson non-skids, 12s. 6d. each, one y 85, plain, 7s. 6d.; car horn, large, with e and flexible tube, 10s.; electric tail 12s. 6d.; accumulator, perfect, 8s. 6d. Frances Street, Woolwich.

Voltmeters.

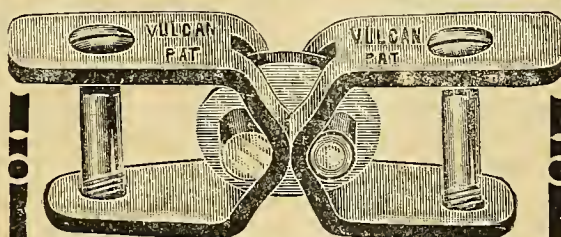


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1in. Section. Fresh and Genuine.

USUAL PRICE - - - 16/3.

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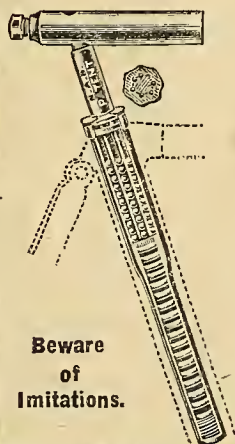
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MAUDE'S MOTOR MART,

Powell Street, HALIFAX,

The fair factors.

If you find you've the hump,
Through the bicycle bump,
And you're sad—and, what's
worse, saddle-sore—
Try the real **N.A.B.**
You will hail it with glee,
And in comfort you'll ride
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Imitations.

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EXCHANGE.

TWO-SEATER Herald Car, 10-12 h.p., two cylinders, three speeds and reverse, artillery wheels, Stepney wheel, four lamps, spares; £65, would entertain exchange for good tricar; expert examination allowed and required.—L. Mountview, Gordon Hill, Enfield, N.

EXCHANGE Iron Screw Cutting Lathe, by Drewery Brothers and Walker, Sheffield, six-foot bed, in working order, for good make motor cycle; would give part cash for real good machine.—A.H., Wild's Cottage, Edge View, The Hills, Bradwell, Derbyshire.

EXCHANGE, for 1908 Triumph, or sell, 6 h.p. twin Advance, Chater-Lea No. 6 frame, saddle only 30in. from ground, brand new condition throughout, tyres 2½in. Continentals, excellent, climbs absolutely everything with or without sidecar, as reliable as a 1908 Triumph.—"Motorist," 86, Colvestone Crescent, Dalston, London.

EXCHANGE 6 h.p. De Dion-Eagle tricar, two speeds, wheel steering, three brakes, car tyres, 760 by 90, new, non-skid on back, spare petrol tank, has many improvements, perfect condition and order, value £50, or single seated 8 h.p. M.M.C. three-wheeled runabout, wheel steering, open frame, bucket seat, non-skid on back, two speeds, foot and hand brake, only wants bonnet fixing and a few details to complete, engine been running, painted grey, and lined red, value £65; either the above machines for 6 to 8 h.p. Riley two-seated car, must be in perfect condition and order; photo exchanged and trial invited.—Clifford, 51, Weaste Road, Weaste, Manchester.

WANTED.

TRIUMPHS wanted, 1907 or 1908, cheap for cash.—Rey, 5, Heath Street, Hampstead.

WANTED, by September 30th, castor wheel sidecar.—Palmer, Chain Pier Bazaar, Brighton.

WANTED, 5 h.p. Antoine front cylinder and piston, air-cooled. — Dennett, Swanley, Kent.

WANTED, tricar, must be sound, cheap for cash; approval. — Grimwade, Fakenham, Norfolk.

WANTED, ½in. belt rim, over 22in. diameter.—Particulars to Shephard, Sitwell Vale, Rotherham.

WANTED, Good Sidecar, will give gent's 10-guinea pedal cycle, new.—Farrar, Square Road, Halifax.

WANTED, four-cylinder F.N., any condition, cheap for spot cash.—Rey, 5, Heath Street, Hampstead.

PETROL Engine, any condition, frame, tank, wheels, also old Minerva or F.N. —61, London Road, Manchester.

WANTED, Belt Rim, 19in. by ½in. deep, V, correct angle, about 2in. wide.—W., 130, Croft Terrace, South Shields.

WANTED, good Twin Tricar and cash, in exchange for 7 h.p. car, two-seater.—Strange, Elms Hotel, Leigh-on-Sea.

WANTED, Phelon and Moore, or Anglian two-speed gear, fit motor bike, chain drive.—Sutcliffe, '8, Cobden Street, Poplar, E.

WANTED, voiturette chassis as O.T.A.V. racer, 6 h.p., or near, must be cheap and sound. — Reader, Vine Cottage, Eype, Bridport.

WANTED, 6-7 h.p. Bat-Jap, or Chater-Lea Jap, or two-speed, spring forks; lowest cash.—Wheatley, "Goldenhurst," Hythe, Kent.

WANTED, Motosacoche engine set, complete, to fit to 24in. push cycle.—Letzer, 136, London Road, Kingston-on-Thames.

MONTGOMERY Flexible Sidecar, 26in. wheel, 2½in. tyre; approval; cash waiting.—Fraser, 4, Waverley Gardens, Cross-mloof, Glasgow.

WANTED, 6 to 8 h.p. Riley two-seated car, must be in perfect condition; see Exchange column.—Clifford, 51, Weaste Road, Weaste, Manchester.

WANTED, good 3½ h.p. magneto; would give 3 h.p. Stevens, Chater-Lea, in good working order, and cash.—Heybourne Motors, Maidenhead.

WANTED.

WANTED, about 2½ h.p. inclined engine.—2, Albert Hill, Bishop Auckland.

WANTED, magneto Triumph, 3½ h.p.—A. Hodgson, engineer, Louth, Lincolnshire.

WANTED, 5-6 h.p. engine, also forecar seat.—62, Colvestone Crescent, Dalston, London.

WANTED, cylinder, for 2½ h.p. Clyde engine.—R. J. Smith, Marlowes, Hemel Hempstead.

WANTED, motor cycle, 2½ h.p.; give £2 cash and good push cycle.—114, Rutland Street, E.

WANTED, for cash, castor wheel sidecar.—Milbourn, Coleborn's, Cherry Lane, Walton, Liverpool.

WANTED, all weather overall suit, N.A.B. pillar.—Particulars, Lambert, 3, Putlake Bridge, E. Croydon.

WANTED, motor accessories, carburettors, engines, etc.; must be cheap.—129, Ley Street, Ilford.

WANTED, open frame Riley, Singer, Lagonda tricar; low price for cash.—Knibb, Goldsmith Road, New Southgate.

WANTED, 2½ h.p. Kerry, 1904, in good order; must be cheap.—Reply by letter, C., 4, Morley Avenue, Wood Green.

WANTED, Raleighette or other powerful tricar; give cash and 3 h.p. forecar.—Particulars, Robinson, Burleigh Street, Walsall.

1908 Moto-Reve, Motosacoche, or similar lightweight; expert examination.—Details and lowest cash price to Procter Leighton, Lancaster.

WANTED, 1in. belt, 8ft., sidecar apron, Brooks saddle, 10-12 stone; cash or exchange 12-14 stone.—Williams, 95, Marlborough Road, Wood Green.

SPOT Cash for Second-hand chassis or cars, any condition; manufacturers' obsolete stocks bought.—Box 754, The Motor Cycle Offices, Coventry.

WANTED, cheap for cash, 1908 magneto motor cycle, 3½ to 5 h.p. White and Poppe preferred, with or without sidecar.—34, Lowerhead Row, Leeds.

GOOD Single-cylinder for very powerful twin Rex, guaranteed. Give cash adjustment for up-to-date magneto machine.—Box 619, The Motor Cycle Offices, Coventry.

WANTED, small car, De Dion or Riley preferred; exchange N.S.U., 5½ h.p., two-speed, and Montgomery sidecar, in first-class condition.—105, Preston Road, Brighton.

WANTED, motor generator, for charging accumulators, to work off 240 volt circuit continuous.—State price and particulars to S. Gillitt, 40, Blackett Street, Newcastle.

HASTINGS and Miller, 118, Nassau Street, N.Y. City, are in the market for motor cycle accessories, and would like catalogues and wholesale prices. Reference: Ilford, Limited, London.

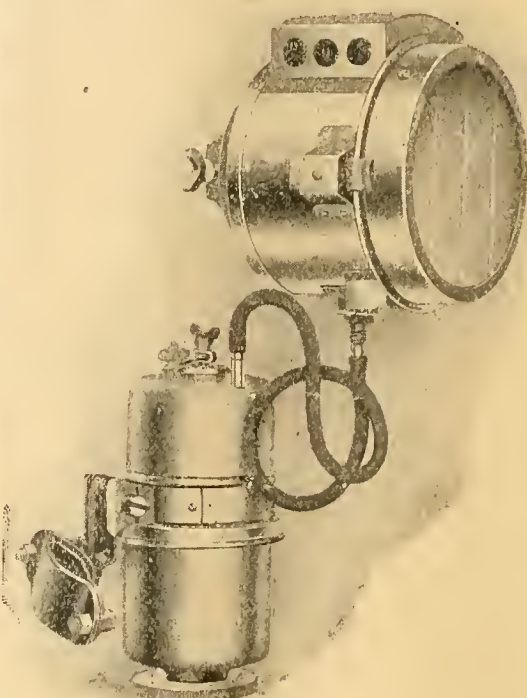
TRICAR, about 5-6 h.p.; water-cooled, free engine, two-speed, wheel steering, bucket seat, chain driven, coach built forecarriage (extra width); lowest price.—Lawrence, 1, Claygate Road, West Ealing.

MR. FELIX LEWIN, 262, West 132nd Street, New York, will be glad to receive from manufacturers of motors, frames, fittings, accessories, tyres, etc., their complete catalogues, with trade prices and terms.

WANTED, Good Motor Cycle, tricar, or reliable small car, exchange low high-class furniture, any description, valued wholesale, direct from works.—Furniture Manufacturer, 9, French Place, Shoreditch, London.

WANTED to purchase, for prompt cash, second-hand motor cycles, as Triumphs, F.N.'s, Vindec Specials, Phelon and Moores, Anglian, Rocs, Rexes, Bats, Peugeotts, etc.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

SIDECARS wanted; give new cycles, three-speed Sturmey-Archer gears, level exchange; wanted also Drummond or other S.C. lathe, gramophone; reasonable cash price given for good motor cycles.—Booth, Wade Street, Halifax.

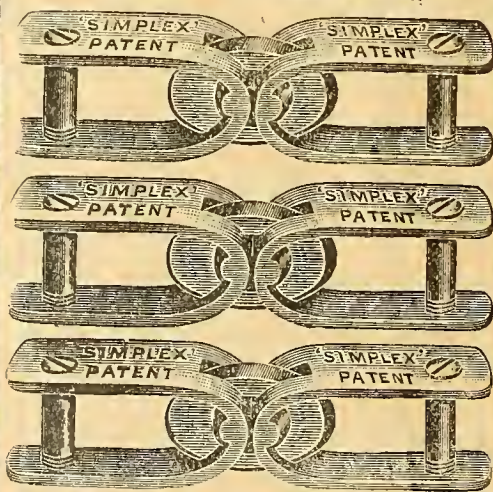
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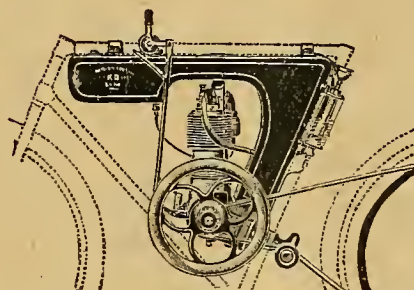
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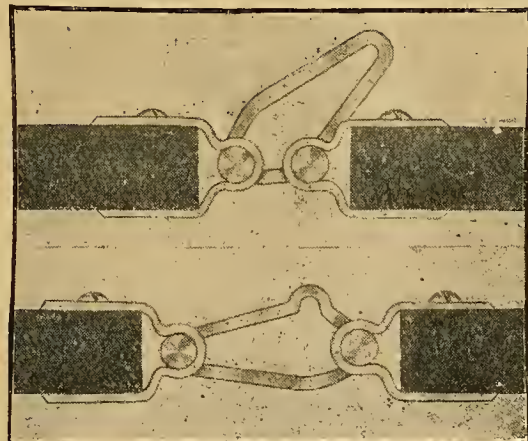
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THE MOTOR CYCLE



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The Future of the Tricar.

THIS week our contributor Mr. B. H. Davies supplements our article in a recent issue on the popularity of the tricar by giving a specification of what he considers an ideal three-wheeler to carry two. On the whole we are quite in agreement with his specification, and he is doubtless correct in specifying chain transmission. It is, however, possible where cost is a consideration to get along quite well with a belt, provided its dimensions are sufficiently large and the belt itself is a flexible one. The only drawback to the belt is the inability to obtain a gear much below five to one without undue slipping at the engine pulley. True a large back belt rim can be employed, but this has certain disadvantages. With an engine of sufficient power to propel a 3 cwt. tricar geared five to one, an extra large belt has in our case proved quite satisfactory. If the engine is correctly made and designed both fan and water cooling can be dispensed with. Water cooling would doubtless enable the engine to pull longer on the high gear uphill, but the fan we consider quite superfluous. It must take some power to drive it, is troublesome to lubricate, and does not keep the engine much cooler.

Simplicity is the point to aim at, and consequently we think it advisable to advocate as simple a passenger machine as it is possible to make, *i.e.*, practically a motor bicycle with non-convertible forecar attachment. If the frame is sprung so much the better, provided it does not add materially to the cost of production, but in designing and making a motor cycle for two persons which shall be cheap to buy and cheap to run every little economy must be practised

which will reduce cost, provided, of course, it does not materially lessen the comfort of the passengers. Springing is a question of speed to some extent. If the speed does not exceed a maximum of twenty-five and an average of eighteen to nineteen miles an hour it is astonishing how easily and comfortably one is transported on a rigid framed tricar if the rear seat is amply large and the seat pillar suspended on a spring device which absorbs all shocks. The C springs of a forecarriage are, after all, as comfortable as those of a side carriage, and we hear no complaint of the absence of comfort in connection with the latter. The poor machinery has to suffer a few shocks, it is true, but with the exception of a possible tank joint fracture there is so little which vibration can affect on a modern machine that damage in this direction is negligible.

The T.T. Shilling Fund.

THE Auto Cycle Union is still open to receive donations to the above fund, and motor cyclists who feel disposed to assist the A.C.U. in awarding some cash prizes to the successful competitors in the Tourist Trophy Race, which was decided on Tuesday last, should forward a postal order for one shilling or twelve stamps to the secretary of the Auto Cycle Union, 18, Down Street, Piccadilly, W. The names of all the donors will be announced in our pages by arrangement with the secretary.

It may seem to some of our readers that with an entrance fee of five guineas per machine there should be no necessity to appeal for donations towards the prize fund, but the expense of organising and conducting a race in the Isle of Man is very heavy, and the A.C.U. is not by any means a wealthy body.

OCCASIONAL COMMENTS.

By "IXION."

The Best Sidecar.

I am a long-suffering individual, and allow my readers a pretty free hand in plaguing me with queries, but to all whom it may concern I hereby solemnly announce that I shall not in future take the faintest notice of any letter asking me which is the best sidecar, and if a stamp is enclosed I shall send it to the Home for Crippled Motor Cyclists. There is no best sidecar. The best sidecar I ever had was given me by a disgusted rider who said it could not be steered round corners—at least, not right side up.

Ignition for Lightweights.

Whatever opinions there may be about the best ignition for an ordinary motor bicycle, there can be no doubt that every lightweight must have a magneto. To begin with, maximum power is always required, and not every rider knows how to adjust a make and break to give the best results with a coil, whereas a magneto only needs adjustment once in a blue moon. Secondly, one is never safe on a prolonged tour either with a single accumulator (or dry cell) or even with two small ones; recharging may be inaccessible and spares not to be procured, while a lightweight is not adapted for carrying weighty spares. Hence the magneto must be standard upon all 80 lb. machines used for serious riding.

Why Not 3½ h.p. Twins?

I was riding the most delightful little machine the other day, and I began to wonder why so handy and efficient a mount does not figure largely in our regular makers' specification. It was a miniature V-twin, developing slightly over 3½ h.p. and scaling about 120 lbs. all on. It was a full roadster in every sense of the word, with spring forks, metal 4in. guards, Bosch magneto, 2¼in. tyres, 26in. wheels, large tanks, stand, carrier, etc., complete. It was easier to start than the modern high compression 3½ h.p. single-cylinder, ran quite as fast or as slowly as it does, and at no speed could the engine be "felt"—a statement I could not conscientiously make of sundry singles, while it was naturally a little smoother and more flexible than the best of them. I should like to see two or three of our big makers experimenting with such an engine, and believe it might presently attain a very considerable vogue. Of one thing I am certain. It would altogether knock on the head the demand for free engine clutches, which an all-round raising of compression ratios has resuscitated of late, for not even an 80 lb. lightweight could be more easily started than these handy miniature twins.

Footrests and Pedals.

I very warmly agree with the riders who advocate the retention of pedals even when footrests and a free engine are incorporated in a motor bicycle. We shall never invent a better or an easier method of starting a motor bicycle engine than the pedal and stand combination. It is free from danger, requires the minimum of effort, and is much more likely to succeed when the engine is stubborn than the best starting handle ever made. I have owned several machines fitted with handles on the engineshaft and destitute of pedals, and often when the engine refused to start on the handle at any price a short run along the road

would set it going, because the engine when so started was revolved faster than it was possible to do by hand. The defect of this method is that it is not a stationary method of starting, and if adjustments are in progress one has to return for one's tools, etc. In some cases it takes a lot of handle grinding to loosen a well-gummed piston, even after paraffin injections, whereas a few turns of the pedals generally does it quickly, and that without overheating the rider. Again, footrests are no substitute for a stand, except at momentary stops for other purposes than repair or adjustments.

Two-piece Valves.

A letter has reached the office from Mr. Broadhurst, of Leicester, who makes the cast-iron headed valves recently praised by Mr. G. Gray in our correspondence columns. He agrees with me that mere "shrinking"



A Rec military motor bicycle has been ordered by the Crown Agents for the Colonies for shipment to the Governor of Uganda—Entebbe. In consequence of the difficulty of obtaining supplies of petrol spirit, this machine has been ordered with a paraffin carburettor as shown above. Note the disposition of the vaporiser in the exhaust pipe.

of the hot iron head on to a cold steel stem would not be safe, and, incidentally, remarks that the shrinking is not the sole precaution taken in the manufacture of these particular valves, the extra security involving a trade secret which he is not at liberty to disclose.

A reader writes further advocating the construction of cast-iron headed valves by shrinking the heads on to the steel stems, instead of screw-threading and countersinking. He points out that the head may be shrunk hot on to a cold stem, and that as steel and cast-iron have different co-efficients of expansion, there is small chance of the heads coming off even if the valve is heated plum colour in the engine. The chance is undoubtedly small, if the job be properly done; all I wished to point out was that there is no special fetish of safety about the method, for I have had a valve of this type come adrift. Either method, combined with the best workmanship, is no doubt entirely safe. I don't think there will be any trouble with two-piece valves next year, as makers have now enjoyed the necessary experience and understand how strong these valves need to be.

The Flexible Pattern Sidecar.

AFTER four months' use of a Montgomery sidecar with compensating joints—during which time we have covered quite 800 miles—we are glad to be able to speak in high terms of praise for this attachment. Nor have we been able to use the sidecar under the best possible conditions, for our $3\frac{1}{2}$ h.p. Triumph is not equipped with a clutch or change-speed gear. Notwithstanding this apparent drawback we have been able to extract much pleasure from the combination, and the hills which this particular $3\frac{1}{2}$ h.p. bicycle will not take a sidecar up when geared about 5 to 1 are few and far between, in the Midlands at any rate.

Do we think the flexible pattern the best form of sidecar? No. There is no best. Each has its respective advantages, and, as we have said before, it is a question of personal taste. The reasons that the Montgomery sidecar appealed to us were:

(1.) Ease of attachment and detachment (less than one minute).

(2.) Storage difficulties less when separated from the machine.

(3.) Bicycle can be steered quite easily without a passenger in sidecar.

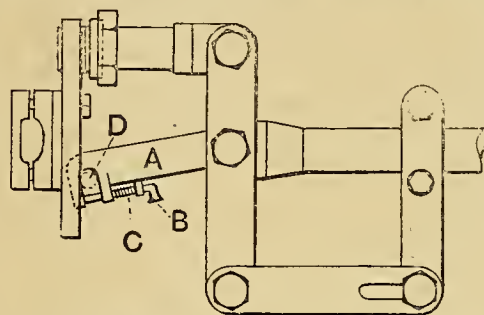
(4.) Steering with a passenger is almost the same as in the case of a bicycle, whereas with a rigid sidecar it is tricky, unless one is used to tricycle riding.

The great advantage of a fixed sidecar is its immunity from side-slip. On the other hand, it is questionable whether it is as safe to drive a fixed sidecar as fast as a flexible one on a dry road.

We have had one little mishap with the Montgomery sidecar, presumably due to the hook on the rear connection jumping up and lodging on the chain stay plate. Anyway, we suddenly found the whole combination making a dash for a ditch by the roadside, where the machine came to an abrupt stop—much too abrupt, in fact, to be comfortable. This happened near Bicester, Oxon, and, fortunately, the "passenger" was a Gladstone bag. In the *mêlée* the sidecar axle was

bent. Messrs. Layton and Son, of Bicester, straightened the axle, and also put a spring trigger on the hook of the rear connection to prevent it jumping off again. The sketch shows the device (which only cost 2s.), and it is worth fitting on all similar attachments. The latest patterns are sent out with a similar fitting.

When a sidecar attachment is used, naturally the wear on the bicycle rear tyre is much greater, and we should always advise tourists to carry a spare cover and



A Montgomery Sidecar Improvement.—Link A of the non-skid device has a tendency to jump off bridge D on a rough road. A spring trigger, C B, as sketch, prevents this possibility.

tube. A new $2\frac{1}{4}$ in. cover will usually be worn through in about 700 miles. $2\frac{1}{2}$ in. tyres would be the most satisfactory for passenger work.

Everyone who has tried the Montgomery sidecar has remarked upon its great comfort. Two little points which

might be improved, in our opinion, are: (1) The method of suspending the front portion of the attachment, which depends on a clip with a frictional grip around the frame tube to prevent the chair dropping to the ground; it is certainly good for adjusting the angle of the seat, but the consequences would be serious if the nut worked loose. (2) Mudguard stays are in the way when tyre repairing, and, moreover, break rather frequently. The mudguard, if made more like the wing of a car and attached in a similar manner to the body, would be sprung, far less liable to break, and would facilitate repairs to the sidecar tyre.

Other little conveniences would be: A compartment under the seat for carrying a spare belt and other tools; a bracket for a rear red light; and a leg attached to the sidecar axle to let down for supporting the wheel clear of the ground.

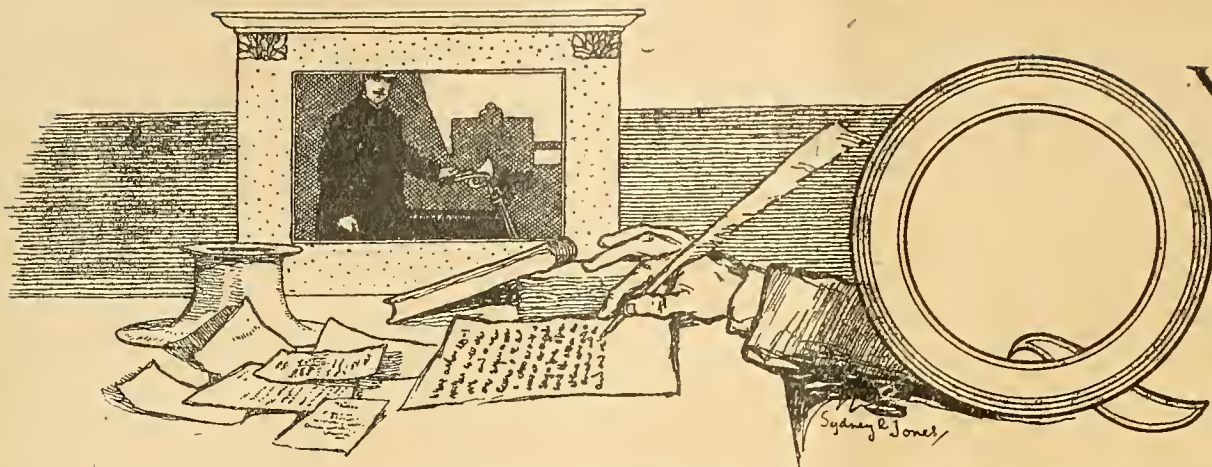
GERMAN MILITARY MOTOR CYCLISTS.

OVER 150 motor cycles were utilised in this year's German Imperial Manœuvres for orderly work, each cyclist receiving 30s. per day—15s. for the use of the machine and the remainder for expenses. They were attached to the divisions' staffs, and commanded by officers possessing either their own machines or equipped by the regiments to which they severally belonged. In general, intercourse between these civilians and officers left little to be desired in point of harmony, especially as the cyclists tried their hardest to please in carrying out orders; but not a few of the hidebound class of officers, who regard non-military persons as altogether inferior beings, have apparently taken far from kindly to the presence of civilians so deplorably deficient in military "form." However, unprejudiced officers also think that the volunteers would be all the better for a little military training. Lack of "form" apart, which is a cardinal defect in the eyes of the military, the volunteers tend to fail when required to deliver a verbal order, nor, owing to an inability to distinguish the different staffs and arms of the service, do they always succeed in

placing the message in the right hands. It is suggested that volunteers should go into strict military training a week or so before the manœuvres.

Respecting the more suitable class of machine, opinion seems to favour the lighter category. The heavy machines, though fast and reliable enough on good roads, often break down in rainy weather and over muddy field-ways, although some of the officers who ride light machines object to driving them over field-roads in wet weather. In course of time the Germans will doubtless bring man and machine up to practical military requirements. Meanwhile, defects notwithstanding, the motor cycle volunteers have rendered excellent service. Indeed, one might argue as much from the extra number engaged this year.

Brown Bros., Ltd., of Great Eastern Street, E.C., have just issued a new motor accessories catalogue, No. 30. This catalogue contains 184 illustrated pages of motor cycle and motor car accessories, with a convenient index alphabetically arranged. Each article is priced in clear figures.



QUESTIONS & REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, **must be accompanied with a stamped addressed envelope for reply.**

Carbonaceous Deposits.

? What is the cause of my 1907 motor bicycle requiring the piston and cylinder head scraping every 250 miles? I inject a charge of oil every twenty-five miles on an average. The deposit is of a brick red shade. Naturally, it is a nuisance to have to dismount the cylinder so frequently. I studiously avoid a rich mixture, and always drive as economically as possible.—G.A.W.

It would appear that the piston rings of your engine are worn and allow the oil to pass. Try a new set. We cannot quite understand the brick red deposit unless it is due to the lubricating oil or petrol you are using. Always buy the best brands, and insist on being served from a sealed tin.

Ignition Items.

? (1.) I have a trembler coil, and the adjusting screw is under the bar holding the trembler blade and difficult to get at. I can't get the engine to run at high speed even on the stand; when the speed gets high it receives a check something like a misfire which keeps the speed down. Do you think the coil will be a slow speed one? (2.) As I am far from a charging station I would like to try dry cells, but my engine is old and has wipe contact, which would be expensive to alter, and as my mileage is only about 100 per month, do you think dry cells would do if I used a Voltco trembler coil, which I am told takes a very small current? (3.) The brass segment of my contact breaker disc is about one-fifth of the circle. Do you think the coil would work well if I reduced this? What is the smallest segment you would recommend? (4.) What gear should I have for a 75 by 82 mm. engine. 28in. wheels, weight twelve stones? —NEW READER.

(1.) The trouble may not be due to the coil. If the carburetter is not receiving sufficient air, or the contact maker requiring attention, the engine would fail to get up speed. We advise you to file the points of the trembler so that they are quite flat and clean. (2.) A Voltco coil would do, but if you use dry cells you should not use a trembler coil and wipe contact, as the latter are

too extravagant in current consumption. (3.) We should not think that the segment is too wide, but should strongly advise you to fit a make and break if possible. (4.) About $5\frac{1}{2}$ to 1.

For Ease in Starting.

? Would you kindly give me your advice on the following trouble: I have great difficulty in starting, engine 5 h.p. twin Peugeot, magneto Simms-Bosch gear driven, carburetter Brown and Barlow. I have lately had carburetter overhauled by makers. Also would you give me the best exhaust valve and ignition setting for the above engine?—J.C.H.

Thoroughly clean the platinum points of the magneto, set the sparking plug points as close together as possible without touching, set the magneto so that the points begin to separate with piston $\frac{1}{4}$ in. from the top of the compression stroke with the spark two-thirds advanced. The exhaust valve should close as the piston reaches the top of the exhaust stroke. If you fit a shutter to your carburetter, so that practically the whole of the fixed supply of air can be shut off, you will be able to start more easily.

Exhaust Valve Cap Red Hot.

? I have a $3\frac{1}{2}$ h.p. Rex which is running well under all conditions, but when riding in the dark the exhaust cap, and for half an inch all round the cap gets red hot. This, of course, I cannot see during the daytime. I cannot say there is any falling off in power at any time, and the machine is a splendid hill-climber, even after doing twenty miles quick run. I may state that I lubricate very freely, and use Vacuum B oil, and that there is no deposit on piston or top of cylinder. I have the correct carburetter adjustment, as I can give more air than engine will take, except when throttle is full open. Have I any cause for alarm?—EAST YORKS.

Generally speaking, the symptoms are due to an excessive amount of carbon deposit or driving with an incorrect mixture, but we should advise you to leave things as they are at present and carefully watch for further symptoms of the power falling off, and then take the engine down and clean it.

Change-speed Gear for Easy Starting.

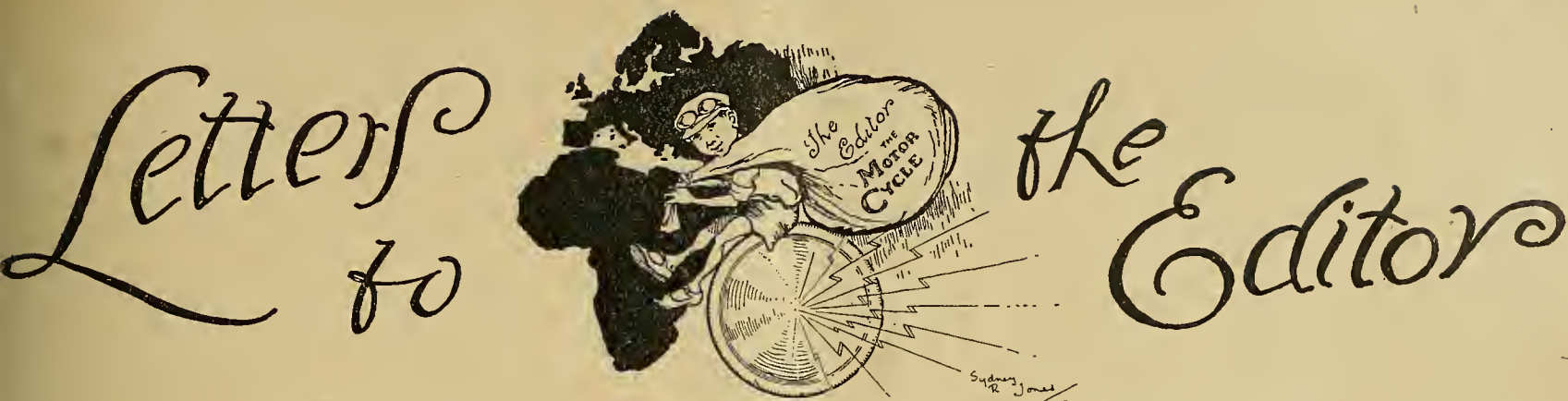
? Two months ago I had a motor cycle built for sidecar work, 7-8 h.p. Peugeot engine, Bosch magneto, and all up-to-date fittings. The machine is a good one in every way and belt driven. My trouble is it is too hard to start with pedals. I am advised to have all sorts of speed gears and free engine clutches. Will you kindly give me your opinion?—J.C., York.

We advise you to have a two-speed gear fitted, and preferably one suitable for chain transmission, as an ordinary motor cycle belt is not so suitable as a chain for an engine of 7-8 h.p. With a change-speed gear you will be able to start with comparative ease by putting in the low gear and giving the machine a push. In fitting a two-speed it is inadvisable to have anything of the cheap variety, as it only proves expensive in the long run. Send us a list of gears, and we shall be pleased to place them in order of merit for you, taking your particular requirements into consideration.

The Correct Level of Petrol.

? I have a Model H Longuemare carburetter on my $3\frac{1}{2}$ h.p. 1906 Quadrant, and can only do about thirty-five miles per gallon. A few weeks ago the carburetter leaked and I ground in needle. Since then the petrol cost is very high. Being a novice I cannot quite understand the exact point that the petrol should reach when at its level, i.e., should it be at the top of the jet or at the top of the cone in which the jet screws? Also should the petrol run through the jet freely when machine is standing, or should the petrol just show in little beads through the holes? I use a No. 10 jet and choke tube No. 20, as used by previous owner.—S.H.C.

The petrol consumption is certainly excessive. The level of the petrol should come to within $\frac{1}{4}$ in. of the top of the orifice in which the jet screws. Test it with the machine standing on a flat surface with jet removed. The petrol should not appear at all unless the float is agitated, when it should shoot out through each of the slots of the jet. Try and see if the carburetter will take any more air.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Footrests v. Pedals and Stands.

[3556.]—In reply to Mr. A. W. Wall and "Practical Experience," I have had trouble with the Roc clutch slipping. I sold a machine early this summer, and have had it returned innumerable times for this cause. The same has occurred with a conversion set fitted to another machine of different make.

The adjustment of the clutches will not make them grip properly when going up steep hills. Mr. Wall may say it is a matter of adjustment, but I do not think so, as all riders of machines fitted with the Roc gear that I have come across have the same tale to tell, and find only temporary relief in washing the clutches with petrol, and this requires doing very often.

A. HODGSON.

[3557.]—Mr. P. H. Langton's contribution is useful in dispelling the mischief frequently arising from merely oral or ocular fancy in contrast to fact based on experience.

Mr. Langton tells us from knowledge, not from hearsay, that handle starting is free from trouble, and footrests an improvement on bent or broken pedals. As regards his slipping clutch, the permanent cure is to be found in adjustment. There is no distinction between running in oil and splashing with oil to affect the slipping. Oil, not petrol, is recommended for the metal to metal bands.

On 1908 Roc machines, a regulating pin is provided on the outside of the belt drum to adjust the high gear to a nicety. Where adjustment is ineffectual the reason lies in errors of handling—a wheel, for instance, recently brought to the works for correction was found to contain the fulcrum of top speed band badly bent so as to make the regulating pin inoperative. The low gear, too, had been displaced from its proper position on the stay in a manner to upset the toggle movement, and, in consequence, the low speed band.

These hints may help your correspondent, whose letter, by the way, is welcome, if only to give the makers an opportunity to correct an ill-formed impression.

ARTHUR W. WALL.

[3558.]—I am very interested in the discussion in *The Motor Cycle* re pedals and pedalless gear, and should like to add my quota of experiences. I ride a Warwick with a Roc clutch and two-speed gear, which acts very satisfactorily when properly adjusted, and have never found the metal to metal clutches slipping as stated by one of your correspondents.

Despite this, were I to invest in another motor cycle I should get one with pedals, preferably with two speeds and a free engine, but certainly with pedals, and for the following reasons:

The handle starting method, though ideal in theory, is not so successful in practice. To support the machine and hold up the exhaust lifter with the left hand and to vigorously spin the engine round by means of the handle on the back wheel with the right hand is neither comfortable nor dignified, and should the engine be cold and stiff or recalcitrant, it is, single-handed, impossible, without liberal doses of petrol or paraffin in the compression tap. In fact, when starting in the morning I generally get someone to hold up the exhaust and support the machine whilst I "organ grind," and when the engine is revolving rapidly, tell him to drop the exhaust. I maintain this involves great labour and more gymnastics than starting a machine with a fixed gear.

When riding in traffic, the engine, if constantly declutched and made free, overheats terribly, owing to its racing, and, moreover, makes such a row that all in the neighbourhood cast black looks on the unfortunate rider. I consider it easier to raise the exhaust and pedal a little if necessary, and if one has to stop and dismount, two steps alongside and one is going again.

I have no stand on my machine, and have mended a good many punctures with the machine supported on one of the footrests, but I think a stand more convenient.

Finally, although I think the Roc clutch exceedingly ingenious and satisfactory, some other improvements are needed before it can be as perfect in practice as in theory. One is that the starting should be made more comfortable, such as by arranging an exhaust lifter somewhere under the saddle, but at present it is exceedingly awkward, especially with a long frame. The other is that there should be some method of throttling the engine automatically when the clutch is withdrawn, so that one could declutch and sit still with the engine running quietly as on a car.

MEDICO.

Standard Machines in Hill Climbs.

[3559.]—We have pleasure in replying to "Observer," who wrote in your issue of September 9th, and answering the queries he mentions:

1. The carburetter used at Newnham Hill-climb by Mr. G. Lee Evans was one which could be fitted to any standard Rex machine without extra charge. As a general rule Rex machines are fitted with the Amac or Longuemare carburetters, but any other make could be fitted on request.

2. The carburetter in question had no float chamber, but received its petrol through a valve which is operated mechanically in conjunction with the inlet valve tappet.

3. The machine used by Mr. Evans had identically the same bore as every $3\frac{1}{2}$ h.p. Rex machine has had for the past two years, and this will also be standard for 1909. The engine has been officially measured on previous occasions, and of course could be measured again.

4. Now with regard to the two $2\frac{3}{4}$ h.p. Rexes which ran in Class I. One of these was ridden by Mr. Barker, and had a 76 mm. bore and a 76 mm. stroke. This engine is five years old (early 1903), but surely there is no crime in a mount fitted with an engine of 1903 manufacture, as was the case in this event. Mr. Smythe's engine, which is 82 mm. by 70 mm., is the ordinary standard engine with 20 mm. taken from the stroke. Mr. Smythe, who is the owner of this motor bicycle, especially stipulated a short stroke, and no extra charge was made to him, or would be made to anyone else for such an alteration.

In reply to "An Also Ran," may we say that the Rex Co. will guarantee to supply him with a machine identical in every respect to the one ridden by the winner of the Bolton Motor Club's hill-climb, or any other hill-climb, at list price, and would very much appreciate his esteemed order.

THE REX MOTOR MFG. CO., LTD.

[3560.]—After reading several letters on the above subject I should like to make a few observations. First of all I must mention that I was a competitor at Newnham Hill-climb, and rode a 5 h.p. Rex machine (not Tourist Trophy model) fitted with all usual fittings—lamp, generator, large horn, $2\frac{1}{4}$ in. tyres, toolbag and tools weighing over 5 lbs. I am

not a "makers' tame amateur," and yet I was able to beat a good many more trade riders than I was beaten by, and as I do not consider myself a hill-climbing expert I was quite satisfied with the position I attained in the results.

Mr. Day in his letter specially mentions the scanty equipment of Mr. McMinnies's machine, and whilst I fully endorse his words I do not see why he was singled out. If Mr. Day had written the same of nearly all the T.T. Triumphs and some of the other machines as well, he would have been nearer the mark still.

"Looker On," I fancy, makes a mistake in mentioning the inferiority of an amateur's machine compared with that of a trade rider. It is the superiority of the tuning up and riding which makes the difference. What is the trade rider paid for?

I have only one little question to ask in regard to "Observer's" letter. Does a different pattern carburetter make an otherwise standard machine into a special? If so, a great many of us are riding special machines.

"An Also Ran" amuses me. I know the gentleman referred to in his letter (also his machine) quite well. If "Also Ran" will buy a similar machine to the one named at the list price (as I feel sure he can), it will be no guarantee that he will ever be anything else than his own *nom de plume*. It is the riding and tuning up that tells. It would have been better taste if Mr. "Also Ran" had signed his name.

Mr. Clarke in my opinion quite "fills the bill." If a representative of *The Motor Cycle* would ask competitors at the big hill-climbs what gear they are riding, I feel sure he would get correct information nineteen times out of twenty.

In conclusion, I should like to add that to my mind the Newnham Hill-climb was a splendid success in every way with the exception of two things—

(1) The spectators in their enthusiasm encroached on the road, especially near the finish, where one simply rode through a narrow lane of people and judged the available space by the way the crowd fell back.

(2) The officials were very lax indeed in seeing that their very complete rules were carried out. I wonder what the result on formula of Class 4 really was. A great number of riders in this class stripped their machines of all superfluities. I saw lamps, generators, toolbags, etc., put on the ground near the starting point, and yet the competitors were weighed, together with their machines with all on, before the competition started, and the results were calculated from the data thus obtained. This point might be carefully observed next time.

FRED C. BAGSHAW.

The Danger of Straying Cattle.

[3561.]—I am glad to notice that you draw attention to the danger of straying cattle on the road at night. May I relate my unfortunate experience, not with cattle, but so-called human beings, in my case a country farmer, who acted like a brute. Not long ago I had occasion to travel from Chester to Birkenhead. The night being dark, and the sides of the roads being lined with trees, I could only see a few yards ahead. A man supposed to be driving a farmer's cart was actually sleeping in the middle of the road without a light. Had I not been an experienced driver, and had I not good brakes, I should not have been here to write this. As it is, I was badly cut and bruised, and my motor cycle was a wreck. After extricating myself from beneath the trap, the farmer whipped his horse and drove off, leaving me stranded in the middle of the night eight miles from nowhere. Surely, something ought to be done to prevent such inhuman treatment.

N 363.

Is the Tricar Dead?

[3562.]—I was very pleased to read your remarks *re* tricars, as I think there must be a number of satisfied owners like myself of a light tricar. Of course, I am somewhat better off as regards refinements, being the possessor of a 4½ h.p. Riley, which, of course, is similar in every detail to the luxurious coach finished tricars, with the exception of being a bicycle frame. I may say that I am quite satisfied with this mount, and have had some extremely pleasant trips in company with my wife, and we have yet to meet the hill this excellent little machine will not negotiate with two up, and this (Colne) is a fairly hilly country I can assure you.

I am quite sure that, for the man of moderate means, the vehicle you specify in your remarks *re* tricars will give every satisfaction if only the price is kept to a reasonable figure. I might say that, previous to owning this my first and only

motor, I had no experience or mechanical knowledge of any sort, but up to the present have had no difficulty whatever. I may say I am an old cyclist of many years' experience, having ridden all kinds of bicycles from the old 54in. to safeties of every description.

C. WRIGHT.

[3563.]—I am interested in your correspondents' letters on the above subject, the more especially as I am a delighted tricar owner myself, and am of the opinion that, although probably the ultra-heavy type of tricar, such as the 8 h.p., 10 h.p., and 12 h.p. twins, will fall out of the running in course of time, there will always be a good demand for a light, low-powered machine, if it is sufficiently brought before the notice of the public, and is equipped with a satisfactory change speed gear. To my mind, my present mount, though far from perfect, is of a type which would appeal to hundreds if they were aware of its capabilities. The following is the specification: Frame, Perry's fittings; hubs, Perry; engine, 4 h.p. W. and P. water-cooled single-cylinder; gears, three-speed Oppermann (5, 9, and 15 to 1, and free-engine); transmission, Renold's 5/16 in. pitch, 1/4 in. roller chains; seats, coach built aluminium leatherette upholstery; brakes, powerful rear-driving (pedal) and Bowden front (side lever); control, wheel steering and thumb slide control; tyres, 26 × 2½ rear and 26 × 2½ front wheels.

To this machine I have added a specially made rear luggage carrier, a comfortable enclosed footboard platform for driver's feet, with tool box one side of engine and accumulators and coil in box the other side to match. The horn is operated by small electric push button under steering wheel rim, and is thus always by my finger. The rear lamp is electric, and two Autoclipse lamps complete the equipment. I should mention that the room at my disposal under the front seat has been trebled by myself, and all the larger spares, jack, inner tubes, tin of grease, carbide, spare chains, etc., are easily stowed therein. The weight of the car, ready for the road, cannot be far short of 4½ cwt., and with two passengers weighing 22 stones, easily exceeds thirty miles per hour, and on top gear will do most surprising work. The machine is most comfortable on good roads, but the frame itself should be sprung fore and aft to ensure comfort on bad roads; it is at present only sprung as regards the seats.

P. H. MEERS.

[3564.]—We welcome the letter appearing in your columns from "Old Hand," commenting upon the large number of tricars which he had seen during his recent tour. Your leader on this matter is also interesting to us as the introducers of the tricar and as a company doing a large business in the type.

The question is asked, "Is the tricar dead?" and we have no hesitation whatever in stating that it is dead in the abnormally powered and heavy form, which was so much the craze a couple of years ago, and whatever feeling has been engendered against the type, we are absolutely certain has been the result of these huge machines, which have been little more than motor cars on three wheels. As you are aware, we have always set our face against this type of tricar, and have maintained the Phoenix Trimo within the limits of its type (and every type of motor has its limits), and the result is that our 5-6 h.p. water-cooled Trimo, weighing a matter of 4½ cwt., with comfortable seating accommodation and simple mechanism, finds a ready sale, and, so far as we are concerned, the tricar is very much alive.

We would take this opportunity of referring to a point in which the tricar as a general type has not had a fair show, and that is that almost without exception the competitions which have been promoted for three-wheel machines have given the palm to the fastest time only, irrespective of horse-power, and it is for that reason that the Phoenix Trimo has not figured during this year to any extent in open hill-climbing competitions. It is not a bit of use our entering our machine to compete on level terms against machines of double the horse-power when the result is judged on time alone, and we are sure that a great deal can be done to bring the tricar back not only to its original position of popularity, but to an enhanced popularity if the hill-climbing competitions were, for this type of machine, to be divided into classes so that certain horse-powers could compete together.

Not only the trade, but private owners as well, are chary of going in for a competition in which all the powers compete together, and the result of which is a foregone conclusion.

PHOENIX MOTORS, LTD.

Western Country Roads.

[3565.]-In "Current Chat," September 9th, I see a rider congratulates himself on saving his tyres by avoiding the roads over Salisbury Plain *via* Amesbury, stated to have been cut up by the military operations. This last week-end I rode through Andover, Amesbury, Shrewton, and Salisbury, and found the roads perfect. GEO. GRIBBON.

Hill-climbing.

[3566.]-Having lately seen in your columns an account of several hills which have been described as much more formidable than the famous Yorkshire hill, Sutton Bank, I recently managed a run to the Minehead district with my friend, Mr. I. B. Hart-Davies, a well-known rider, whose weight is close on 14 stones. Both mounted on Triumph machines of standard touring pattern, we left Coventry after lunch on Friday, 11th inst., and reached Minehead at 1 p.m. on Saturday, having slept at Clifton, and encountered some lovely grease *en route*. We arrived at our destination without incident, bar performing some extra risky wobbles. My friend, as a sort of preliminary canter, had a dash up Porlock Hill. He took the first acute bend in remarkably clever fashion, but found the second bend absolutely unrideable owing to thick grease.

We then went on to Lynmouth Hill, which the aforesaid rider went up in irreproachable style, making me green with envy in the attempt. When at this ascent we were advised to have a shy at a pimple variously called Riddiway Hill or "The Beggar's Roost." The latter appellation could not be more suitable, as I fancy many an ambitious mountaineer will roost thereon at various altitudes more or less exalted, chiefly the latter! Much to my astonishment Mr. Hart-Davies succeeded at his second attempt in conquering this truly appalling hill, notwithstanding the wretched surface, and the fact that his trusty mount had not been touched after a fast ride down of over 150 miles.

Mr. J. Hardman, the schoolmaster at Barbrook, assured us that Barbrook Hill was absolutely verdant soil for cars and bicycles of all descriptions.

I understand an official survey of the hill is being prepared for the Motor Union. Needless to say, I shall await the correct card" as regards the gradients with keenest anticipation. (Dr.) JAS. C. O'RAFFERTY.

The Lightweight Question.

[3567.]-With reference to the recent articles and letters that have appeared dealing with the lightweight machine, I would like to add my experience, namely, that I have ridden Motosacoche for over 4,000 miles on our Irish roads (which are none too good). The original tyre is still on the front wheel, and, as far as I can remember, has been only punctured once. The original back tyre got badly torn and was replaced with a Palmer, which has now done about 3,000 miles, and has been punctured four or five times, but otherwise it appears as good as ever. I have used the same belt since last spring, amounting to about 3,000 miles riding, and it seems to be quite good yet. I join the belt by means of belt-cing wire; it makes a much better joint than the hook, as neither breaks nor pulls out. I had trouble with the wheel rims getting battered by stones, which rendered the front brake unsatisfactory. I therefore fitted a back-peddalling master hub brake, which is a great improvement, as even if the rims are battered it does not affect the smooth braking of the machine. I have never had a loose spoke. The speed and hill-climbing capabilities of the machine are all that any ordinary person can want. I have constantly ridden to a town twenty-two and a half miles from home over hilly roads, of which some parts have a very bad surface, in 55m., and required no pedal assistance on the journey.

I will make no remarks on the engine, etc., as everyone seems to admit that this is almost perfect. The only vice I could give would be to fit a band or hub brake instead of rim brake.

SATISFIED.

[3568.]-Having become very interested in the lightweight controversy going on in your columns recently, I would like, if you have available space, to make a few remarks on my own experience. But let me begin by saying that "Ixion" could not have hit the nail on the head with more exactness than he did when replying in the issue of September 9th to Messrs. Dufaux's rejoinder to his previous letter. Indeed, my own experience, briefly put, would be to say that I endorse every word of what "Ixion" says.

I bought a Motosacoche just a year ago, having found out quickly that the "heavyweight" is not the machine for a doctor who has to stop and start frequently. Well, to begin with, my belt troubles were innumerable till I persuaded the makers that they had given me a bad belt which was everlastingly tearing through every few miles.

Last Easter the engine and attachment were fitted to a new Rover frame. I had the machine taken to pieces recently for some improvement, and have examined every detail of it personally. I found amongst other things my front wheel axle bent equally on both sides, showing, I think, that it is not strong enough to bear the weight. My accumulator case has given way, and I have had it reconstructed, and yet I take every possible care of my machine and do not average more than ten to fifteen miles per diem, and have not ridden it 2,000 miles.

The engine I have had down more than once, and no one would deny its excellence. I spoke above of improvements. One is this, I have had a 4in. pulley fitted instead of a 3in., and am now running direct drive, having dispensed with the jockey pulley—a thing the makers told me would never succeed. The machine is running better than ever on the high gear, and takes hills really just as well as before, which is quite odd, is it not, in face of the above assertion.

F. J. GEOGHEGAN, M.D.

[3569.]-We have just received two favourable letters from Motosacoche riders relative to the behaviour of their tyres and rims. Our experience of tyres, belts, and rims on the Motosacoche is that they are in every way suitable and efficient for the lightweight bicycle. If they are not you may take it for granted we should know all about it, since customers are not as a rule both dissatisfied and dumb. As a matter of fact, we are quite astonished to learn from "Ixion" that the tyres and rims of the Motosacoche bicycle are unsuitable, and our wonder is that hundreds of Motosacoche riders have not said so.

It is remarkable that there are riders who forget all about their push bicycling when they take to motor cycling.

The push bicyclist requires his cycle as light as possible; every fitment is cut down to the finest proportions—lamps, bells, tools, inflators, and even repair outfits are featherweight. Yet give him a little engine in the framework and immediately his featherweight notions go by the board. Quite recently we came across a Motosacoche bicycle which was fitted up in a manner quite out of keeping with the original proposition of a lightweight motor cycle. The horn and lamp were more suitable for a car. Two luggage carriers and a heavy cycle stand, with a two gallon tin of petrol strapped on, plus a big camera, big tool-bag, a handbag, and a carry-all of clothing.

This is the sort of thing which we deprecate most strongly. The Motosacoche is not designed or built for such an equipment, any more than a light skiff is intended to do the work of a barge. It is a lightweight motor bicycle, all its parts are built in exact proportion, and if it is used as a lightweight it is simple, efficient, durable, clean, easily handled, capable of fair speed, and a good hill-climber. More we do not claim for it.

H. AND A. DUFAUX (ENGLAND), LTD.

The line sketch published last week to illustrate a letter signed "No Noise," under the heading of "Silence," page 724, should have had the exhaust pipe shown on the left-hand side of the silencer, and not on the right. The fact that the exhaust gas has to strike against the small diameter tubes in the silencer before it is allowed to pass through them and into the atmosphere, causes the gas to be more broken up than if it entered on the right.

EXPERIENCES WANTED.

"A.J.G.R." is anxious for readers' experiences of Hellesen dry cells, and the name of coil and contact breaker used.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.



CURRENT CHAT.

SPECIAL FEATURES.

THE TOURIST TROPHY RACE. SPECIAL DESCRIPTION.

HAS THE TRICAR A FUTURE?



TIME TO LIGHT LAMPS.—Sept. 23rd, 6-58 p.m. ; Sept. 26th, 6-51 p.m. ; Sept. 30th, 6-42 p.m.

To Make Motor Cycles.

In addition to Humber, Ltd., it is rumoured that two well-known Coventry firms of cycle manufacturers will make motor cycles next year.

Affiliation.

The body most recently affiliated to the A.C.U. is the North Eastern Automobile Association, Motor Cycle Section, which boasts of 150 members.

Motor Cycle Insurance.

The A.C.U. has arranged with the Car and General Insurance Company to issue special A.C.U. policies to all members at a premium of 10s. 6d., which will cover riders of any make of motor bicycle up to 5 h.p. to the amount of £50 for third party risks, and up to £20 for damage by fire, explosion, self-ignition, etc.

A.C.U. Winter Session.

The Rev. B. H. Davies, whose papers are always interesting, has kindly offered to read a paper on the "History and Future of the Tricar" before the members of the A.C.U. during the winter months.

Audible Warning.

Riders of motor cycles in the neighbourhood of Corfe Castle, Dorsetshire, should not fail to treat the inhabitants to as much horn blowing as possible, for a very considerate Rickmansworth rider who visited the locality during his summer vacation has, to his surprise, received a summons for not giving audible warning, although he was riding with the cut-out open. No complaint was made at the time, neither does the rider remember meeting anyone who was startled by his approach. No danger is alleged in the summons. The case will be heard to-morrow.

The 1908-9 Stanley Show.

The invitation smoking concert which is given by the Stanley Cycling Club just previous to the Stanley Show will be held again this year at the Queen's Hall, Langham Place, on Friday, November 6th. We understand that an excellent programme has been arranged, and tickets can be obtained of the hon. secretary, Mr. E. P. Hewkin, 106, Tollington Park, N.

The thirty-third annual dinner of the Stanley Cycling Club will be held on Saturday, November 14th, at the Whitehall Rooms, Hotel Metropole, S.W., under the chairmanship of Mr. Robert Todd, president of the club.

A.A. New Premises.

The Automobile Association Road Department has grown so much of late that it has been found advisable to transfer this department to 8, New Coventry Street. All communications referring to patrols, applications for agencies, positions, etc., should be sent to that address.

Electrical Cycles.

A reader named Mr. V. C. Double-day informs us that towards the latter end of 1892 he formed a small syndicate for the purpose of experimenting with electrically-propelled tricycles, and has just come across a cutting from *The Financial News* of that time which now (sixteen years afterwards) affords rather amusing reading. The



Mr. C. H. Stephenson, in sending us the above photograph from Bergen, says: "How is this for hill-climbing? Have never seen a motor cycle in Norway, but I long for my Vindec. Roads are good but narrow."

article is headed "Electrical Cycles," and among other paragraphs more humorous than the rest may be mentioned, "The existing cyclist is the terror of the thoroughfares. If electric cycles are to supplement the existing hazards of the road, life will only be tolerable on some pathless moor or on the rugged boulders of a rocky coast.

To be knocked down and run over by an athletic cyclist is bad enough. To be knocked down and run over by an indolent person, who lets the batter do all the work, would be the very depth of humiliation. Harley Street would be shocked out of its propriety if by any chance some daring disciple of Æsculapius ventured to go hounds on the new vehicle, etc., etc. Hundreds of the aforementioned disciples now go their rounds on motor cycles, and Harley Street has not lowered all its blinds to hide the shock received to its propriety.

The T.T. Shilling Fund.

A reader of *The Motor Cycle* in sending a shilling towards the shilling fund for the Motor Cycle Tourist Trophy Race says he is not as yet the lucky possessor of a motor cycle, but he takes a great interest in motor cycling and reads *The Motor Cycle* every week.

A Coincidence.

It is a strange fact that one of our most celebrated firms of car manufacturers has for next year altered the shape of the top of the pistons from flat to concave, whereas a noted firm of motor cycle manufacturers has recently decided that a piston with a convex top is an improvement over the flat topped piston, and will use such during 1909.

Police Traps.

One between Trumpington and Cambridge bridge. Another extending from the foot of the Gog Magog Hills, along the Hills Road towards Cambridge. The last-named is worked mainly during the week-ends throughout the University terms.

There is a measured quarter-mile between Milford and Godalming, on main Portsmouth Road.

Between Saltash and St. Mellion, on the Plymouth-Launceston Road.

A Motor-propelled Canoe.

A well-known Oxford motor cyclist and a contributor to *The Motor Cycle* Mr. O. L. Bickford, has made himself a steam canoe of small dimensions. He first of all tried a 1½ h.p. motor bicycle petrol engine, 2in. bore by 2¼in. stroke, air-cooled, but the vibration of the engine made the seams of the canoe leak, besides, it had a habit of catching fire. He finally adopted a small steam engine, a description of which was recently published in the *Mode Engineer and Electrician*.

A PERFECT MOTOR CYCLE MAGNETO!

PRICES :

For single
cylinder :

3 H.1. £4-0-0

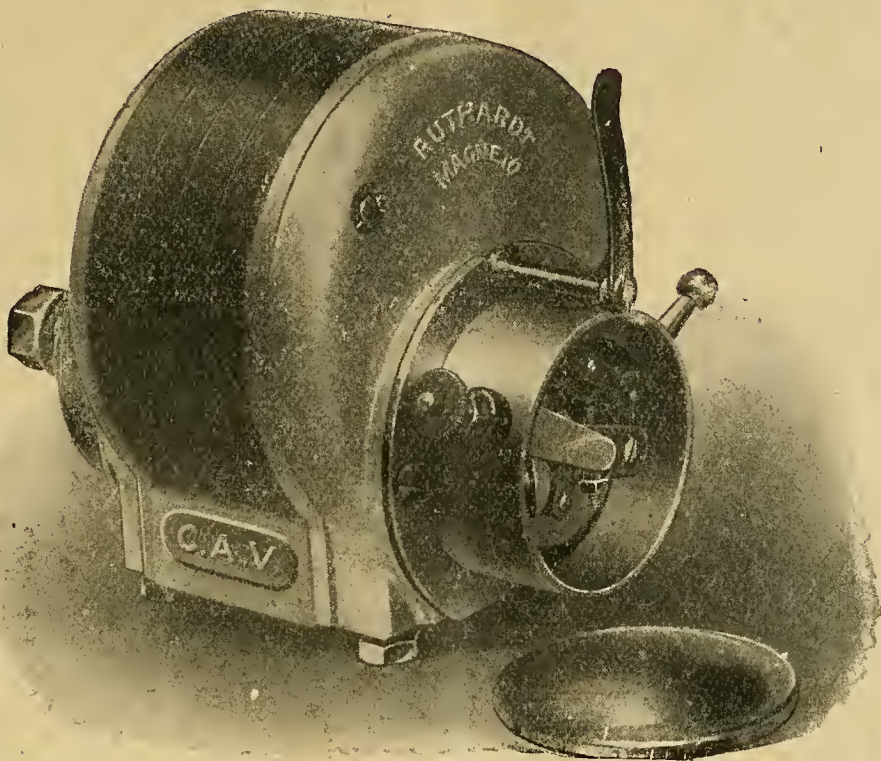
4 H.1. £4-17-6

For twin
engines, V type

4 H.2. £6-0-0

Four-cylinder :

6 H.4. £11-17-6



Lightest

Neatest

Dustproof

Waterproof

Reliable
and
Efficient.

THE "RUTHARDT."
C.A.V.

SOLE AGENTS: C. A. VANDERVELL & CO., WARPLE WAY, ACTON VALE, W.

.. THE ..

RUBBER WATAWATA

shares most of the qualities of
the Leather WATAWATA,
and is well in advance of all
other composition belts.



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W. B. BROOK, 318, KING STREET,

H. M'ERSMITH, W.

.. THE ..

LEATHER WATAWATA

is the greatest of power
economisers, and possesses
most wonderful tenacity and
durability.

WHICH WATAWATA ?

Whether you be in favour of a composition belt or a leather one, you cannot do better than choose a Watawata. Durability, strength of grip, and wastage prevention, are features of both belts owing to the scientific lines on which they are constructed. Another point about the modern Watawata, is the hook fastener which permits of quick and easy shortening.

Write for List, Dept. B,

O. & W. ORMEROD, LD., ROCHDALE.

Watawata

Belts in Rubber or Leather are the most efficient made.

A MYSTERIOUS DISEASE & MOTORING NERVOUS EXHAUSTION.

The Strain on the Brain and Nerve-centres causes the Exhaustion of Neurasthenia.

A Scientific Method of Brain-feeding and
gratulations of His Holiness the Pope's

Strengthening earns the con-
Physician-in-Ordinary.

The heavy sleep engendered by motoring, especially driving, is now known to be caused by a form of exhaustion of the brain and nerve centres. The muscles do not tire anything like the extent that the brain and nerve cells do.

As showing the capacity of the muscles alone to resist fatigue, take the case of Burgess, the swimmer. After his recent record swim of twice round the clock in the English Channel, he climbed up the side of the accompanying tug, and within two or three minutes of lying down was sound asleep.

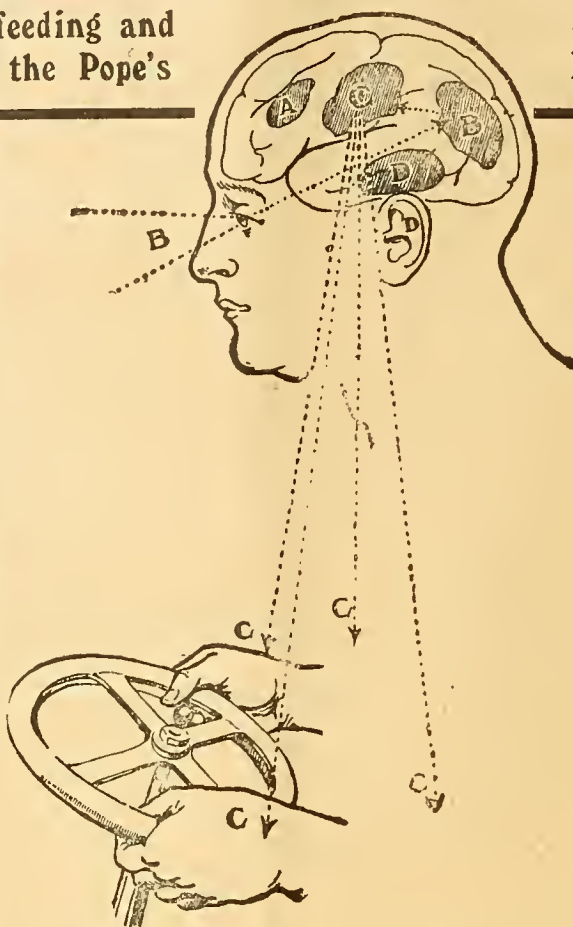
Now, the wear and tear upon the nerve centres of brain and nervous system of the driving of a motor are far more exhausting than in swimming. In the latter there is not the intense mental application demanded in driving a motor, especially a fast one.

Many accidents, trivial and serious, occur owing to lack of concentration, which means that the brain centres governing the mental functions of seeing, calculating, willing and directing of the hands that grip the steering wheel have either temporarily or permanently lost their power to act in unison.

The man or woman conscious of any of the following symptoms of the exhaustion of neurasthenia, so prevalent to-day among city residents and brain workers, and who takes up motoring as a health measure, is attempting the dangerous.

Sensitiveness			
Restlessness	Irritability		
Melancholia	Nervousness	Pessimism	
Hysteria	Fearfulness	Inaptitude for Steady Work	Dizziness
Memory Weakness	Weak Will Power	Lack of Mental Clarity	
Brain Fog		Insomnia	
Mental Derangement			
Suicidal Tendency			

What the reader conscious of any of the foregoing symptoms needs is to **feed**—and thus **strengthen**—the depleted nerve cells of his brain and nervous system.



Happily, a discovery of vital importance in the treatment of neurasthenia has recently been made by a distinguished German medical scientist—Dr. Carl Hartmann. So important, in fact, was this discovery in the domain of medicine that His Holiness the Pope's Physician-in-Ordinary wrote warmly congratulating Dr. Hartmann upon his achievement.

His letter is as follows:

Rome.
Dear Sir,—I made trial in my private practice of "Antineurasthin," and shall prescribe it henceforward, as it is an admirable agent for toning and strengthening the nervous system. I take the liberty of congratulating you on your discovery.

(Signed) DR. GUISEPPE LAPPONI
(Physician-in-Ordinary to
His Holiness Pope Pius X.)

That this high praise is not in the slightest degree unmerited is proved by the experiences of English men and women who have put Dr. Hartmann's discovery of a method of true physiological brain and nerve nutrition to the test.

Dr. Hartmann's "Antineurasthin" brain and nerve food feeds and strengthens the whole nervous system by first strengthening the weakest brain centres, whether they govern the optic nerve, or any other individual nerve, or group of nerve cells.

Hundreds of personal "experiences" can be seen at the London address for the supply of Dr. Hartmann's nerve food. It is most evident that there is a great—and ever-increasing—amount of neurasthenia in this country, and it is hoped that those who are conscious of one or more of the symptoms quoted in the "pedigree chart" of neurasthenia will not neglect to make a free trial of the antidote now available through Dr. Hartmann's nerve-feeding "Antineurasthin."

COMPLIMENTARY TRIAL SUPPLY TO READERS

A supply of "Antineurasthin," amply sufficient to demonstrate its wonderful brain-and-nerve-nourishing and nerve-sustaining qualities, is obtainable without payment. Two penny stamps for postage should, however, be enclosed as a matter of courtesy.

Card or letter application, with the stamps, should be addressed to the Antineurasthin Co., 139, Botolph House, Eastcheap, London, E.C.

With the complimentary trial supply will also be sent a pamphlet entitled "Nervous Disorders," together with a scientific review by Dr. Kuhner.

A NECESSITY When on Tour

A Folding Map for Motor Cyclists

(In Strong Case).

When on tour the motor cyclist is often faced with the question of which road to take or the best way to reach a certain place. All such difficulties can be overcome by carrying "The Autocar" Folding Map in your kit. It occupies very little space, as when folded it measures only 7½ in. × 9½ in. All main roads are marked in red, and the distances between all important towns are given.

PRICE 8/10, Carriage Paid.

Please mention that the folding map is required when ordering.

The Offices of "The Motor Cycle," 20, Tudor Street, London, E.C.



Another Advantage of Joining the M.U.

The Motor Union is offering a further addition to the privileges of membership. Members joining the Union now will receive for the usual annual subscription an extended membership from the 1st October, 1908, to 31st December, 1909, and will receive a copy of *The Motor Cycle* free from the date of joining to the 31st December, 1909.

A Separate Number for Every Motor Cycle.

Practically every motor cyclist knows that a registered number only applies to one motor cycle, and that the purchase of a new machine entails a fresh registration in every case. However, there are evidently a few riders who are still ignorant of this provision of the Motor Car Act, as an instance came under our notice recently where a motor cyclist had ridden three machines during five years, all of one make, with one registered number. He was under the impression that the change of number was only necessary in the case of a change of make, whereas if fifty machines of one make were bought in one year it would be necessary to have a fresh registration number for each one; otherwise it is impossible for the authorities to keep trace of the owner. The transfer of a registered number to a fresh owner can, of course, be made on payment of 1s., and it is sometimes possible to cancel the old numbers and have them re-allotted to new machines, but only by courtesy of the officials and payment of another 5s.

Sevenoaks Motor Cycle Fatality.

A very serious collision occurred on Pol Hill, on the Sevenoaks Road, on Sunday, 13th inst. A Bromley motor cyclist, Mr. T. Sheldon, was driving his 5 h.p. Peugeot up Pol Hill when at the sharp bend of the hill, in pulling out from behind a cart, he collided with another motor cyclist who was descending the hill. Mr. Sheldon was badly hurt and died the following Tuesday. The other victim was also hurt but not seriously.

The Inquest.

At the inquest on Mr. Sheldon at Bromley, Mr. A. O. Busbridge, of Woolwich, who collided, said deceased was driving uphill at the time on the wrong side; he sounded his horn when he pulled over to his right side, but too late to avoid a collision. Mr. Bourdon, the veteran cycle and motor agent, referred to deceased as a careful driver, but who drove at legal limit speed sometimes. After several witnesses had given evidence the jury returned a verdict of "Accidental death," no blame in their opinion being attached to Mr. Busbridge.

M.U. Handle-bar Badge.

The Motor Union cycle badge is still in demand, a total of 190 being issued up to the week ending 12th September, 1908. Besides the ordinary advantages of the badge, the special advantage is

that a member charged with an offence while carrying the badge is entitled to have half of his legal expenses paid, if they do not exceed £10; and a grant of £5 when they do exceed £10, provided that the Legal Cases Committee of the Union is satisfied that he did not commit the offence with which he was charged. The price charged for the use of the badge is 6s., and is not an annual charge, but the badge remains the property of the member so long as he continues his membership of the Union.

bicycles, of which the engines, if twin-cylinder, do not exceed 85 mm. by 95 mm. for each cylinder. Starters barred. Distance 5½ miles. Twenty-five entries, or the race may be void at the option of the executive. Entries close on Saturday next to the Clerk of the Course, Brooklands Automobile Racing Club, Carlton House, Regent Street, S.W., the fee being 10s. 6d. p.p.

Winter Roads.

Until the advent of the rubber-studded motor cycle tyres sideslip was almost inevitable under certain conditions of road surface. Certainly, steel-studded bands prevented sideslip on greasy roads, but they caused bad sideslips occasionally on granite setts either dry or wet. Riding on winter roads should have no terrors now for the average motor cyclist who is well protected from cold and wet. Our advice to every motor cyclist who wishes to ride his machine during the winter months, and under all weather conditions, is to procure a pair of rubber-studded covers, or have rubber-studded covers vulcanised to his existing tyres.

A New York Show.

The Ninth International Automobile Show organised by the American Motor Car Manufacturers' Association will be held in the Grand Central Palace, New York, from December 31st, 1908, to January 7th, 1909. Manufacturers who desire to secure space should communicate with the secretary, Spalding Building, 29, West 42nd Street, New York, before October 1st, 1908.

Tyres and Accessories.

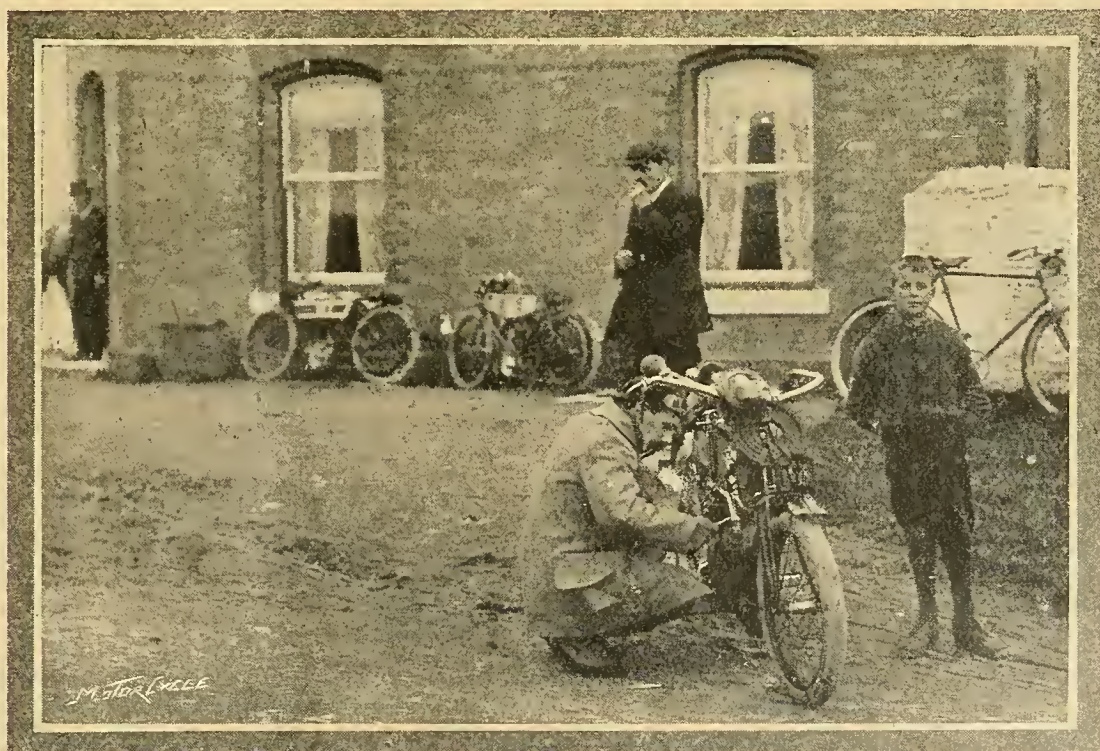
The issues of *The Motor Cycle* for October 7th, 14th, and 21st will contain specially illustrated articles on motor cycle tyres and accessories.

FUTURE EVENTS.

- Oct. 2—Gaillon Hill-climb, France.
- " 3—Bradford M.C.C. Open Hill-climb for Motor Cycles.
- " 3—Brooklands A.R.C. Meeting (Motor Cycle Handicap).
- " 3—Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.
- " 10—Auto Cycle Union Council Meeting at Leamington Spa.
- " 17—Auto Cycle Union Quarterly Trial of Motor Cycles, Uxbridge to Banbury and back.
- " 21—Motor Union General Committee Meeting.
- Nov. 20-28—Thirty-second Annual Stanley Show, at the Agricultural Hall, Islington.
- " 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.
- Dec. 16—Motor Union General Committee Meeting.

The Brooklands Motor Cycle Race.

The motor cycle handicap plate of 25 sovs. will be run on the 3rd prox. on the Brooklands Track, the entrant of the winner to receive 15 sovs., the entrant of the second 7 sovs., and the entrant of the third 3 sovs. For motor

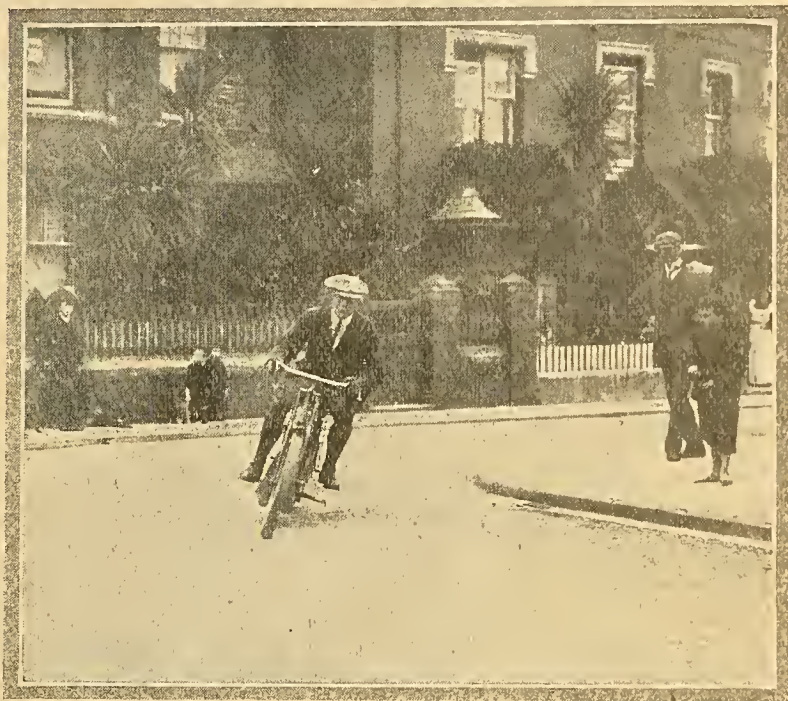


J. Lang (6 h.p. N.S.U.) changing a plug during early morning practice in the Isle of Man. The T.T. machines in the background are R. M. Brice's 3½ h.p. Brown and W. H. Bashall's 6 h.p. Bat-Jap.

The Motor Cycle Tourist Trophy Race.

Practising on the T.T. Course.

SOME good practice was put in by the T.T. competitors during the latter part of last week. Friday was almost a perfect day, as the weather and roads were both favourable. C. R. Collier was credited with the fastest lap among the single-cylinder competitors on Friday, as he got round in



Robert Ellis (3½ h.p. Rex) at Peel.

about 22m. Godfrey's time was 24m., and Brice's 25m. The two Colliers, Marshall, Newsome, Slaughter, Ellis, Gibson, Franklin, McMinnies, Cooper, Brown, Barker, and Godfrey in the single-cylinder class, Rem Fowler, Bashall, Gurr, Woodhouse, Heaton, Smythe, Applebee, Clark, and Baxter in the multi-cylinder class were out, but the circuit times were variable, as numerous stoppages were made to make adjustments. Saturday morning was dismal, owing to thick mist, and overnight heavy rain fell, but later the sun appeared, so that good practice was possible. In addition to the competitors above mentioned, Sir R. K. Arbuthnot was out practising, also Geiger and Bell.

The T.T. Prize Fund.

The amount received towards the above fund and already recorded is £91 16s. 3d. Additional contributions to the fund received up to Friday last are:

	£	s.	d.
J. W. G. Brooker	10	6	
J. K. Starley	1	1	0
Mrs. Schulte	1	1	0
Price's Patent Candle Co.	1	1	0
Moto-Rêve Co., Ltd.	3	3	0
Dr. H. R. Mayo	1	1	0
Amount previously acknowledged	91	16	3
Total	£99	13	9

The T.T. Shilling Fund.

Staff and employees Triumph Cycle Co., Ltd. (84), A. J. Sproston (20), T. F. Cox (5), E. Nelson (5), H. P. E. Harding (5), Two Irish Police (2), W. Simms, H. Lister Cooper, G. T. Willan, J. Harwood, D. K. Hall, S. Turnpenny, A. S. Blanch, E. J. Chapman, M. G. Duncan, A. Sharp, L. Newhall, and H. H. Bowen (1 each).

The funds have been established to provide cash prizes, and if possible help to defray the expenses, necessarily very heavy, of holding this year's International Tourist Trophy Race for Motor Cycles.

Cash Prizes for the Winners.

In addition to the Tourist Trophy (presented by the Marquis de Mouzilly de St. Mars), to be won in the single-cylinder class, and Dr. H. S. Hele-Shaw's trophy in the multi-cylinder class, cash prizes will be given as follows:

£25 to the rider arriving first in each class.

£15 to the rider arriving second in each class, provided there are six starters or more in each class.

£10 to the rider arriving third in each class, provided there are twelve starters or more in each class.

Additional prizes of £5 will be awarded to the private owner in each class, provided he is not amongst the first three, and that his performance is sufficiently meritorious.

A. W. Gamage, Ltd., Holborn, E.C., advise us that they have just been appointed sole agents for Robilac enamel, and hold a large stock of this enamel in French grey, black, and other colours.

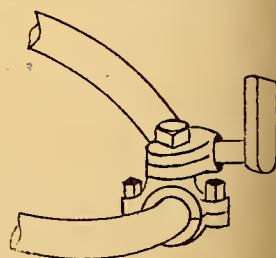
"THE AUTOCAR" MOTOR CAR LECTURES.

THE fee for the above course of eight lectures on the petrol engine, frame, gear, and other components of the modern motor car, already referred to in these columns, is one guinea. This will enable motor cyclists who are not conversant with the mechanism of their engines to gain an insight into every working part. The petrol engine, whether fitted on a car or motor cycle, works on the same principle, so that, although the lectures will deal primarily with motor cars, they will be of equal interest to motor cyclists, because not only will they gain knowledge regarding motor cycle engines, but information respecting the mechanism of motor cars, to which they may aspire later, will also be imparted to them at the same time. There are one or two alterations in the particulars announced last week. For instance, in Leeds the University will be the building in which the lectures will be given, not the

Yorkshire College; in Birmingham the University, Edmund Street, is the building selected, and the evening Wednesday, commencing October 21st, at 7.30 (not the 14th).

Members of the Motor Union will be interested to read that they can obtain the tickets for the full course of eight lectures at the reduced charge of 12s. 6d. on application to the secretary, 1, Albemarle Street, W. Ordinary tickets may be purchased from the secretary of the Lecture Department, 20, Tudor Street, E.C.

The handy little accessory illustrated has been introduced by Messrs. J. W. Greenwood, Ltd., Portland Place Works, Halifax. The lamp iron can be turned to any angle, as well as the turntable socket into which it fits.





Thirty-six Starters out of Thirty-seven Entrants.

DOUGLAS, Monday, September 21st.

We arrived in the island on Monday afternoon last in company with a number of other motor cyclists, the majority of whom had brought their machines with them. On approaching land Snaefell was seen to be shrouded in mist, and a damp pall hung about, showing that heavy rain had recently fallen. Once ashore, the number of motor bicycles struck us as being quite remarkable. On the two previous occasions on which motor cycle events have been held over here comparatively few machines have been brought over, but this year things are different, and in the afternoon on the road from Douglas to Saint John's they literally abounded. After the heavy rain the roads were in an appalling condition, being covered with greasy slime—in fact, Brice remarked to us that they were almost as treacherous as those encountered

examined the competing machines to see if they conformed to the conditions, and allowed each man his supply of petrol. For each rider of a single-cylinder machine two cans of different colours have been supplied—one (blue) holds a gallon, and the other (white) the remainder, 4 pts. 13 ozs. In the case of a rider of a twin-cylinder machine, one can (green) holds $1\frac{1}{4}$ gallons, and the other, which is likewise of a different colour, the remainder, 3 pts. $16\frac{1}{4}$ ozs.

Another test carried out this morning consisted of getting the men to drive their machines on full throttle from Ballacraigne to St. John's, so that the judges stationed near the latter village could testify that the machines were fitted with efficient silencers.

It is a matter for congratulation that not a single accident deserving of mention has occurred during the motor cycle practice—a fact which should help considerably to popularise the pastime.

DOUGLAS, Tuesday, September 22nd.

It was dull and misty in the early hours of this morning, but the day showed promise of being a fine one. The road from Douglas to St. John's had improved somewhat, and it seems likely that the greasy patches under the trees in the valleys may improve.

All the thirty-seven competitors save Varney have arrived at the starting post, and H. A. Collier states that he is ready to ride. The organisation is excellent. Each machine was emptied of petrol and then carefully supervised by the judges in the officials' enclosure. The machines were taken to a grass plot by the side of the course; each rider was stationed opposite his own number, at which was also his steward with the two coloured tins of petrol, a funnel, and a can opener. The spirit was measured out yesterday in special measures, accurately made to avoid spilling. A capital scoring board has been erected at the foot of Tynwald Hill, on which the numbers, names of machines and riders, the number of laps, and the times may be seen at a glance.

The Start.

The start took place at a point exactly opposite the telegraph office at St. John's, facing which was the timekeepers' tent, containing Messrs. Ebbblewhite, Glazebrook, and Mallam. The competitors and their machines were ranged up in a double line, singles on one side of the road and twins on the other. At 10.17 a.m. the two first men, C. R. Collier and H. Rem Fowler, were sent on their journey.



The winner of the single cylinder class. J. Marshall, whose $3\frac{1}{2}$ h.p. Triumph was in fine fettle for speed work.

in Derbyshire. At St. John's at about 5 p.m. many of the competitors were busy practising. Rem Fowler and Perryman on twin Nortons took the corner just past the start in excellent form, and in the yard of the inn hard by Brice, Bashall, and Tessier were putting the finishing touches to their machines. At the time of writing all the competitors have arrived except Varney (7 h.p. Crownfield), who telegraphs that he has met with an accident, and will be unable to compete; there is also some doubt as to whether H. A. Collier ($3\frac{1}{2}$ h.p. Matchless-Jap) will start, as he is said to be indisposed this morning. The officials

The Tourist Trophy Race.—

The sun was shining brightly, the weather was glorious, and the roads were rapidly drying. All started except E. Varney, and almost all without exception got away in excellent style. One of the most thrilling starts was made by Gurr's four-cylinder F.N., which showed itself capable of exceedingly rapid acceleration. J. C. Smythe started with a compression tap open and had to stop. S. C. Perryman failed to get going for some distance.

The spectators, of whom a great number were present, showed the greatest possible enthusiasm.

The following were the names of the competitors and their machines:

SINGLE-CYLINDER CLASS.

	Rider and machine.	Bore & stroke.
1.	C. R. Collier (3½ h.p. Matchless-J.A.P.)	85 × 76 mm.
3.	H. A. Collier (3½ h.p. Matchless-J.A.P.)	85 × 76 mm.
5.	J. Marshall (3½ h.p. Triumph) ...	84 × 86 mm.
6.	W. F. Newsome (3½ h.p. Triumph) ...	84 × 86 mm.
7.	J. Slaughter (3½ h.p. Triumph) ...	84 × 86 mm.
*10.	Robert Ellis (3½ h.p. Rex) ...	83 × 89 mm.
*12.	Gordon Gibson (3½ h.p. Triumph) ...	84 × 86 mm.
*15.	C. B. Franklin (3½ h.p. Chater-Lea-J.A.P.) ...	85 × 85 mm.
17.	R. M. Brice (3½ h.p. Brown) ...	83 × 89 mm.†
*21.	W. G. McMinnies (3½ h.p. Triumph) ...	84 × 86 mm.
*22.	H. Lister Cooper (3½ h.p. Triumph) ...	84 × 86 mm.
*24.	Capt. Sir R. K. Arbuthnot, Bart., R.N. (3½ h.p. Triumph) ...	84 × 86 mm.
27.	F. E. Barker (3½ h.p. Rex) ...	82 × 89 mm.
30.	O. C. Godfrey (3½ h.p. Rex) ...	82 × 89 mm.
34.	R. Bell (3½ h.p. N.S.U.) ...	80 × 80 mm.

MULTI-CYLINDER CLASS.

	Rider and machine.	Bore & stroke.
*2.	H. Rem Fowler (5 h.p. Norton) ...	76 × 80 mm.
4.	H. V. Colver (7 h.p. Matchless-J.A.P.)	85 × 85 mm.†
8.	R. M. White (6-7 h.p. Bat-J.A.P.) ...	85 × 76 mm.
9.	W. H. Wells (5 h.p. Vindec-Special) ...	75 × 76 mm.
*11.	W. H. Bashall (6-7 h.p. Bat) ...	76 × 95 mm.
*14.	Noel E. Drury (5 h.p. Matchless-J.A.P.)	85 × 60 mm.†
*16.	S. C. Perryman (5 h.p. Norton) ...	76 × 80 mm.
18.	C. E. Bennett (5 h.p. Vindec-Special)	75 × 76 mm.
*19.	W. Gurr (5 h.p. four-cylinder F.N.) ...	50 × 57 mm.
*20.	A. Moorhouse (5 h.p. Rex) ...	76 × 80 mm.
23.	E. G. Young (3½ h.p. Acme) ...	68 × 75 mm.
*25.	E. Varney (7 h.p. Crownfield) ...	76 × 98 mm.†
26.	H. Reed (5 h.p. Dot) ...	75 × 75 mm.
28.	W. Heaton (5 h.p. Rex) ...	76 × 80 mm.
29.	J. C. Smythe (5 h.p. Rex) ...	76 × 80 mm.
31.	F. Applebee, jun. (5 h.p. Rex) ...	76 × 80 mm.
32.	R. O. Clark (5 h.p. four-cylinder F.N.)	50 × 57 mm.
33.	M. Geiger (4 h.p. N.S.U.) ...	64 × 85 mm.
35.	E. Genisa (3½ h.p. Acme) ...	68 × 76 mm.
*36.	J. O. M. Dixon (5 h.p. Vindec-Special)...	75 × 75 mm.
*37.	J. Lang (6 h.p. N.S.U.) ...	75 × 90 mm.
*38.	J. Baxter (5 h.p. Rex) ...	77 × 78 mm.

* Private owners.

†Signifies plain coil ignition; all others had magnetos.

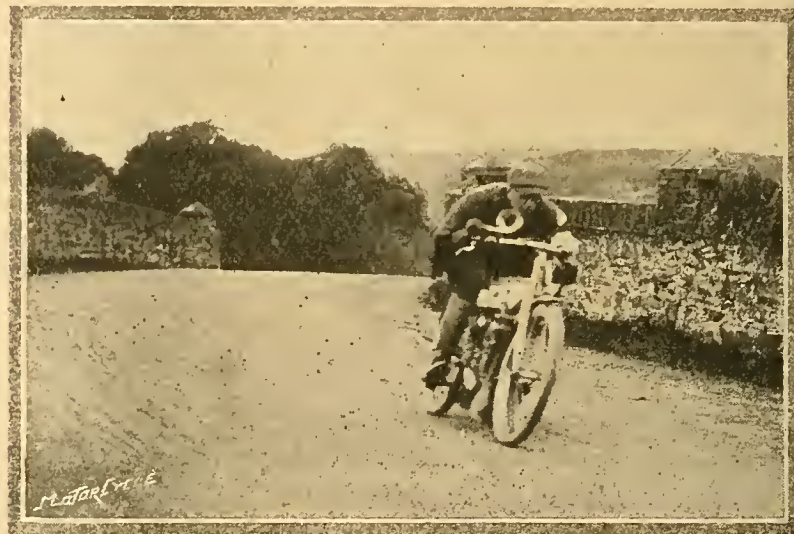
The men were started at intervals of two minutes, and in an incredibly short space of time the leaders came tearing by, having completed the first lap of 15 miles 1,430 yards.

Those who have made fast times on the first circuit are: J. Marshall, time 22m. 54s., averaging 41.4 miles per hour; W. H. Bashall, 23m. 3s.; and C. E. Bennett, 23m. 19s. Most of the men seem to be covering the circuits—15.81 miles—in an average time of about 27m. J. Baxter is said to have collided with the hedge at Ballacraigne Corner. Perryman on his second round passes the starting point with his spare belt hanging loose, and has to stop a few yards further on to secure it. At the end of his second round J. Marshall is still maintaining his lead, his time being 22m. 49s., thus having improved 5s. on his previous lap. Gurr's

sensational start has apparently availed him little, and Genisa's Acme has apparently been in trouble. This and the Acme ridden by E. G. Young are the smallest twin-cylinder machines in the race.

J. Baxter, who was reported to have retired, got going again, and completed the first round in about 56m. Most of the men are running most consistently, but of the few absentees no news has yet arrived. Smythe at the end of his third lap has stopped at the enclosure to replace a broken exhaust valve spring. Ellis broke a petrol pipe after having lowered the tank to allow the petrol to be properly drained out, thus putting an unfair strain on the pipe. This has compelled him to retire. Bennett's exhaust pipe came adrift, so he stopped opposite the timekeeper's tent, asked leave to continue, and, having received this, has restarted.

Ellis reports the course as being in splendid order, the roads being firm and devoid of dust. Collier at the end of his fifth round reports the course to be in



W. H. Wells cutting out the pace over the bridge between Peel and St. John's.

good order but bumpy. Immediately after the start he was troubled by misfiring, and he had to change a plug before reaching Creg Willey's Hill. Gurr retired without completing a round. At the end of the third round Marshall still maintained his lead, covering the lap in 22m. 45s. Next came C. R. Collier, time 18m. 18s.; followed by Colver, 23m. 23s. At the end of the fourth round, C. Collier took the lead, and covered the four laps in 1h. 35m. 28s. Bashall was next in order; time 1h. 36m. 20s.; circuit time, 22m. 35s.—the fastest so far. McMinnies held third place, time 1h. 38m. 17s. Bashall's average speed was 42.3 miles per hour.

The Half Distance.

At the end of the fifth round, every competitor was stopped at the enclosure and his own particular steward allotted him the remainder of his petrol. The first man to arrive at half-time was C. R. Collier.

At half distance the enclosure became a scene of great activity; men arrived in quick succession, just had time to snatch a little refreshment, and then filled up and restarted. Captain Arbuthnot arrived in excellent spirits, and said it was the biggest fun he had ever had in his life, and restarted as happy as a king, but with his tank none too full of petrol. News of troubles great and small came in thick and fast just at this time. Moorhouse broke a sparking plug early in the race, and pieces of the porcelain insulation got into

he Tourist Trophy Race.—

the inlet valve. J. Lang was troubled with a slipping belt, and had to put on his spare during his running time. F. E. Barker was reported to have retired with a broken crankshaft. W. H. Bashall stopped 8m. with a broken petrol pipe, and then restarted. Geiger restarted after the half-time interval with a full petrol tank. Many of the men were doing very well on their fuel allowance, but the question was, Would they correctly judge both speed and consumption?

Positions at Half Distance.

At the end of the fifth lap Collier kept his lead, time for the distance, 2h. 8m. 49s.; circuit time, 3m. 21s. Bashall was next in order of speed, 2h. 8m. 54s.; circuit time, 3m. 34s. Marshall held third place, time 2h. 11m. 7s.; circuit time 3m. 39s. In this round both Newsome and White made exactly the same time, namely, 2h. 15m. 25s. In the sixth round the race had practically resolved itself into a duel between C. R. Collier and J. Marshall, although Bashall, Wells, White, and Newsome were pressing hard on them, only a few minutes separating the leading riders. The times at half distance stood as follow: Collier, 2h. 32m. 18s.; Marshall, 2h. 33m. 53s.; Wells, 2h. 37m. 47s.; Bashall, 2h. 38m. 25s.; White, 2h. 38m. 47s.; Newsome, 2h. 40m. 26s. The above was the position of the race at half the distance, but whether or not the leaders would have sufficient petrol on which to finish no man could tell. News of two retirements came to hand—White had a stripped magneto union and Genisa a broken cylinder.

In the seventh round Marshall had gained on Collier, and was now only 49s. behind him, Collier's nett time being 2h. 56m. 8s., Marshall's 2h. 56m. 57s.



C. R. Collier (3½ h.p. Matchless-Jap), last year's winner, nearing Peel. In 1907 J. Marshall was second, but the positions were reversed in Tuesday's race.

At the end of the eighth round Marshall took the lead, his time being 3h. 19m. 30s. and Collier's 3h. 19m. 58s., and he was thus 28s. ahead. The following riders did not arrive at half-time: E. G. Young, F. E. Barker (broken piston), W. Heaton, and F. Applebee, jun. H. V. Colver experienced a puncture, which he repaired, and got going again.

R. Bell did not start on his fifth round till very late, having had many punctures. In the ninth lap Marshall increased his lead, and completed the circuit in 22m. 20s., average speed, 42.4 miles per hour, thus improving on Bashall's fourth lap time of



Capt. Sir R. K. Arbuthnot, Bart., R.N., who finished third—thirteen minutes behind the winner. This performance was quite the best of the private owners.

22m. 25s. Marshall's nett time was 3h. 41m. 50s., and Collier's 3h. 43m. 52s. As the time for the completion of the tenth lap drew near the excitement of the spectators rose to fever heat. At last Marshall came in sight, this time leading by 200 yards. Collier came next 2m. 16⅓s. behind in point of time. Marshall's ride was a splendid performance, especially as on his third round he had to replace an exhaust valve. He completed the distance in 4h. 4m. 50⅓s. The amount of petrol left in his tank was 38 ozs., showing he could have driven faster if he had been able to tell the amount of petrol he had left whilst running. His average speed throughout the race was 38.7 miles per hour. Collier covered the course in 4h. 7m. 6⅔s.; he had 22 ozs. of petrol left. Captain Arbuthnot came in third, having completed the course in 4h. 17m. 57s. Thus a 3½ h.p. Triumph won, a 3½ h.p. Matchless was second, and a 3½ h.p. Triumph third.

In the twin-cylinder class H. Reed (5 h.p. Dot-Peugeot) came in first in 4h. 15m. 58⅓s., average speed 37 m.p.h., residue of petrol 23½ ozs.; 2, W. H. Bashall (6 h.p. Bat-J.A.P.), 4h. 18m. 15s.; 3, R. O. Clark (5 h.p. four-cylinder F.N.), 4h. 21m. 2s. Bashall had 21 ozs. of petrol left at the end of the race, and Clark 58 ozs.

Following on the first three in the single and twin-cylinder classes, the results are as hereunder: W. F. Newsome (3½ h.p. Triumph), 4h. 22m. 9⅔s., residue of petrol 41½ ozs.; W. G. McMinnies (3½ h.p. Triumph), 4h. 33m. 24⅔s., residue of petrol 48 ozs.; C. B. Franklin (3½ h.p. Chater-Lea-J.A.P.), 4h. 40m. 32⅔s., residue of petrol 45¼ ozs.; H. L. Cooper (3½ h.p. Triumph), 4h. 43m. 36⅔s., residue of petrol 22 ozs.; O. C. Godfrey (3½ h.p. Rex), 4h. 43m. 54⅔s., residue of petrol 6 ozs.; R. M. Brice (3½ h.p. Brown), 4h. 49m. 58⅔s., residue of petrol 22 ozs.; G. Gibson (3½ h.p. Triumph), residue of petrol 10½ ozs. In this class H. Collier ran out of petrol, and Slaughter, Barker, Ellis, and Bell retired.

The Tourist Trophy Race.—

In the twin class Wells (5 h.p. Vindec) ran out of petrol just short of finishing his last round, or he would have held fourth place; time 4h. 25m. 15 $\frac{3}{4}$ s. J. Lang (6 h.p. N.S.U.), 4h. 32m. 41s.; residue of petrol 16 ozs. N. E. Drury (5 h.p. Jap), 4h. 35m. 56 $\frac{2}{5}$ s.; residue 10 ozs. A. J. Moorhouse (5 h.p. Rex) ran out of petrol, and had to push six miles; time, 4h. 55m. 26s. H. V. Colver (7 h.p. Matchless-Jap) ran out of petrol; time, 5h. 2m. 52s. J. O. M. Dixon (5 h.p. Vindec), 4h. 56m. 57s.; residue 8 ozs. S. C. Perryman (5 h.p. Norton), 5h. 22m. 21s.

The event was even more successful than last year, and considering that the machines were driven to their utmost limits they proved themselves most reliable. It is a matter for congratulation that not a single untoward incident of any kind marred the success of the race.



THE TOURIST TROPHY WINNER. J. Marshall, the fastest rider in the T.T. race. His mount was a 3 $\frac{1}{2}$ h.p. Triumph with Bosch magneto and Dunlop tyres. The average speed for 158 miles 220 yards was 38.7 miles per hour, and the petrol consumption well over 100 miles to the gallon.

In the 1907 race we may state for comparison that C. R. Collier (3 $\frac{1}{2}$ h.p. Matchless) won the single-cylinder class in 4h. 8m. 81 $\frac{1}{5}$ s.; average speed, 38.2 miles per hour; petrol consumption, 94 $\frac{1}{2}$ miles per gallon. 2, J. Marshall (3 $\frac{1}{2}$ h.p. Triumph); time, 4h. 19m. 47 $\frac{2}{5}$ s.; speed, 36.5 miles per hour; petrol consumption, 114 miles per gallon. 3, F. Hulbert (3 $\frac{1}{2}$ h.p. Triumph); time, 4h. 27m. 49 $\frac{3}{5}$ s.; speed, 35.4 miles per hour; petrol consumption, 90 miles to the gallon.

In the twin-cylinder class H. Rem Fowler (5 h.p. Norton) was victorious; time, 4h. 21m. 52 $\frac{4}{5}$ s.; speed, 36.2 miles per hour; petrol consumption, 87 miles per gallon. 2, W. H. Wells (5 h.p. Vindec); time, 4h. 53m. 41 $\frac{1}{5}$ s.; speed, 32.3 miles per hour; petrol consumption, 77 miles per gallon. 3, W. Heaton (5 h.p. Rex); time, 5h. 11m. 34 $\frac{4}{5}$ s.; speed, 30.5 miles per hour; petrol consumption, 107 miles per gallon.

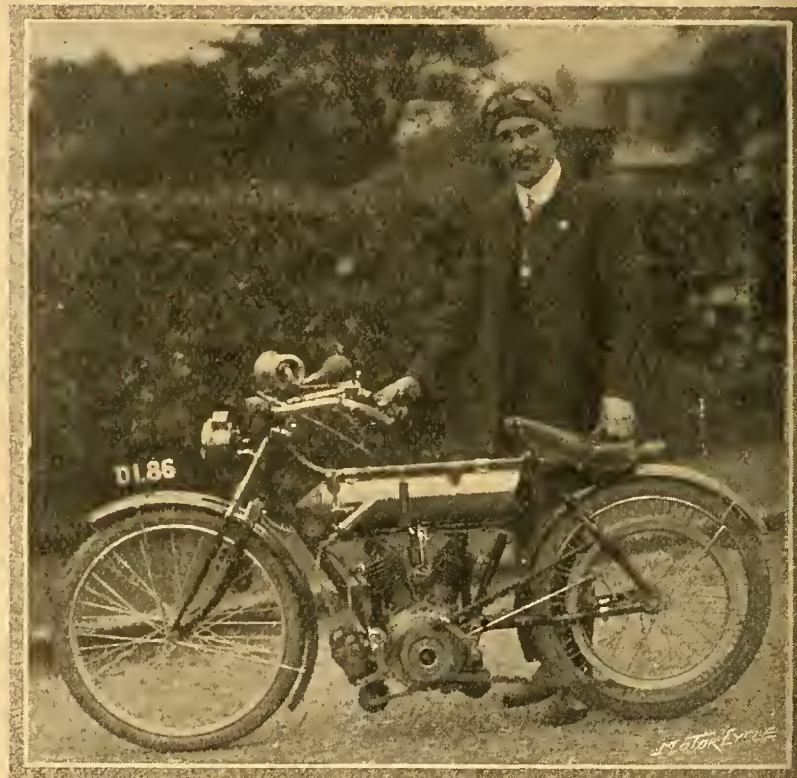
This year's contest has proved beyond doubt the usefulness of the race, for, on a reduced allowance of petrol, the foremost riders in both classes averaged a greater speed than was accomplished last year. H. Rem Fowler's fastest circuit in 1907 (22m. 6 $\frac{2}{5}$ s.) still remains unbeaten, for Marshall, who rode the fastest circuit on Tuesday, was 13 $\frac{3}{5}$ s. slower, his time being 22m. 20s.

We should like to take this opportunity of expressing our indebtedness to the Moto-Rêve Co. for placing a 2 h.p. Moto-Rêve at our disposal, and to Mr. Hughes, cycle agent, Wellington Street, Douglas, Isle of Man, for whose kindness the safe transmission of the above telegraphed description of the race from St. John's to Douglas per motor cycle was responsible.

SADDLE POSITION.

THE advantages of a low saddle position on a motor bicycle are fully acknowledged, but a want is only too often a very different thing from fulfilling it. Probably a good many others besides the writer have puzzled and schemed how to arrange a low seat on a high frame, so that it should be possible to sit astride the machine with the feet planted firmly on the ground. When a low saddle position is attained by the use of long armed pillar dropping down and extending back over the rear wheel, it involves an abuse of the frame which that member is neither designed nor well adapted to withstand.

But to return to the rider who is already in possession of a machine the saddle of which is more elevated than he cares for, even when lowered as far as



H. Reed, Manchester, the winner of the Multi-cylinder Class; average speed, 37.11 miles per hour. His mount was a 5 h.p. Dot-Peugeot, with Bosch magneto, Amac carburetter, and Dunlop tyres.

it will go. Remove the saddle and note how far the cross bolt of the saddle clip lies below the base of the saddle when the clip is inverted. Now remove the clip and hold—or, better, get someone else to hold—the saddle in place on the machine, being careful to get just the right tilt. Then mark on each side of the seat or saddle lug (which connects the saddle stays to the top of the diagonal or seat tube) a point as much below the saddle base as the clip pin lay. The lug is then drilled transversely with these points as centres, so that they should be as nearly in the middle of the lug as circumstances will allow. Before starting to drill, a well-fitting wooden or metal plug should be pushed a little distance down the diagonal tube to prevent the drillings (and subsequently dirt and dust) falling down the tube into the bottom bracket bearings; the hole should be drilled just large enough to receive the saddle clip bolt. The strap or arched part of the clip will not be wanted, but the serrated washers should be fitted to the saddle frame, and the bolt passed through them as in their original condition. Then, when the nuts are screwed on to the ends of the bolt, the saddle will be fixed in its new position. G. D. I.

CLUB NEWS.

Wakefield M.C.

The hill chosen for the first competition was Haigh, near Barnsley. The results were: 1, Mr. Spivey (2½ h.p. Minerva); 2, E. Slater, jun. (3½ h.p. Triumph); 3, Dr. S. Reader (3½ h.p. Triumph). Mr. E. Slater made the fastest time.

Perth and District M.C.C.

The Perth and District M.C.C. held a "Maximum Difference" hill-climb on Lochton House hill on Saturday, the 12th inst. The fastest and slowest times over the course (about half a mile) were respectively 1m. 15s. and 5m. 50s. The first four in order of merit were W. Bachelor, B. Syme, T. W. Frew, and W. J. Sommerville. The slow section of the climb was "paced" by several local pedestrians.

Lincolnshire M.C.C. (Grantham Centre).

An enjoyable combined meet of the Lincs. and Notts M.C.C.'s was held at Newark on September 13th. After partaking of an excellent lunch at the Ossington, under the guidance of the genial Notts captain, Mr. Young, the party explored the historic ruins of Newark Castle. Returning home, great care had to be taken by the Grantham riders owing to police traps.

Middlesbrough and District M.C.C.

A most successful hill-climbing test was held on Yearby Bank under the auspices of the Middlesbrough and District Motor Cycle Club. The names of the competitors and their machines are: Messrs. J. H. Dale, 3½ h.p. N.S.U.; G. W. Liddle, 3½ h.p. Triumph; W. A. Duchars, 3½ h.p. Rex; W. A. George, 3½ h.p. Rex; H. Brine, 5 h.p. Antoine; W. Danby, 2 h.p. Moto Rêve; R. W. Day, 3½ h.p. N.S.U.; G. R. Sanderson, 3½ h.p. Triumph; and —. Burnett, 5 h.p. Rex. The following are the results on formula: 1, G. R. Sanderson, figure of merit, .0088; 2, R. W. Day, .0086; 3, G. W. Liddle, .0084; 4 and 5, J. H. Dale and W. Danby, .0082; 6, W. A. George, .0078; 7, W. A. Duchars, .0072; 8, H. Brine, .0063; 9, Mr. Burnett, .0056.

On the 23rd inst. a petrol consumption trial has been arranged, starting from Marton Bungalow, at 3 p.m. over a twenty mile course; entry fee, 1s.

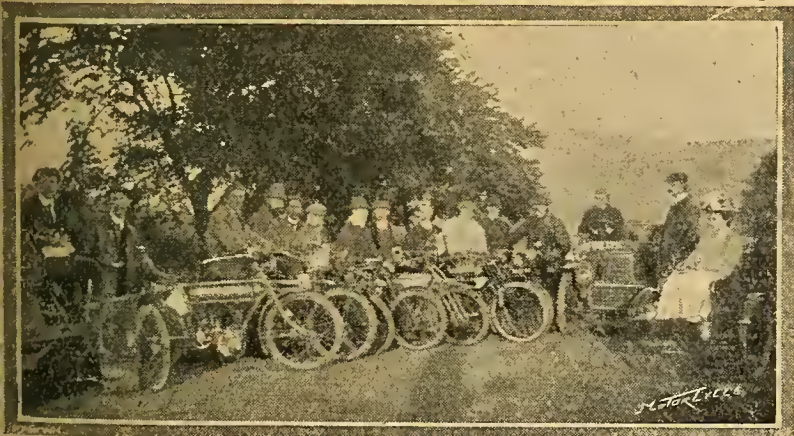
Stockport and District M.C.C.

The first hill-climb was held on Saturday, the 12th inst., and about fourteen members took part in the competition. The times were taken by Messrs. T. Gibbons and H. Swain by means of ordinary stop watches. Mr. A. Mugeli acted as starter. Results on formula:

Class 1.—1, T. Gibbons (3½ h.p. Triumph); 2, F. M. Nawell (3½ h.p. Triumph); 3, F. Briggs (3½ h.p. Midget bicar).

Class 2.—1, F. Allen (5 h.p. Peugeot); 2, H. C. Turner (5 h.p. Rex); 3, J. Woodrow (5 h.p. Rex).

Results on time.		Total weight.	
H. C. Turner (5 h.p. Rex)	...	X	324 lbs.
F. Allen (5 h.p. Peugeot)	...	+ 4s.	341 lbs.
T. Gibbons (3½ h.p. Triumph)	...	+ 9½s.	324 lbs.
F. M. Nawell (3½ h.p. Triumph)	...	+ 19½s.	336 lbs.
J. Woodrow (5 h.p. Rex)	...	+ 26s.	392 lbs.
W. C. Norman (5 h.p. Rex)	...	+ 42½s.	423 lbs.
F. Briggs (3½ h.p. Midget Bicar)	...	+ 62½s.	320 lbs.
F. Arthan (5 h.p. Rex)	...	+ 64½s.	395 lbs.



Fourteen riders took part in the Stockport and District M.C.C.'s first competition, which took the form of a hill climb.

Western District M.C.

The above club held its annual hill-climb at Dashwood on the 20th inst. There was a good muster of members. The fastest time of the day was made by H. Kirk (twin Brown), whilst H. Vowler (3½ h.p. Triumph) made fastest time for single-cylinder machines. The results, decided on A.C.U. formula, will be announced next week.

Motor cyclists joining the club now will be entitled to the full benefits of the club up to the end of 1909 for a subscription of 7s. 6d., with 2s. 6d. entrance. Write to R. R. Babbage, 16, Ripault Road, High Street, Fulham, S.W.

Motor Cycle Union of Ireland. Dublin Centre.

The Dublin Centre of the M.C.U.I. concluded a season of particular activity of the road on Saturday last with a hill-climbing competition at the Long Hill, leading from the Rocky Valley to the top of the Sugarloaf mountain in Co. Wicklow. The afternoon was not an auspicious one, as



Practising for the Tourist Trophy Race. W. H. Eashall and J. Marshall near Peel.

although no rain fell, a heavy cloud hung over the mountain, making the road greasy, as well as upsetting the carburation in the parts where it was particularly thick. The competition was divided into two classes—pedalling and non-pedalling—and in each class the fastest times were made by B. Dumphy and R. Walshe, both of whom rode J.A.P. machines, and did 3m. 5½s. and 3m. 11½s., and 3m. 40½s. and 4m. 19½s. respectively. The awards were decided on Professor Callendar's formula, and in the pedalling class Walshe won with 268 points to Dumphy's 295, while in the non-pedalling class Dumphy scored with 303 points to 312. The times were taken by Messrs. J. A. Armstrong and T. W. Murphy.

Ulster Centre.

At a meeting of the committee, held in the Grand Central Hotel, Belfast, on Friday, 18th inst., the result of the Muratti Trophy Competition was further considered. As Messrs. J. Stewart and C. E. Murphy had again finished exactly equal in points, it was decided to ascertain whether they would prefer to be declared joint holders of the trophy for 1908, with half a win each, or reride the Derry portion of the course again with a difference of fifteen minutes in the starting time.

A letter was read from the Triumph Cycle Co., Ltd., offering to present another trophy for an inter-centre contest, to take the place of the one which became the property of the Ulster Centre this year, and a resolution was passed thanking them for their generosity.

It was reported that permission had been given by the Bangor Urban Council to hold a hill-climbing competition at Central Avenue on Saturday, October 3rd, starting at 3.30 p.m., and arrangements were made accordingly. In the motor cycle section there will be a class confined to private owners and a class open to all members.

The President of the centre, the Marquis de Mouzilly St. Mars, wrote enclosing a cheque towards the prize fund.

Three new members were elected.

Club News.—

Bradford M.C.C.

The above club has received permission to hold the open hill-climb on the 3rd prox. on a hill which can best be reached *via* Keighley. It is situated one and a half miles from Oxenhope, has an average gradient of 1 in 10, and is one and a quarter miles in length.

Great Yarmouth and District M.C.C.

Readers will be interested to know what slow speeds a motor cycle is capable of when the rider wishes to travel very slowly, as in a tortoise race at a gymkhana. We understand that Mr. F. G. Galley occupied 5m. 43s. in covering 260 yards on his Anglian motor bicycle at the Great Yarmouth and District M.C.C. gymkhana. This is equal to a speed of $1\frac{1}{2}$ m.p.h. The Anglian two-speed gear was used.

Leeds M.C.C.

The above club held its annual speed trials on a private road at Templenewsam by kind permission of the Hon. E. L. Wood on Saturday, the 12th inst. Entries were divided into five classes, according to type of machine and size of engine, and with the exception of Class 2, were well supported. At the close of the competition an open class was run off, entries for this being taken on the spot. Electrical timing was employed, and Messrs. Langton, Fawcett, and Atkinson were the officials. The results are as follows:

Class 1 (for engines 76 by 76 mm.)—1, H. Simpson, $2\frac{3}{4}$ h.p. Royal Cavendish; 2, M. J. Kitchin, $2\frac{3}{4}$ h.p. N.S.U.; 3, T. W. Wake, $2\frac{1}{2}$ h.p. Ariel.

Class 2 (for engines 80 by 80 mm.)—Void. Insufficient entries.

Newcastle and District M.C.C.

The result of the team trials over a course of ninety miles is as follows:

First Team.—L. Rosenvinge ($3\frac{3}{4}$ h.p. N.S.U.), 90 marks; K. Rheinart ($3\frac{1}{2}$ h.p. N.S.U.), 75 (15 marks deducted for being 3m. too soon); B. Bradford (6 h.p. J.A.P.), 73. Total, 238 marks.

Second Team.—E. L. Bates ($5\frac{1}{2}$ h.p. N.S.U.), $49\frac{1}{4}$ marks; S. Hudson ($3\frac{1}{2}$ h.p. Hobart), 85; D. Mallett (4 h.p. N.S.U.), 85; E. Nicholson (6 h.p. N.S.U.), no marks allowed. Total, $219\frac{1}{4}$ marks. Hudson and Mallett lost 5 marks for being too soon.

Third Team.—T. W. Hall ($3\frac{1}{2}$ h.p. Quadrant), 90 marks; J. J. Hall (3 h.p. Quadrant), 18. Total, 108 marks.

The hill-climb has been declared off on account of police interference.

The competition for teams of three was run off on Sept. 13th, over a course of 135 miles to Kelso and back, and resulted as follows:

First Team.—S. W. Carty ($3\frac{3}{4}$ h.p. N.S.U.), L. Rosenvinge ($3\frac{3}{4}$ h.p. N.S.U.), and K. Rheinart (6 h.p. N.S.U.), $10\frac{1}{2}$ s. behind minimum time.

Second team.—Robson Crosier ($3\frac{1}{2}$ h.p. N.S.U.), R. L. Atkinson ($3\frac{3}{4}$ h.p. N.S.U.), and H. M. C. Bell (4 h.p. N.S.U.), 5m. behind minimum time.

Third Team.—L. Dixon ($3\frac{1}{2}$ h.p. Triumph), E. Parker ($3\frac{1}{2}$ h.p. N.S.U.), and D. Mallett (4 h.p. N.S.U.), outside maximum time.

A large party of members of the Newcastle and District Motor Cycle Club visited the Isle of Man to witness the Tourist Trophy Race.



Competitors in the Hull and East Riding Auto Cycle Club's Speed Judging Competition last Saturday.

Class 3 (for engines 85 by 85 mm.)—1, E. Slater, $3\frac{1}{2}$ h.p. Triumph; 2, J. Percival, $3\frac{1}{2}$ h.p. Triumph; 3, J. A. Mackay, $3\frac{1}{2}$ h.p. Triumph.

Class 4 (for multi-cylinder engines).—1, F. C. Bagshaw, 5 h.p. Rex; 2, R. Bolton, 5 h.p. Rex, J. R. Kelly, 7-8 h.p. Minerva, dead heat; 3, W. P. Allison, $5\frac{1}{2}$ h.p. G.B.

Class 5 (for special or racing machines).—1, E. S. Myers, $3\frac{1}{4}$ h.p. T.T. Triumph; 2, F. C. Bagshaw, 5 h.p. Rex; 3, P. H. Cockcroft, $3\frac{1}{2}$ h.p. T.T. Triumph.

Final (second attempt).—1, H. Simpson (N.S.U. shield and gold medal), 2s. faster; 2, E. Slater (silver medal), $1\frac{1}{16}$ faster; 3, F. C. Bagshaw (bronze medal), 1s. faster; 4, E. S. Myers, $\frac{4}{5}$ s. slower.

Open Class (open to any motor cycle).—1, E. S. Myers, $3\frac{1}{4}$ h.p. T.T. Triumph; 2, W. E. Grange, $3\frac{1}{2}$ h.p. T.T. Triumph; 3, Owen Brooks, 8 h.p. Brook-Buchet.

Lincolnshire M.C.C.

It has been decided that the Palmer cup, offered by Mr. E. J. Mitchell, manager of the Palmer Tyre, Ltd., shall be competed for in a reliability run to London on Saturday, October 24th. The members will stay in town over Saturday night, arrangements having been made for refreshments and hotel accommodation. The cup is to be won outright.

Teams of four are wanted for the team trial for the Brookes cup, the handsome cup offered by Mr. Brookes, the chairman of the Scunthorpe Centre. Arrangements are being made for a meet at Skegness, and for a meet and hill-climb at Elsham with the Hull A.C.C.

Hull and East Riding A.C.C.

The result of the speed-judging contest held from Hull to Hedon on Saturday last, the 19th inst., was: Crawford, rate of speed 14 m.p.h., error .062 fast; Bosville, 14 m.p.h., .117 fast; Loftus, 16 m.p.h., .483 slow; Straker, 12 m.p.h., .521 slow; Mrs. A. Tomlinson, 14 m.p.h., .568 slow; Darnley, 15 m.p.h., .632 slow; McDougall, 15 m.p.h., .789 fast; Pearson, $17\frac{1}{2}$ m.p.h., .961 fast; Brown, 15 m.p.h., .1000 slow; F. Green, 13 m.p.h., 2.062 fast; H. Tomlinson, 16 m.p.h., 2.536 fast; Nicholson, 17 m.p.h., 2.780 fast; Evans, 16 h.p.h., 2.750 fast; G. Mumby, 16 m.p.h., 4.571 fast; Blenkinsop, 17 m.p.h., 9.470 fast.

Result of speed-judging contest held from Hull to Hedon on same day to decide the ties in the Hull to Scarborough and back reliability trial: 1, T. H. Straker (3 h.p. Triumph); 2, R. Pearson ($3\frac{1}{2}$ h.p. Minerva); 3, R. Akester ($4\frac{1}{2}$ h.p. Rover tricar); 4, G. W. Mumby ($3\frac{1}{2}$ h.p. Triumph). The rate of speed in all cases was $17\frac{1}{2}$ miles an hour.

A $3\frac{1}{4}$ h.p. MILE A MINUTE MACHINE.

At the Leeds M.C.C. open speed trial the fastest time was made by Eric S. Myers on a $3\frac{1}{2}$ h.p. T.T. Triumph, the speed attained being $59\frac{2}{3}$ miles per hour for one-third of a mile, certified by electrical timing. To show the uniform running of the machine we may mention that Myers made three attempts in all, and each time did $20\frac{1}{5}$ s. for the third of a mile. The gear used was $3\frac{1}{4}$ to 1, so that the engine revolutions would be about 2,500 per minute.

Through the Gale on a Tricar.

A FORETASTE OF WINTER.

"A MESSAGE to go to Maxwell's, sir."

To Maxwell's, six miles away, with the roads flooded, and a blizzard blowing dead east!

"At once?" I ask.

"The man didn't say, sir, but he seemed in a hurry."

Where is my heavy coat, the one with the storm cuffs, and that fine broad turn-up collar? Here we are. Button it up well. Surely never had great-coat to keep out such weather as this. As I make my way to the surgery to get my emergency case, and a few bandages, the gale howls round the house in a paroxysm of fury, daring me, with gallons of hail and rain dashed against the window panes, to brave its strength and wrath. But the case may be urgent, surely must be urgent, or they would never send for me in *this*. I must go. I open the front door, and am almost hurled back into the hall. Now out into it, and much ado to haul the door to after me. I reach the garage, where lies my trusty little car, the mud from this morning's round not yet dry on its green sides and red leather seats. I back it down the slight incline from the coach house door, and the rain holds off a little. Thank goodness, perhaps I am going to have a dry passage after all. Out into the road, and the sight ahead, due west, is enough to appal the heart of the stoutest 6 h.p. tricar. A dark, heavy, swift-coming sky. Not clouds, but a whole storm-sky, black and tremendous. Look, it has burst on the hills a mile away, and you can't see them; they are lashed and torn by the pitiless gale, as we shall be directly.

The Start.

Tickle the carburetter, and start it up. All well. Now into the comfortable back seat, and tuck the waterproof rug round, so. As I press the lever slowly forward into the low gear, the first great cold drop splashes, hard driven, on to my face. We rattle over the cobbles, through the narrow winding street, not a soul about on a day like this. Now we are coming to the open road, and, leaving the protection of the houses, we begin to feel the full force of the biting, blustering wind. Once off the cobbles I try to change gear as usual, but the soft explosions, deadened almost to silence by the howling of the gale, are felt too far apart, and the car moves too slowly. No, we must drop down again. Two hundred yards from the village, and *now* we get it. Rain? No; sheets, buckets, gallons of icy water, hurled not down, but straight at us. I gasp and lower my head for a second or two, pulling the peak of my cap further over my eyes. I must look up here, though. The road narrows, and I pass between a high-walled barn on one side and a house on the other. A continuous stream from my cap peak is dashed sometimes across, sometimes into, my eyes. I hold on desperately to the wheel, daring only to look ahead at occasional intervals. We meet nothing. We are alone, in the teeth of the hurricane, and no one wishes to share the honours with us. We come to a stretch of road where I know we shall be tried to the uttermost, and we are. The 12ft. wall to our right concentrates the wind on the road; to the left only fifty yards of bare ground separates us from the sea. But a full spark and a slightly more open throttle prove equal to the occasion; indeed, as we descend a

slight dip further on I try the high gear, easing back the spark the least bit. It takes it well, but I cannot. The quickened pace lifts me through it too fast.

I Cannot Breathe or See.

I am beaten back from the steering wheel, my drenched garments held against me by a masterful wind-hand. I stand it a few more yards, gasping and quivering, but I cannot look up. My eyes will not open against this awful flying river. I must come down to the low again. I feel blindly for the lever, and push it forward once more. Ah! What was that? A miss, and another. Missing badly, and two miles to go. The water has beaten through and round me. I am sitting in a cold bath. It beats from the footboard backwards. It has reached past me and my waterproof rug, to accumulators, coil, carburetter, and engine. No wonder it is missing. Still we stagger slowly forward. Splash! through pools three inches deep all lashed up by the savage downpour. That last puddle bothered us. We might as well be running through the sea. Miss! miss! miss! Shove forward that spark a bit and close down the air just a trifle. It responds gamely, fighting against the miserable wet that swamps its vitals. Thank Heaven, here is a three hundred yards' stretch between high trees where we are sheltered ever so little from the stress of the gale. Good! It takes the high gear without a knock. I can stand the pace here, but wait till we reach the worst bit of all, on the other side of this wood. Open country between us and the sea, a slight rise in the road, the full fury of the storm, and—here we are.

The Full Force of the Gale.

Now, little Rexette. You'll want all your six horses here. I dash from shelter, and, still on the high gear, come full up against—a solid wall; a cruel, cutting, face-smashing wall of hail. I grab the lever just in time, and we forge slowly into it on the low gear. Miss! miss! I huddle back, holding up one arm to protect my face against this wicked, stinging ice. I can't see where we are going. I can't breathe. I can only feel. I must stop, and run for shelter. No! By gad, I won't. As long as the car goes, I will hang on to it. With head down I can still give an occasional glance to either side to keep her straight; and I know the road. But this hill in front; will it take it? Slowly we struggle on. I retard the spark, and this helps it. That last gust was almost too much for it, though. The curving front seat acts as a scoop for the furious wind, and it is full of hailstones. Slower. Slower yet. No, we can't do it. We are thrashed to a standstill. Wait though. By Heaven, it's stopped missing! But we are barely moving now, and I am numbed and crushed. My breathing is a mere sob, thin and gasping. Five—ten—twenty—fifty yards further, and not beaten yet. Thump! thump! thump! I daren't slip the clutch, it'll never pick up again. Hang on! hang on! Up towards the crest—up—up—and now, by the Lord Harry, over it! Hurrah! Well done. I'll give your chain an extra good soaking in tallow to-night, so I will. We are on the level, and defying the gale once more.

Who is this poor creature ahead, her skirts blown back, her umbrella blown inside out, and herself blown

Through the Gale on a Tricar.—

to a veritable halt? Surely no one but my friend the post "man" of the neighbouring village would be out to-day. Yes, there she is, holding on to her leather bag like grim death. She cannot hear me coming, and I pull up on reaching her, motioning dumbly to the front seat. She climbs in, thankful for the lift, though it will be but for half a mile or so. Now we sail down hill, and the gale, as if finding itself beaten

and defied, slackens, and the hail, too, ceases from troubling, though a sullen rain still lashes us. I stop at Mrs. Maxwell's door, and my passenger alights and trudges off. I cover the tricar as well as I can, and emergency case in hand, I knock for admittance.

"Oh, it's you, Doctor. I never thought you'd have come to-day. John was in the town this morning, and only called in to ask you to come in when you were passing to vaccinate the baby."

H. S. G.

Has the Tricar a Future?

By B. H. DAVIES.

AS an ardent tricarist of more than five years standing, I hold fairly strong opinions on the tricar question, and as there are a good many motor cyclists who are loth to see it die, I should like to contribute my quota to the discussion. I consider we have seen three main types of tricar, and from their histories and failures we may compile some useful pointers as to the future.

The 1903 Type.

The 1903 type was that launched on the market with the 3½ h.p. air-cooled, single geared, belt-driven Phoenix Trimco as a vanguard. I drove two or three of these, and I found they had only one failing, and that a serious one—they could not take two passengers up quite insignificant hills. They were comfortable, they were amply served by 2¼ in. tyres, and the standard of their reliability is identical with the reliability of the 3½ h.p. bicycle, to which any owner can affix a forecar. If a forecar were fitted to a 3½ h.p. motor bicycle of good make to-day it is only in hill-climbing that it would be unsatisfactory.

The 1905 Type.

The 1905 type consisted of a special frame, unsprung astern, but sprung forwards in some instances, and carrying a separately sprung chair for the passenger. The engine was water-cooled, and transmitted its power by a two-speed gear and chains. Samples of the type were the 4½ h.p. Riley and 4½ h.p. Humber. These tricars had three serious defects as a class:

- (1) Excessive vibration to driver.
- (2) Excessive frequency of minor troubles, due solely to vibration.
- (3) Front tyres too small for their work (2 in. or 2¼ in.)

The 1906 Type.

The 1906 type includes the big twin-cylinders of 9-12 h.p., with a gear box affording three speeds and reverse, frame sprung fore and aft, and a complete coach-built body. This type has one constructional defect and one practical defect, viz.:

- (1) Complete loss of steering control when back tyre bursts.
- (2) Cost equal to that of a small car without a car's sociability.

From these experiences I deduce the following conclusions about the tricar of the future:

1. It must not cost more than £80, or possible purchasers will prefer a small car, either new or second-hand.
2. It must not have a sprung rear frame. Hundreds of ex-tricarists have experienced a burst back tyre with

these frames, and do not intend ever again to find themselves seated on a motor going at thirty miles an hour and refusing to answer its helm.

3. It must be able to climb normally stiff hills.

4. Its specification must incorporate all the advances the last two years have introduced into standard motor bicycle practice.

A Suggested Specification.

From these deductions a specification is easily arrived at, somewhat as follows:

Engine.—5 h.p. air-cooled by enclosed fan, or water-cooled by thermo-syphon (pumps are too expensive and too troublesome).

Frame.—On no account rear sprung. Either sprung amidships with hinge *à la* Zenith, or sprung in front and rear seat sprung separately on a rigid frame. Open frame.

Drive.—Gears and chain. No reverse needed.

Weight.—3-4 cwt.

Price.—£60-£80.

Ignition.—High tension magneto, with geared starting handle (the old tricars would still be popular had they possessed this combination).

Brakes.—The brakes of the old tricars were, without exception, very poor. A 1909 tricar should have an emergency brake consisting of an expanding metal to metal in the rear hub. As this wears too fast for ordinary use, the main brake should be of a self-adjusting, wear-resisting pattern, *e.g.*, belt rim shoe on belt rim spoked to rear wheel on opposite side to sprocket. Front wheel band brakes are no use unless the drums be about 11 in. × 2 in., *i.e.*, twice as large as any ever yet sold as standard.

Tyres.—Rear wheel, 26 in. × 2½ in. or 3 in.; front wheels, 26 in. × 2½ in. 2 in. tyres are just big enough for the front wheels of a detachable forecar weighing 160 lbs., but vibration is less with large tyres.

Steering.—Direct, which is perfectly safe up to thirty miles an hour, and much the cheaper to manufacture.

One point more: Thanks to the failings of the early tricars, there is an immense prejudice abroad against tricars. This can only be killed if an annually increasing number of riders regularly drive a perfected machine, and have pleasant experiences with it. The makers have sinned too heavily against the public to be readily forgiven, or to be forgiven at all on the strength of a brilliantly written catalogue. The public is excessively suspicious of the tricar at present, and will need a lot of convincing.

This issue of *The Motor Cycle* is published one day later than usual to enable us to include a full description of the Tourist Trophy Race.

A word in season

The merit of the Roc lies in its comfortable low build, the Rider's feet easily approaching the ground. In its sound and strong duplex frame design the Roc is in a class apart. The Roc, with its 50 per cent. reduction on low gear, is the ideal for use with sidecar. The Roc has back axle, with pedal operated clutch and two speed gear, makes riding a luxury. The inclusive price of the Royal Roc 4 h.p. military model with ball-bearing engine and other features distinguishing this machine is 48 gns.

Roc magneto plugs	4/6
Roc adjustable pulley	15/
Roc magneto cut-out	2/6

Write for new fully illustrated pamphlet to the Sole Manufacturers:

If you already possess a serviceable machine it is good advice to send it to us now for conversion to the Roc clutch and speed gear system. The inclusive charge is 10 gns.

For use on greasy roads the Roc system is a real boon and comfort.

Note: Any belt-driven machine is eligible for the Roc conversion.

A. W. WALL, Ltd., ROC MOTOR CYCLE WORKS, **Birmingham.**

Tel: 5712.
Tel: Roc, Birmingham.

9 out of every 10

Motor Cyclists would be inveterate users of

The 'Stratex' Belt

(Berisford's Patent)

if they only knew how good, durable, efficient, and economical it is.

BROOKS Anti-vibratory Seat has patent compound compensating springs and is luxuriously easy with absolute freedom from vibration.

HERE ARE SOME OF

THE ADVANTAGES OF THE "STRATEX."

No belt fastener—therefore no breaking at the fastener, no gap, continuous drive; it grips all the time. No slipping in wet weather. Increased Engine Power through perfect transmission. Worn section easily replaced—ensuring uniformity of size, shape, and driving surface. Great flexibility, durability, and economy. At the Bocardo M.C.C. (Oxford) Hill-Climb, the fastest time was made by Mr. H. G. Hill, who used a "Stratex" Belt, which had already run over 2,000 miles—a good test of Efficiency with Reliability. Ask for the M.C. list



BROOKS SPRING SEAT.

J. B. BROOKS & Co., Ltd., Birmingham.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London, by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

THE

PREMIER.

Agents for TRIUMPH, BAT, N.S.U., REX, ROC, BROWN, VINDEC, MOTOSACOCHE, F.N., and other BEST makes. Delivery of TRIUMPHS in seven days. Most other makes from stock. The best selection of New and Second-hand machines in the kingdom.

Exchanges.

Deferred Payments.

SECOND-HAND MACHINES IN STOCK— SINGLE CYLINDERS.

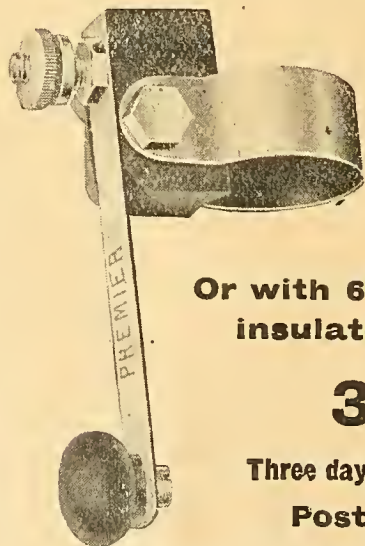
TRIUMPH, 1908, Magneto, standard model, grand condition	£37 0
TRIUMPH, magneto, 1907	28 0
VINDEC SPECIAL, 1907	30 0
REX DE LUXE, 3½ h.p., 1908, two-speed, soiled only	38 0
N.S.U., 3½ h.p., spring forks, Roc clutch, two-speed	23 0
QUADRANT, 3½ h.p., 1906, very good order	18 0
N.S.U., 3 h.p., spring forks	15 0
BIRCHFIELD, 3 h.p. Spray, 1907	11 10
B.S.A. 3½ h.p. M.M.C. engine, Clinchers, Lomax non-skid, Druid fork	11 0
ROYAL ENFIELD, 2½ h.p. F.N. carburetter, girder forks, good appearance and condition	10 0
WHITLEY, 3½ h.p., spray, running well	8 0
EXCELSIOR, 2½ h.p., spray, splendid order	8 0
MINERVA, 2½ h.p. Lonquemare carburetter, fine order	7 0
UNIVERSAL, 1½ h.p., vertical engine, spray carburetter	8 5

LIGHTWEIGHTS.

F.N., 1½ h.p., 1907, magneto, spring forks ..	£21 0
F.N., 1½ h.p., 1907, " special silencer ..	21 0
N.S.U., 1½ h.p., 1907, magneto, perfect	18 0
N.S.U., 1½ h.p., 1907, magneto	16 0

TWINS.

G.B. ZEDEL, 5-6 h.p., 1908, two-speed, spring forks, hand starting	£35 0
ROC, 5 h.p., twin Peugeot, magneto, clutch..	25 0
MINERVA, 7-8 h.p., perfect	26 0
N.S.U., 6 h.p., magneto, two-speed	23 0
N.S.U., 5½ h.p., magneto, good order	18 0
WERNER, 4 h.p., perfect order	11 0
JAP, Chater Lea, 6 h.p., magneto, nearly new	25 0
RILEY TRICAR, 5 h.p., two-speed, spring frame, wheel steering, water cooled, splendid order	52 0



THE Premier Magneto Cut-out

2/-

Or with 6ft. of best
insulated wire,

3/-

Three days' approval.

Post Free.

PREMIER ACCUMULATORS.

British made. 10 amp. 9/6. 20 amp. 12/6.

The PREMIER SPARE TUBE CASE
for preserving spare tube from damage & perishing 5/6.

WRITE FOR LISTS.

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For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20 Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard this silence as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham and Westmoreland.

EXCELSIOR, 2½ h.p., in first-rate order £12.—A. Paget Steavenson, Hurworth Darlington.

N.S.U., 1908 3½ h.p., magneto, two-speed, a new, also Montgomery sidecar; £30 lot —Smith, 62, Sandringham Road, West Hartlepool.

PERFECT Twin Ariel without engine, coil carburetter; exchange for single or twin; cash adjustment; or will buy engine.—Barrett, Barrow.

NEW 3½ h.p. Brown, magneto, spring forks and seat-pillar, Roc clutch and two-speed gear, handle-bar control; £40, or exchange for good cob and trap, or anything useful.—C. Storey, Richard Street, Hetton Durham.

5½ h.p. Twin Chase, 100 miles since re-bushing and overhauling, handle-bar control, variable Greenwood, two puncture proof bands each wheel, tyres good, spares etc., etc.; £25.—Timmis, 31, All Saints Road New Shildon, Durham.

SECTION II.

York and Lancashire.

3½ h.p. 1906 Rex, spring forks, good running order; £13.—23, Dock Street, Leeds.

2½ h.p. Minerva, girder forks, engine first class order; £11 10s.—23, Dock Street, Leeds.

2 h.p. Minerva, girder forks, good running order; £6 10s.—23, Dock Street, Leeds.

2½ h.p. De Dion, Chater-Lea frame, long handle-bars, good hill-climber; £12.—23, Dock Street, Leeds.

TRIUMPH, 1908, bought August 15th, ridden three times; £44 10s.—56, Gathorne Terrace, Leeds.

1908 Magneto 3½ h.p. Rex, practically like new; £20.—C. Clarkson, 28, Parkinson Lane, Halifax.

1908 Triumph, in grand condition, done about 2,500 miles; £37.—Cross, Jeweller, Rotherham.

3½ h.p. Humber, as new, spares for everything; £16.—Birchall, Tower Buildings, Old Road, Bolton.

MOTOR BICYCLES FOR SALE.

SECTION VI.

orcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

1000. Twin Antoine (magneto), in first-class condition; £24, or near offer.—Ciculus, Dimery, Wormelow, Hereford.

h.p. 1908 Triumph, magneto, Palmer cord tyres, horn, and tools, in good condition; £38.—L. Kinchin, Park Road, Litch.

IN Rex, 1907 (November), magneto, footboards, several additions, new; cost nearest offer to £27 accepted.—R. h. King's Norton.

SECTION VII.

oucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

h.p. Minerva, 1908, as new, not ridden 50 miles; £27 10s., or near offer.

h.p. Quadrant, magneto ignition, 1907, hardly used, perfect condition, head, separate generator, bell, horn, Brooks seat, cut-outs; a bargain. £32 10s., or near offer.

h.p. Excelsior, surface carburetter, Palmer back tyre, Clincher front, in good order; £8, or near offer.

h.p. De Dion Car, seats four, in good running order, lamps, tyres in good condition, genuine bargain; sale or exchange, £30, or near offer.

6 h.p. Stirling Panhard, horizontal engine, dogcart body, three speeds and reverse, brand new gears, lately painted, as new, wheel steering; sale or exchange, £25, or near offer.

h.p. Rover, 1907 type, seats four, splendid order, hood, screen, lamps; £170, or offer.

h.p. Werner; £5.

E above cycles are to be seen at W. J. Randall's Garage, 3, High Street, And-

HTWEIGHT N.S.U., new, spring forks; 32 guineas.—N. Fairbank, Bulford Camp, bury.

h.p. Rex, spray, trembler, good condition, Palmer back; £10.—53, Rosebery Avenue, Gloucester.

h.p. De Dion, Chater-Lea frame, good condition; bargain, £6 10s.—Firger, Botley, Hants.

h.p. Roc, magneto, spring forks, lamp, horn, stands, complete; £19.—53, Rosebery Avenue, Gloucester.

IRY Motor Cycle, nearly new, not been ridden 150 miles.—Apply. W. Rossiter, South Road, Kingswood, Bristol.

R Sale, N.S.U. lightweight, magneto, splendid condition; bargain, £25; or going abroad.—King, Lynchford Road, Lichborough, Hants.

VIN Minerva and Sidecar, spring forks, accumulator, adjustable pulley, all new, extra good tyres; £28.—Dr. Steven-Berkshire Hospital, Reading.

7.—John-O'-Groat's 3½ h.p. Rex, flies on level, weak on hills, wants tuning up; money order has it.—Mack, 7, Wiltshire Street, Southsea.

h.p. twin-cylinder Brown Magneto Motor Cycle and castor wheel sidecar, in very good condition, three very good new cord tyres, back wheel non-skid, line head lamp, handle-bar control, engine clutch, extra strong Watawata and spares.—K. Lambert, Mandora Works, Aldershot.

SECTION VIII.

rtford, Essex, Middlesex, Surrey, Kent, and Sussex.

N., 1908, four-cylinder, new May last; £35; owner bought car.—Below.

N., 1907, four-cylinder, in thorough working order, lately overhauled; £24.—

h.p. Kerry, 1904 type, in perfect condition; £12, or offer.—The Hulbert-Mey Motor Co., 96, Upper Richmond Road, Putney.

SPEAK UP.

If you are wanting bargains, go to MAUDE'S, the fair factors.

F.N., four-cylinder, magneto	£18
CLYDE, 2½ h.p., magneto	£15
C.I.E., 3 h.p., magneto	£19
TRIUMPH, 3½ h.p., 1907, magneto	£28
REX, 5 h.p., 1907 model, blue finish	£18
REX, 3½ h.p., 26in. wheels, very low	£12
MINERVA, 4½ h.p., 2½in. tyres	£23
REX, 1907, like new, with sidecar	£25
SAROLEA, 5 h.p., very low, new tyres	£23
WERNER, 3½ h.p., twin good condition	£17
ARIEL, 3 h.p., B. and B.	£13
MINERVA, 3½ h.p., M.O.V.	£16
CLARENDON, 3 h.p., vertical	£11
REX, 3 h.p., 50-guinea model	£10
BAT, 3½ h.p., spring frame	£19
REX, 3½ h.p., two speeds	£14
QUADRANT, 3 h.p., spring forks	£12
BAYLISS, 3 h.p., special price	£8
F.N., 2½ h.p., splendid puller	£12
HUMBER, 2½ h.p., very fine mount	£10
GIVAUDAN, 2½ h.p., perfect, non-skid rear	£15

LIGHTWEIGHTS.

£11 ZEDEL, 2 h.p.	£11
£11 LLOYDS, 2 h.p.	£11
£7 QUADRANT, 2 h.p.	£7
£8 MINERVA, 2 h.p.	£8
£7 JAP, 2½ h.p.	£7
£7 HUMBER, 2 h.p.	£7
£8 MINERVA, 2½ h.p.	£8
£10 ARIEL, 2½ h.p.	£10

50/- DOWN AND 5/- PER WEEK SECURES :

3 h.p. EXCELSIOR	£11
2 h.p. SINGER	£9
2½ h.p. JAP	£11
3 h.p. REX	£10
2 h.p. ORMONDE	£8
2 h.p. WERNER	£10
2½ h.p. MINERVA	£10
2½ h.p. CUNARD	£12
2½ h.p. LLOYDS	£11
2½ h.p. HUMBER	£8

TRICARS.

REXETTE, 8-10 h.p., two speeds and reverse. A perfect article	£60
GARRARD, 5 h.p., three speeds, water-cooled ..	£32
MINERVA Pattern, 3½ h.p., spray, good tyres ..	£16

CARS.

24 h.p. DARRACQ, perfect order throughout. Trial run	£110
14 h.p. GOBRON-BRILLIE, four speeds, two-cylinder, five seater	£80

FORECARS, Etc.

Three very good forecar attachments, new tyres to all and perfect	only £4 each
MONTGOMERY sidecar, shop-soiled, and made rigid, fits Rex	£5 10s.
BAT rigid sidecar, 26in. wheel	£4 10s.

ACCESSORIES.

PALMER TYRES (Cord).

Cover.Tube.	Cover.Tube.	Cover.Tube
26×2 43/6 10/-	26×2½ 59/3 16/3	28×2½ 63/6 11/-
26×2½ 58/9 11/-	28×2 50/3 10/-	28×2½ 64/3 17/6
11/- allowed on old covers, and 2/6 on tubes.		

TUBES (fully guaranteed).

26×2in. .. 5/6	26×2½in. .. 7/6	28×2½in. .. 7/-
26×2½in. .. 6/6	28×2in. .. 6/6	28×2½in. .. 7/6

APPROVAL.

TUBES (butt-ended).

You cannot do better than try one. Money returned in full if not perfectly satisfactory.

26×2in. .. 7/6	26×2½in. .. 8/3	28×2½in. .. 7/9
26×2½in. .. 7/9	28×2in. .. 7/6	28×2½in. .. 8/3

MAUDE'S MOTOR MART, Powell St., HALIFAX

National Telephone 488.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD for Great Bargains this week.—1908 lightweight N.S.U., almost new; £20.

HAMPSTEAD.—3 h.p. Triumph, good condition and going order; bargain, £12 only, with accessories.

HAMPSTEAD.—2 h.p. Singer, in good going order, magneto; only £5 10s.; guaranteed.

HAMPSTEAD.—3½ h.p. Fafnir, grand condition, with all accessories; £14 only, guaranteed.

HAMPSTEAD.—3½ h.p. 1908 Triumph, latest model handle-bar control, almost new; £36, great bargain; all accessories.

HAMPSTEAD.—1½ h.p. lightweight F.N., 1908 model, new condition; £18, with all accessories.

HAMPSTEAD.—4½ h.p. twin Minerva, 1907 model, spring forks, grand condition, all accessories; £20.

HAMPSTEAD.—5 h.p. twin Peugeot, Chater-Lea No. 6 frame, splendid condition; £24 for quick sale.

HAMPSTEAD.—Four-cylinder F.N., splendid condition, complete with all accessories; £18, a great bargain.

HAMPSTEAD.—5 h.p. twin Vindec Special, Tourist Trophy, 1908, magneto, only run 700 miles; £42, with all accessories, and sidecar.

HAMPSTEAD.—6 h.p. 1908 Litette, magneto, water-cooled, good condition, three months old; £40.

HAMPSTEAD.—1908 shop-soiled Griffons, 2½ h.p., £24; 3½ h.p., £28; 3½ h.p. twin, £33; 5½ h.p. twin, £44; 1½ h.p. lightweight, £26.

HAMPSTEAD.—Sole agents for Griffons, F.N.'s, Minervas, Vindec, Triumph, etc.; good cycles wanted.—Rey, 5, Heath Street, Hampstead. Tel. 2678, P.O. Close to Tube Station.

4 h.p. Jap, Chater-Lea, only wants seeing; £25.—59, Albert Road, Ilford.

3½ h.p. Minerva, as new; £20; any trial.—Rogers, 5, Burlington Road, Tottenham.

5 h.p. Twin Peugeot; £20.—Full particulars of Frank Baker, Post Office, Turnershill, Sussex.

2½ h.p. Brown, splendid condition, fast, reliable; bargain, £8 8s.—8, Crieff Road, Wandsworth.

ORMONDE, 2½ h.p., fast, reliable; £5, no offer.—Confectioner, 12, Kew Bridge Road, Brentford.

3 h.p. 1907 N.S.U., thoroughly good condition throughout; £14.—Ryland, Park Road, Farnham.

1908 Moto Reve, as new; great bargain, £26.—East Ham Garage, High Street South, East Ham.

GIVAUDAN, 68 by 70, Eadie fittings, low saddle, good condition; £7.—Raymond, Crawshay, Sevenoaks.

3½ h.p. Rex, splendid condition; £12, or nearest offer.—Dixon, 16, Navarre Road, East Ham, Essex.

£19.—Rex, 5-6 h.p., cantilever, non-skids, spares, perfect; offers.—11, Ormiston Road, Shepherd's Bush.

5 h.p. Two-cylinder Kerry, air-cooled engine, guaranteed perfect; £5 5s.—Carter, Motors, Grays, Essex.

MINERVA, 3½ h.p., 2½in. tyres, footboards; £12 15s.—Owen, The Cottage, Melbourne Lodge, Queen's Walk, Ealing.

HARROW.—Moto-Reve, spring forks, low frame, footrests and numerous spares, fully equipped, better than new; £27 10s.

HARROW.—3½ h.p. Birch, low built, long bars, Rich's tubes, a smart machine, in perfect order; £12 10s.

HARROW.—4½ h.p. Twin Minerva, spring forks and full accessories, not had six months' wear; a grand bargain, £25.

HARROW.—2½ h.p. F.N., long bars, low seat, extra large tyres and several improvements, a most reliable mount; £10 10s.

HARROW.—5½ h.p. Twin Rex, cantilever seat, just overhauled, and warranted equal to new, will do 50 per hour; bargain, £17.—Bunting, Wealdstone, Harrow.

MOTOR BICYCLES FOR SALE.

MINERVA, 3½ h.p., splendid climber, pull sidcar, all spares; £15 10s.—66, High Street, St. John's Wood.

3 h.p. Zedel, brand new, Chater, very low. Peter-Unions, everything best; £15.—73, Selham Road, East Ham.

FOUR-CYLINDER F.N., late model, magneto, spring forks, excellent condition; bargain, £19 19s.—Below.

BAT, 3½ h.p., spring frame, genuine De Dion engine and carburetter, like new; £17 10s.—Below.

ROVER, 3½ h.p., late type, M.O.V., belt drive; cheap, £14 10s.—Whittle, 41, Skelbrook Street, Earlsfield.

ANTOINE, 2½ h.p., low and fast, condition as new: seen any time; £12 10s.—66, High Street, St. John's Wood.

1906 Minerva, 2½ h.p., low, Palmer 26 by 2 cords, first-class refinements, very fast; £11.—44, Gopsall Street, N.

5 h.p. Twin Sarolea, Chater-Lea, Peter-Union tyres, fast; £18, or best offer.—224, Wood Street, Walthamstow.

3½ h.p. Humber, trembler, spray, Dunlops, spare tyre, take sidcar anywhere; £9.—200, Church Road, Willesden, N.W.

BEESTON Humber, 2½ h.p., free engine, perfect condition; £15.—"Motor," 18, Stockwell Park Crescent, Stockwell.

3½ h.p. Brown, mechanical valves, in excellent condition, very powerful; £15.—Wheatley, Aldington, Hythe, Kent.

h.p. Twin Rex, unpunctured, fast and powerful, as new; £22.—Syred, "Adela," St. Cross, Farnham, Surrey.

1907 3½ h.p. Minerva, spring forks, 26 by 2½ tyres, footboards; £13; perfect; photo.—131, Bunchurch Road, Brighton.

ROC Mo Cycle and sidcar; cost over £60 three months ago, all in perfect order; what offers?—Rice, motorist, Surbiton.

FAIRY, 2½ h.p., as new, all 1908 improvements; 15 guineas.—Box L3,247, the Motor Cycle Offices, 20, Tudor Street, E.C.

3 h.p. Minerva, Longuemare carburetter, just overhauled; must sell; bargain, £10 10s.—A.W., 85, Angell Road, Brixton.

8 GUINEAS Cash.—Chater-Lea, 2½ h.p. Sarolea-Kerry, medium lightweight.—Callcott, 13, St. John's Hill Grove, S.W.

1½ h.p. Minerva Lightweight, F.N. carburetter, going order; £6 10s. or exchange.—224, Wood Street, Walthamstow.

QUADRANT, 3½ h.p., late 1906, spring forks, accumulators, spares, in perfect order; £15.—Dorey, 16, Saxon Road, South Norwood.

2 h.p. Werner Bike, low, long handle-bar, etc.; £8, no rubbish, cost £48.—W., 28, Becklow Road, Shepherd's Bush, London, W.

2½ h.p. Quadrant, splendid order and condition, Longuemare carburetter; £10 offer.—"Carlton," Warwick Road, Snaresbrook.

2½ h.p. Werner, long bars, low seat, Brown and Barlow carburetter, handle-bar control, good order; £9.—M., Glencairn, Surbiton.

2½ h.p. Lurquin Coudert, Longuemare, accumulator, spare tube, valves, etc.; just overhauled; £9.—Webb, The Retreat, Ealing.

2½ h.p. James Minerva, low seat, long handles, in good condition; £12.—Clark, 19, Waterloo Road, S.E. Phone, 8965 Central.

3½ h.p. Ascot Motor Cycle, perfect condition; room wanted; sacrifice £9 15s.—Brown, 4, Yeoman's Row, Brompton Road, London.

6 h.p. Twin Motor Cycle and sidcar, in perfect condition, complete with all spares; sacrifice £35.—141, High Street, Merton, S.W.

3½ h.p. Minerva, Enfield fittings throughout, sound and reliable; £18, or nearest offer.—H., 8, Folkestone Road, Upper Edmonton.

BARGAIN of the Season.—3 h.p. Genuine Quadrant, spring forks, absolutely new condition, perfect in every respect, climbs everything, most reliable; £12.—"S.", 86, Colvestone Crescent, Dalston, London.

3½ h.p. Minerva, Enfield fittings throughout, sound and reliable; £18, or nearest offer.—H., 8, Folkestone Road, Upper Edmonton.

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OFFERS

for cash will receive every consideration and prompt reply. Room wanted for 1909 Models.

TWINS—Offers Wanted.

6 h.p. Twin Rex, £18 18s., or £4 and '07 Single Rex, or £6 and 3½ Rex, or level exchange with Single Magneto Rex.

SPECIFICATION.—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

1908, magneto, Twin REX, little used	£35 0
5½ h.p. N.S.U., magneto, new, 1908	£52 0
5 h.p. Twin VINDEC, magneto, Truffault ..	£35 0
5½ h.p. REX DE LUXE, 1907, brand new ..	£35 0
5½ h.p. Twin REX, spring forks, black finish ..	£18 18
5½ h.p. REX DE LUXE, magneto, Roc clutch ..	£27 10
Twin REX, blue lines, new tyres	£18 18
6 h.p. Twin REX, non-skids both wheels ..	£18 18
5½ h.p. Twin REX, magneto, 1907	£23 10
4-5 h.p. Twin ALCYON, N.S.U., two-speed ..	£20 0
5 h.p. Twin SAROLEA, long frame	£18 18
6 h.p. Twin ANTOINE, R.O.M. ignition ..	£22 0
Twin CLEMENT, spring forks, smart	£14 0
5 h.p. Twin ONAWAY, very low, spring forks ..	£19 0
6 h.p. Twin ANTOINE, spring forks	£22 0
5½ h.p. REX DE LUXE, two-speed	£32 10

SINGLES—Offers Wanted.

1908 REX, magneto, featherweight, nearly new ..	£19 19
1908 MOTOSACOCHE, splendid condition ..	£22 10
1908 N.S.U. Lightweight	£22 10
1908 3½ h.p. N.S.U., had trial only	£34 0
1908 3½ h.p. REX DE LUXE, two-speed	£35 0
3 h.p. SINGER, H.T. magneto	£20 0
3 h.p. TRIUMPH, magneto	£24 10
3 h.p. TRIUMPH, spring forks	£21 0
3½ h.p. Magneto REX Racer, a flier	£25 0
3½ h.p. 1906 REX, spring forks, long bars	£15 0
2½ h.p. Magneto REX, 1908, shop-soiled	£22 0
3½ h.p. MINERVA, M.O.V., vertical, spray ..	£16 10
3 h.p. GIVAUDAN, nearly new, very low ..	£16 0
3 h.p. QUADRANT, spray, spring forks	£13 0
3 h.p. LLOYD'S, 26×2½ in. Palmers	£13 10
4 h.p. ANTOINE, vertical, M.O.V., spray ..	£16 0
2½ h.p. MINERVA, fine condition, M.O.V. ..	£13 10
2½ h.p. CLYDE, magneto, vertical, spray	£15 0
4 h.p. ANTOINE, 26×2½ in. tyres	£16 10
3½ h.p. SIMMS, magneto, 2½ in. Palmers ..	£17 10
3½ h.p. QUADRANT, 1906, spring forks	£18 10
3½ h.p. CENTAUR, free engine, M.O.V.	£16 0
2½ h.p. F.N., special frame, reliable	£12 10
3 h.p. HUMBER, spray, good climber	£10 10
3 h.p. FAFNIR, very low, spray	£13 10
3½ h.p. REX, 2½ in. frame, trembler coil ..	£11 10
2½ h.p. MINERVA, 26×2½ in., spray, vertical ..	£11 10
3 h.p. BROWN, spray, guaranteed	£12 10
3 h.p. M.M.C., spray, very low	£10 0
3½ h.p. EXCELSIOR, spray, trembler coil ..	£10 10
2½ h.p. COVENTRY EAGLE, vertical spray ..	£10 0
3½ h.p. Two-speed REX, suit sidcar	£13 10
2½ h.p. F.N., light, low, smart appearance ..	£12 0
2½ h.p. CLEMENT, very low, good order ..	£11 0
2 h.p. KERRY, spray, low, reliable mount ..	£10 10
2 h.p. RALEIGH, spray, smart	£8 0
2½ h.p. ROYAL, vertical, spray, trembler coil ..	£7 15
2½ h.p. HASKARD, spray, smart	£11 10
1½ h.p. MINERVA, spray, suit light rider ..	£5 10
2½ h.p. EXCELSIOR, trembler coil	£8 0
2 h.p. HUMBER, chain drive, trembler coil ..	£6 10
2 h.p. PEUGEOT Lightweight, smart	£9 10
2 h.p. Magneto SIMMS, vertical engine, spray ..	£6 10
4 h.p. CORONET, tyres as new, smart	£14 0
2 h.p. MINERVA, spray, smart, good	£7 0

TRICARS.

4½ h.p. W.C. BRADBURY	£37 10
5½ h.p. QUADRANT Carrette	£35 0
5½ h.p. REXETTE, W.C., two speeds	£35 0
REX, Mills-Fulford	£13 0
Twin REXETTE, W.C., two speeds, 8 h.p.	£47 10
4½ h.p. STEVENS Tricar, very low built ..	£15 0
5 h.p. HUMBER, open frame	£35 0
REX, Phoenix Two-speed	£18 10

CARS.

18 h.p. REMO	£225 0
10-12 h.p. BRUSH, tonneau, three speeds, reverse	£55 0
6½ h.p. ASTER, three speeds, reverse, two-seater	£30 0
6½ h.p. HUMBERETTE, three speeds, reverse, two-seater	£45 0

High-class Magneto Machines Wanted for spot cash.

The Halifax Motor Exchange,
16, Westgate, Halifax.

Telephone: 766.

Telegrams: "Perfection."

MOTOR BICYCLES FOR SALE

3½ h.p. Quadrant, spring forks, elect headlight, splendid running order, every spare; £17.—Shutes, 9, Cannon Place, Hampstead.

3½ h.p. Humber and sidcar, two-speed chain drive, £15; cycle, only £11 10.—George, 30a, St. John's Road, South Tottenham, N.

1907 Triumph, magneto, 3½ h.p., non-skid back, excellent condition, lam spares; £32.—St. Gwithian, Southwood Road, New Eltham.

HIGHBURY.—3 h.p. Excelsior, with Mi ford steerable sidcar; £15; condition perfect, spares, tools; genuine bargain.—Northolme Road.

3½ h.p. Quadrant, 1907, spring forks, in perfect order, numerous spares, good climber; bargain, £20.—Crawford, Tidbrook, Wadhurst.

2 h.p. Lightweight, spray, girder fork Dunlops, splendid running order; 10s.; push bike part payment.—55, Rye House Park, Peckham Rye.

3½ h.p. Whitley, low frame, long bars, perfect running order, just been rebuilt, new Michelin; £9.—Walter, 19, Fieldhouse Road, Balham.

FOR Sale, 10 h.p. Four-cylinder Laurier Klement, £35; and 5-6 h.p. Givaudan. Particulars on application to F. Wald, Pratoria House, Sandgate.

3½ h.p. Motor Cycle, Minerva engine, Chater-Lea frame, good condition; £15, or near offer.—Mr. W. Dornin, 25, Rockford Street, Gospel Oak.

LATEST 7 h.p. Chater-Lea Motor Cycle and sidcar, magneto, Jap engine, etc.; guineas; practically new.—D. Sullivan, Hubert Grove, Stockwell.

4½ h.p. Minerva, late 1907, magneto ignition, tyres good, non-skid on back, many spares; owner gone abroad; £22. Staines Motor Co., Staines.

MOTOR Cycle, 2½ h.p. Antoine, perfect working condition, low; £9 cash, would take sidcar in part payment.—Titshall, Lamb's Conduit Street, W.C.

6 h.p. Twin N.S.U., 26 by 2½ Continental lamp, horn, stand, tools, nearly new; £35 for quick sale; no exchange; seen anytime.—Wyke House, Ealing, W.

VINDEC Special, 5 h.p., 1907, Chater-Lea sidcar (new Easter), Truffault magneto, spares; £38.—13, Empress Avenue, Manor Park. Tele. 448 East.

4 h.p. Ormonde Motor Cycle, Kelecom engine, Vaurs carburetter, fast machine, good accumulator; £6 10s., lowest.—Lewis Humphries, Goudhurst, Kent.

2½ h.p. Clarke and Cluley, good condition, Bat spring forks, "racing position" new long bars, two belts, Sharpe's silence; £14.—Kish, 52, Wells Street, W.

4½ h.p. Twin Minerva, late 1907, spring forks, many spares, perfect condition; £28; trial with pleasure.—"Raver wood," Ross Road, Wallington.

3 h.p. Singer, magneto, engine roller bearings, Watawata, Palmer back wheel handle control throttle; £13 10s.—4, Brigat Terrace, North Woolwich, London.

3 h.p. M.M.C., long and low, good tyres, footrests, climb anything, splendid condition; bargain; must sell; £9 10s.—Thomson, 14, Salisbury Road, Highgate, N.

£10.—2½ h.p. Minerva, Chater-Lea, long bars, low saddle, splendid condition, just thoroughly overhauled.—Seen, Eccles Motor Works, Blackwall Lane, Greenwich.

TRIUMPH, 3 h.p., 1906, magneto, absolute perfect, tyres good, accessories, spare valve, splendid condition; bargain, £23. Tree, 61, Thurlby Road, West Norwood.

3 h.p. Fafnir, very low, Chater, Longuemare, Dermatine, just overhauled, new rings, very powerful; £10; all accessories. 28, King's Road, Camden Town, after 6.

5-6 h.p. Twin Rex Motor Cycle, cantilever saddle (Brooks), spring forks, Clinch tyres, aluminium finish, perfect running order.—Breeze, 74, High Street, Aldershot.

3½ h.p. Ariel, spring forks, carrier, air stand, two accumulators, lamp, horn, wallet, tools and spares; £15; seen after 5.—409, Green Street, Upton Park, London.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

FOR BICYCLES FOR SALE.

SECTION XI.

and and Isle of Man.

3 Twin Rex. magneto, almost new, Brown and Barlow carburetter, le-bar control, Shamrock tyre and perfect running condition; buying £35, or near offer.—No. 775, *The Motor Offices*, Coventry.

p. Triumph, spring forks, variable pulley, new Dermatine, tyres excellent, been thoroughly overhauled, all tools, s, lamp, horn, footrests, been very used; £22, or near offer.—Reeves, Royal shire Regiment, Curragh.

h.p. Peugeot Engine, Chater-Lea, 21in. frame, Druid spring forks, Davison and gauges, Brown and Barlow carter, Clincher tyres, Riches detachable, Brooks B104, Stanley-Dermatine belt, mulator ignition; price £23.—E. M. Long, hide, Co. Dublin.

p. Matchless, J.A.P., 1907, long handle-bars, footboards, two pulleys, Mabon h, 1in. Whittle, not used, 1in. Derma-2½in. P.U. tyres, non-skid on back, both ent condition, magneto, mirror search-just been tuned up, very fast and ortable, also new Montgomery, done 80 De Luxe fittings, tons of spares, new nctured tube in back; £46, or sell ately, or near offer. — Gamett, Royal, Curragh.

TRICARS FOR SALE.

p. Twin-cylinder Tricar, wheel steering, coach-built seats, two-speed gear, g like a car; £45.—Below.

p. Quadrant Motor Cycle, spring forks, first-class hill-climber; £20.—Carn-Cycle and Motor Co., Carnforth.

K Tricar, 3½ h.p., coach-built body, spray carburetter; sell bargain, £15 10s. wn, 12, Bull Ring, Birmingham.

CAR, complete, except engine; will exchange for good bicycle and little cash. *The Motor Cycle Offices*, Coventry.

p. Tricar, smart, up-to-date, new tyres and belt, rare chance; £18.—East Ham ge, High Street South, East Ham.

CAR, lightweight, Rover 3 h.p. engine, wicker body, upholstered; sell bargain, 0s.—35, Whittall Street, Birmingham.

t Sale, Tricar, two-speed, go anywhere; trial given; particulars on applica- -Brown, 5, Seymour Villas, Sandgate.

p. Antoine Tricar, condition perfect, new tyres, lamp, etc.; £20, take low r motor part payment.—29, East Street, ing.

p. Riley Engine Tricar, new condition, fast, smart, and reliable, car control; or offer. — Williams, Antrobus Street, leton.

p. Phoenix Trimco, twin Peugeot engine, two speeds, wheel steering, coach-built, new; £37 10s., or exchange.—28, Dock t, Leeds.

p. Raleighette Tricar, two speeds, free engine, condition like new, fast, and hill-climber; £34, or exchange.—28, Dock t, Leeds.

EN Frame Tricar Chassis, complete with tyres; exchange twin engine, or other goods).—Millington, 32, Gladstone ue, Chester.

h.p. W.C. Humber Tricar, two - speed, free engine, new tyres, good hill-per; £20 cash.—Tolhurst, 219, Torridon, Catford, S.E.

p. Twin-cylinder Tricar, two speeds, coach-built, wheel steering, driver seat; photo; £25. — 117, Clarence ue, Northampton.

h.p. N.S.U. Tricar, two speeds, magneto, all spares, and motor house; first onable offer; owner must sell.—14, Comp-Terrace, Highbury, N.

ATER-COOLED Tricar, 4½ h.p. M.M.C. en-gine, Chater-Lea fittings, in thorough r; £25, or nearest offer.—Dowglass, 96, r Richmond Road, Putney.

D. Water-cooled Tricar, Stevens engine, two speeds, chain drive, wheel steering, new tyres, spares, etc., guaranteed; 10s.—9, Wellesley Gardens, Ilford.

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WAUCHOPE'S,

**9, Shoe Lane,
Fleet Street, .**

Off Ludgate Circus, . . .

LONDON, E.C.

Telephone No.—5777 Holborn.

Telegraphic Address—"Opificer, London."

TRICARS FOR SALE.

6 h.p. Rexette; what offers? must sell; any trial.—43, Orsett Road, Grays, Essex.

1907 Millford Tricar, 3½ h.p., perfect con-dition; £20.—1, Frome Road, Wood Green, London.

6 h.p. Smart Rexette Tricar, seats three; cost £110, accept £32.—98, Potternewton Lane, Leeds.

PHENIX, 4½ h.p., two speeds, magneto, spring frame; £30.—Smith, 4, Grafton Mansions, Clapham.

RILEY, 9 h.p., perfect condition; any trial given; cash offer; take motor cycle part.—Gloucester House, Bath.

5 h.p. Buchet, belt drive, free engine, in good condition, fast and reliable; what offers?—201, Trafalgar Road, Greenwich.

5 h.p. Humber Tricar, w.c., two speeds, tyres perfect, wheel steering; £20, sacrifice. — Williams, High Street, Merton, Surrey.

6 h.p. Quadrant Carette, and spares, in splendid order, all guaranteed perfect; an offer wanted.—Timson, 126, Witton Lane, Aston.

4½ h.p. Coronet Tricar, water-cooled, wheel steering, two speeds, buckets, room for two in front; bargain, £22.—D., 110, Denmark Hill, Camberwell.

3½ h.p. Rex Tricar, just overhauled, new crank pin, bushes, rings, gudgeon, pulley, belt; £17, or close offer; trial.—Chapman, 15, Bickley Road, Leyton.

VERY Superior 5 h.p. Riley Tricar, large number of extras, quite new; owner going abroad; cost £106, what offers?—Box 815, *The Motor Cycle Offices*, Coventry.

RALEIGHETTE Tricar, 3½ h.p., water-cooled, two speeds, clutch, perfect order; £25; good motor cycle part exchange. —Moore, 27, Curzon Street, Long Eaton.

4½ h.p. Twin Minerva and Phoenix fore-carriage, wicker body, numerous spares, new 1907; £30.—Anderson, 7, Theberton Street West, Liverpool Road, London.

LAGONDA Tricar, 10-12 h.p., water-cooled, three speeds, in excellent order throughout; price £55.—Further particulars, apply, Western Motor Works, Sidcup, S.E.

REX Litette, 6 h.p., water-cooled, two-speed, magneto, Whittle belt, lamps, spares, new condition; £55, or near offer; after 5 p.m.—Lancaster, 211, Burdett Road, Bow.

LAGONDA, 10-12 h.p., water-cooled, seats two in front car, in perfect order, only wants painting; what cash offers, no ex-changes.—Gorham, Middle Pavement, Not-tingham.

5 h.p. Riley Tricar, Michelin back, Dunlop fronts, horn, toolbox, carrier, etc., done 2,000 miles, in good condition and running order; £60.—Box 814, *The Motor Cycle Offices*, Coventry.

6 h.p. Tricar, twin-cylinder engine, Brooks saddle, footboards, grand machine; £30, or exchange for good motor cycle, good make, and cash. — 13, Little Ilford Lane, Manor Park, E.

4½ h.p. Water-cooled Humber, two speeds, foot clutch, coach-built, condition perfect, tools, spares; trial; must be sold; no reasonable offer refused.—Barnett, Blowfield, Hornsey Lane, N.

5 h.p. Kerry Tricar, pair brass side oil lamps, to be cleared cheap, part exchange ladyback tandem, two-speed, Chater-Lea preferred.—Watkins, 2, Leswin Road, Church Road, Stoke Newington.

4½ h.p. Genuine De Dion Tricar, Chater-Lea open frame, wheel steering, two speeds, coach-built, smart appearance, and thorough going order; owner buying car; £32.—Liver-side, Bangor Road, Brentford.

SINGER Tricar, 9 h.p., two-cylinder, three speeds and reverse, spare back studded tyre and inner tube, carrier, lamps, etc., in splendid condition; what offers? — Apply, Jones Roberts, 17, Brook Green, W.

5½ h.p. Rexette, perfect running order, coach-built body, in new condition, water-cooled, wheel steering, two speeds, tyres new, non-skid on back, full set of lamps, numerous spares; £40, or nearest offer.—Clark, 12, Grove Terrace, Camp Road, Leeds.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TRICARS FOR SALE.

GENUINE Phoenix Trimo, 3½ h.p. Minerva engine, M.O.V., lot of spares, cycle wheel, nearly new; cost 75 guineas, sacrifice £25; trial.—A. Castle, Worksop, Notts.

TRICAR, 4½ h.p. Stevens engine, two-speed gear, new 18 months ago, Shaw non-skid back, Dunlops front, spares, very good condition; £40.—Rawstron, Trent Villa, Lichfield.

6 h.p. Quadrant, open frame, coach-built, wheel steering, two speeds, little used, just been overhauled; offers wanted.—No. L3,253, *The Motor Cycle Offices*, 20, Tudor Street, E.C.

FOR Sale, 4½ h.p. A.C. Antoine Chater-Lea Tricar, variable pulley, and free engine clutch, Palmer tyres, perfect condition; £20, or nearest offer.—13, St. Nicholas Street, Coventry.

8-10 h.p. Twin-cylinder Water-cooled Rexette Tricar, open frame, coach-built, wheel steering, to carry three, splendid condition; £36; exchange motor cycle and cash.—Wm. Else, Leawood, Matlock.

LAGONDA Tricar, 10-12 h.p., lately repainted, tyres as new, very fast and powerful, three speeds, water-cooled engine, good spares; price £50.—Zenith Motors, Ltd., 119, Stroud Green Road, London, N.

3 h.p. Quadrant Tricar, runabout, Watawata, spray, sprung axle, stands, Mabon, brakes, crawl or express, perfect control, side-slip impossible; £20 cash, offers.—Reiffer, 35, Knighton Park, Sydenham.

MINERVA Tricar (3½ h.p.), with wheel and other spares, better than new; any examination; genuine, no-trouble machine; having no room, will accept £20, no offers.—Pendine, Philip's Avenue, Worcester Park.

6 h.p. Quadrant Carrette, condition as new, wide coach-built front seat, overhauled; particulars on application; price 35 guineas, original cost 95 guineas.—L.M.C. Works, 132, Monument Road, Birmingham.

REXETTE, 8-10 h.p., twin-cylinder, three-seater, twin rear wheel, headlight, side lamps, spare tyres, grand touring motor, equal new; sell bargain, £42 cash, or good motor cycle part exchange.—12, Bull Ring, Birmingham.

CHATER-LEA Tricar Parts, including front axle, two wheels and tyres, steering column and wheel, long frame, and springs, all complete, all absolutely new, but unfinished; cost me £6, will accept £2 10s.—Rice, Cycle Works, Surbiton.

REXETTE, 5-6 h.p., coach-built, water-cooled, wheel steering, two speeds, new Renold's chain, tyres perfect, two new, just been thoroughly overhauled, and in splendid condition; sell, or exchange light two-seater car.—332, *The Motor Cycle Offices*, Coventry.

31 h.p. Minerva Tricar, Chater-Lea 32 throughout, 26in. wheels, low frame, new Dermatine belt, full spares, reliable, fast machine, in good condition; trial with pleasure; £23, or nearest offer for quick sale.—Brown, 5, Southend Parade, Eltham.

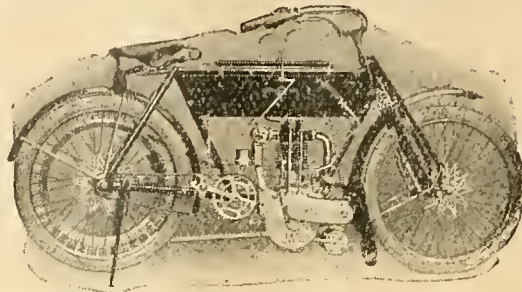
-6 h.p. Twin-cylinder Antoine Tricar, Chater-Lea throughout, two speeds, free engine, handle starting, spare tyre, valves, plugs, etc., sound reliable machine, and marvellous hill-climber, powerful brakes; must sell; £21, spot cash.—22, Halons Road, Eltham.

TRICAR, 5 h.p. Riley engine, Chater-Lea open frame, Anglian improved two-speed, internal expanding brakes, a powerful machine, perfect in every way; £35, or will accept good motor cycle in part payment.—Elddems, 54, Seazes Terrace, Newcastle-on-Tyne.

1908 10 h.p. Twin Rexette, practically brand new, two speeds and reverse, seats two and child in front, twin back tyres, climbs practically every hill on top gear, not done 300 miles; accept £60 cash; any trial.—"Rexette," 86, Colvestone Crescent, Dalston, London.

TRICAR, 4 h.p. Simms w.c. engine, magneto and carburetter, 11in. heavy clutch, three speeds, worm drive, 2½in. Palmer cord tyres, nearly new, frame sprung back and front, three band brakes, Bowden control, wicker chair, spare tyre, tube, lamp, apron, etc., in excellent condition; any examination; motor cycle part; price 40 guineas.—Page, 74, East Hill, Dartford, Kent.

MATCHLESS MOTORS!!



The Tourist Trophy Winners, 1907!

Land's End to John-o'-Groat's, 1908: **GOLD MEDAL.**
200 Miles World's Record, 1908, also 4, 5, and 6 Hours' World's Record.

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5 Mile Music Hall Handicap: **MATCHLESS FIRST.**

Auto Cycle Union Race Meeting.

Stadium 1 Hour Race: H. V. Colver on **MATCHLESS FIRST, BEATING WORLD'S HOUR RECORD for MACHINES 76x76.**

Celtic Park Sports, Glasgow, August 8th, 1908: **HARRY MARTIN BEAT SCOTTISH RECORDS.**

1 Mile Flying: 66 seconds. 3 Miles: 3 mins. 24½ secs.
5 Miles: 5 mins. 42½ secs.

"Matchless" Motors for Speed and Reliability.

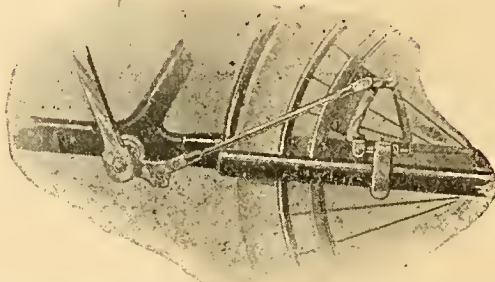
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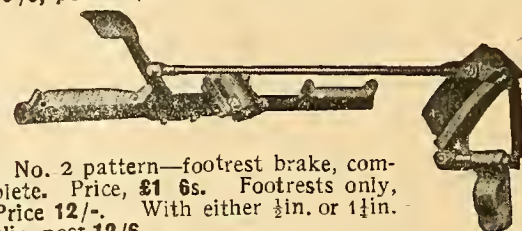
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No Trade riders—ridden by private owners only.

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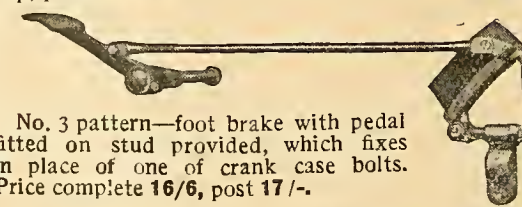


No. 1 pattern—back pedalling brake. Machine can be wheeled backwards. Extremely powerful. Price 16/6, post 17/-.



No. 2 pattern—footrest brake, complete. Price, £1 6s. Footrests only, Price 12/-.

With either ½in. or 1¼in. clip, post 12/6.



No. 3 pattern—foot brake with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete 16/6, post 17/-.



MATCHLESS SPRING FORK ATTACHMENTS.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction!

MATCHLESS PETROL FILTER.

No choked carburetters.

4/6, post 4/8.

15/6, post 16/-.

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H. COLLIER & SONS, Ltd.,

Motor Experts and General Engineers.

Offices and Showrooms:

18, HERBERT ROAD, PLUMSTEAD

(Nearest Station: Woolwich Arsenal.)

Telephone: 232 Woolwich.)

TRICARS (FOR SALE.)

1907 6 h.p. Twin Rex Triette, practical brand new throughout, 2½in. Dunlop cantilever seat, romps up hills, guaranteed absolutely perfect, not done 300 miles; for exchange for high-class motor cycle or cash.—Triette, 86, Colvestone Crescent, London.

NEW 8-9 h.p. Sociable Seated Tricar, racing design, French grey, car type, raked wheel steering, magnificently sprung, four speeds, metal dash, cylindrical tank, run 500 miles; any trial; £60, offer, or change.—Hinton, Stationer, Finchley Rd. Pattison Road, N.W.

9 h.p. Tricar, modernised Leon Bollee, carry three, twin-cylinders, wheel steering, foot pedal control, three speeds, new car tyres on all wheels, non-skid back, accumulator ignition, lamps, spares, guaranteed in perfect order, country district; £25, or near offer.—H. Castle Road, Isleworth.

REXETTE, 8-10 h.p., twin cylinders, w two speeds and reverse, specially built without forecarriage, very fast, twin wheel, fitted nearly new Roberts bands, ja tools, lamps, spare valves, numerous spares, underscreen, good order, only ran 1 miles; owner buying car; extra tool kit fitted with drawers; a bargain, £35.—Hensher, 11, Midland Road, Wellingborough.

9 h.p. Riley Tricar, three speeds and reverse, coach-built, open frame, wheel steering, guaranteed as perfect new, has several spares, non-skid on back wheel, lamps, horn, electric tail lamp, any severe trial can be given; it will forty miles with a gallon of petrol; price £65, will take an up-to-date motor cycle exchange.—Garaged at Wauchope's, 9, St. Lane, Fleet Street, London.

SIDECARS AND FORECARS

PHOENIX Forecar Attachment, extension stays; £4.—Cox, 25, St. Andrew's Street, Cambridge.

MONTGOMERY, best quality, as new; 10s.—38, Elthorne Park Road, Hanwell, Middlesex.

SIDECAR and 6 h.p. Antoine, Chater-Lea in excellent order; £27.—16, Sanson Walk, Worcester.

MILLS and Fulford Forecar, with w guards, fit any machine; £3 10s.—Ashley Road, Parkstone.

CHATER Forecarriage, long stays, b brakes; bargain, £5 5s., or exchange sidecar.—129, Wickham Lane, Welling.

MONTGOMERY Adjustable Sidecar, new, 26in. wheel; cost over £10, accept £4.—14, Zermatt Street, Chapeltown, Leeds.

WE have a few Chater-Lea Sidecars (last model) at £5 15s. to clear.—Silthorne Motor Company, 111, Larkhall Lane, Clapham.

SIDECAR, wicker, 26 by 2 wheel, in good condition; £2 10s., or exchange for bike.—A. Pocock, 158, Canterbury Road, Croydon.

SIDECAR, in good condition, recently enamelled, with spare cover; £3 or near offer.—Whitehead, Longlands, cup, Kent.

N.S.U. Coach-built Sidecar, upholstered leather, with apron, 24 by 2½ Continental tyre; £8 10s.—Eagles and Co., F Street, Acton.

SIDECARRIAGE, nearly new, 26in. wheel, nicely upholstered, complete with apron; £4 15s.—37a, Charles Street, Hat Garden, Holborn.

STAMFORD HILL.—Famous rigid sidecar, instant delivery, none better, fit any machine, £4 18s. 6d.; sound second-hand sidecar, £3 5s.—128, High Road, Tottenham.

BOOOTH.—Several Montgomery sidecars cheap, shop-soiled. A few second-hand sidecars very cheap. State requirements.—Booth's Motor Exchange, W Street, Halifax.

OAKLEIGH Sidecars, fit any machine without alteration, instantly attached and detached, side-slip impossible; low and safest built, £5; our new spring wheel sidecar takes up all shock, price £8, fitted patented.—Oakleigh Motors, Ltd., 65a, Rotherdale Road, West Dulwich.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TYRES.

TH.—Clincher A Won 26 by 2½ covers: 7s. 6d.; makers' name on; quite new; available.

TH.—Large stock of Continentals, rubber studded, Shamrocks, Goodrichs, etc.; list free.

TH.—Before buying tyres send for our bargain list; we specialise in tyres.

TH.—28 by 2 Calmons, 13s. 6d.; Royalty covers, 26 by 2, 12s. 6d.; 2½, 13s. 6d.; d or wired.—Booth's Motor Exchange, Street, Halifax.

NLOP Tube, 26 by 2, new; cost 11s. 6d., make 7s.—Malcolm Nicholson, Highfield.

by 85 Heavy Clincher Covers, type 2. brand new, faultless goods; 37s. 6d.—Farrar.

NCHER Covers, beaded, new, unused, clincher name on, 26 by 2, 17s. 6d.; 26 by 17s. 6d.; 26 by 2½, 23s.; 28 by 2½, 23s.; val on receipt of P.O.—Farrar, Square Halifax.

R Brand New 26in. by 2in. Covers (heavy quality); 12s. 6d. each, bar—2, Freehold Street, Hull.

NCHER Motor Inner Tubes, 26 by 2½, 5s. 6d.; Revolution motor cycle stands, etc.; bargains.—12, Bull Ring, Birmingham.

HELIN Covers, guaranteed, 1908 (new goods), not old stock or clearance 26 by 2, 18s.; 26 by 2½, 19s.; 26 by 2½, tubes, 8s.; absolutely the best value in the trade.—Universal Motor Tyre Co., Cheshire, Stockport.

ES, Tyres.—Huge quantity of brand new heavy motor covers at more than 50 per cent reduction, best British manufacture. We are our prices with any others offered for new covers; very special opportunity: 85, 40s.; 750 by 85, 42s. 6d.; 760 by 90, 110 by 90, 52s. 6d.; 815 by 105, 60s.; 870 by 105, 60s.; 875 by 105, 70s.; 880 by 120, 75s.; 120, 80s.; other sizes equally cheap; to-day for clearance list.—Garnham & Co., tyre factors, Woodbridge Road, Ipswich.

REPAIRERS.

CKED Water Jackets of motors successfully repaired by Lea's metallurgical process.—Lea and Son, engineers, Runcorn.

any motor cycle we cannot repair.—Whites, 22, Brook's Alley, bottom of Street, Liverpool. Lubricate cylinder and coils.

West of England Motorists.—Car and motor cycle repairs, prompt and reliable. Cylinders re-bored, new pistons and fitted; don't hesitate; send straight.—Hamlin, Motor Works, Bridgwater.

CCCCC.—Compression means power: cylinders re-bored, and new pistons fitted; guaranteed fit 4-1,000 inch, bears 13 on pedal; write for list.—Gradior Motor Co., Compression Specialists, Stafford.

Engines for Old, from 2½ to 8 h.p.; large stock of parts for De Dion, Excelsior; new pistons and re-boring increased power at moderate charges; prompt to all makes guaranteed by years' experience.—The Record Motor Co., Weymouth.

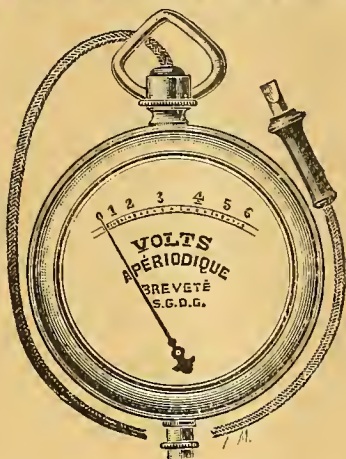
LDING.—Don't scrap that broken cylinder, connecting rod, etc. We will fit it to you perfect in three days; shillings, saves pounds.—The Commercial Exploitation Co., Ltd. Internal Exchange, Edmund Street, Birmingham.

AIRS and Overhauling.—We have the finest repair works in London for motor cycles, with up-to-date machinery; parts free; new cylinders for any make of engine, pulleys, valves, gears, and all accessories; send for our new booklets, prices.—Laystall Motor Engineering Works, 27 and 29, Laystall Street, Rosebery Avenue, E.C.

TUITION.

OR Car Driving Taught in one month. Particulars, 661, The Motor Cycle Offices, Weymouth.

Voltmeters.



These Voltmeters are the cheapest guaranteed Voltmeters ever placed on the British market. Read up to 6 volts, and guaranteed accurate.

PRICE ONLY 3/9, POST PAID.

IMMEDIATE DELIVERY. APPROVAL.

FOR GENUINE BARGAINS, AS ABOVE,

MAUDE'S MOTOR MART,

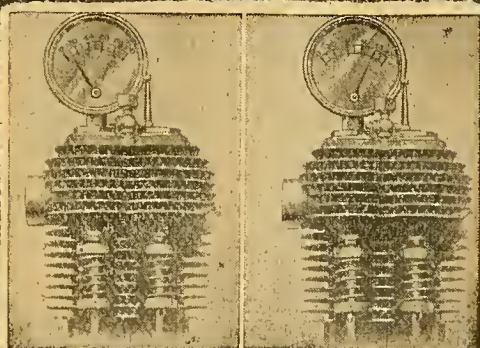
Powell Street, HALIFAX,

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Compression means Power

Before re-boring.

After re-boring.



We re-bore your cylinder and fit new piston complete with rings and gudgeon pin. Please send for our new repairs booklet, giving prices for this work.

The LAYSTALL MOTOR ENGINEERING WORKS, Ltd.

AUTOMOBILE REPAIRERS,

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GNAVITER

I.R. and CANVAS BELTING.

Best British Make.

3in. .. 10d. pe foot. 1 in. .. 1/1 per foot.

3in. .. 1/4 " " 1 in. .. 1/9 " "

Plain or Serrated. True and deep section.

Sole Agents, Wholesale and Retail:

DEFIANT NON-SKID TYRE CO.,

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ADVERTISERS — Please note that Friday is the latest day we can receive advertisement copy for the following week's issue.

EXCHANGE.

MICHELIN 880 by 120, for pair of 26 by 2½ covers.—Maylin, Hitchin.

GAS Engine, 5 h.p. National; £25; exchange motor bike.—105, Church Road, Willesden.

EXCHANGE 4 h.p. Gas Engine, good order, for good motor cycle, or sell £25.—Longford, Uddingston.

TWIN Rex, with cash, for 1908 magneto single-cylinder.—Box 826, The Motor Cycle Offices, Coventry.

EXCHANGE, Two Bicycles, value £6, and cash, for good motor cycle.—Hughes, Durham Road, Sunderland.

NEW Unscratched Magneto, Rex; cost 35 guineas, for old machine and cash.—B., 6, Eldon Park, S. Norwood.

EXCHANGE 5 h.p. twin Peugeot and castor wheel sidecar for light open frame tri-car, or sell.—335, Edgware Road, London, W.

4½ h.p. Twin Minerva, latest, footboards, spring forks; part exchange lower power, or sell 20 guineas.—207, Peckham Rye, S.E.

EXCHANGE, six New Cycles, Robin Hood make, for 1907, not earlier, motor car (magneto).—Hancock, High Street, Battersea, S.W.

WILL Exchange cycle, road racer, with two-speed gear, new condition, for good sidecar.—97, Bristol Street, Birmingham.

3½ h.p. Centaur, belt drive, Longuemare, E.I.C. coil, good condition, for lightweight, or sell cheap.—32, Osborne Road, Leyton.

2½ h.p. Clement-Garrard Engine, excellent condition, spring forks, V belt, for tri-cycle; no rubbish.—W. Payne, c/o Post Office, Beckenham.

EXCHANGE Plot of Freehold Land, situated Edmonton, for good 1908 motor bike, no rubbish.—Groves, 1, Church Street, Lower Edmonton.

3½ h.p. Rex, low frame, excellent condition, accessories; £12, or exchange good push bike and cash.—803, The Motor Cycle Offices, Coventry.

EXCHANGE Electric Horn, complete (Grack, as new), cost about 25s., for good silencer, with cut-out.—Wright, New Street, Henley-on-Thames.

2½ h.p. Ariel Engine, Chater-Lea frame, 24 Palmer tyres, in perfect condition, very fast and powerful; accept £6 and good cycle.—22, Catherine Street, Coventry.

EXCHANGE 3in. Whittle Belt, 8ft. 6in. long, practically new, for 3in. Watawata or rubber belt, in similar condition, same length.—Regent Garage, Leamington.

EXCHANGE for motor cycle and cash 3½4 h.p. M.M.C.-Chater-Lea tricar, fast, excellent hill-climber, and very reliable.—Tricar, 86, Colvestone Crescent, Dalston, London.

EXCHANGE a good walnut bedroom suite and drawing room suite, nearly new; cash adjustment, for good make motor cycle (private).—22, The Avenue, Bruce Grove, N.

EXCHANGE lady's silver 2 guinea watch, 18s. Rotax electric headlight, accumulator, case (18s.), toolbag (3s. 6d.), all brand new; exchange accessories.—Hedley Castle, Southwell.

EXCHANGE for good motor cycle or tri-car, new high-class furniture, any description, valued wholesale, direct from works.—Furniture Manufacturér, 9, French Place, Shoreditch, London.

EXCHANGE 7in. Centre Back-geared Lathe, compound slide rest, back-geared head stocks, 3½in. centres, foot bellows, and blow pipe, for lightweight motor cycle.—Crofts, 407, West Derby Road, Liverpool.

3½ h.p. Phenomen, 1907, H.T. Simms-Bosch magneto, every refinement, tyres as new, spare studded back cover, new, and cash adjustment, for good twin motor cycle, Vindec Special preferred, or tri-car.—Millard, Dinnington, Rotherham.

EXCHANGE for 1908 Triumph, 1908 6 h.p. twin Advance, Chater-Lea No. 6, saddle only 30in. from ground, absolutely like brand new, climb mountains with sidecar, many refinements.—Motorist, 86, Colvestone Crescent, Dalston, London.

EXCHANGE.

5 h.p. Orleans, two-seater, for good motor cycle.—14, Zermatt Street, Chapeltown, Leeds.

31 h.p. Rex, good condition, for lightweight and cash. — Beer, Windsor Terrace, Penarth.

21 h.p. Quadrant, spray, and cash, for 24 higher power, or sell £9.—Winton, 5, Black Bull Road, Folkestone.

TRICAR, 3½ h.p. w.c. De Dion engine, free engine clutch, belt drive, in good working order; exchange 6 h.p. De Dion engine and clutch. — Watson, Middlefield, Gainsborough.

EXCHANGE 5-6 h.p. twin Antoine engine, air-cooled, quite new, for 6 h.p. single-cylinder, water-cooled, in good order, or would sell outright and buy.—Clark, Cecil Road, Norwich.

WANTED, motor bike, handle-bar control; exchange new 40 guinea presentation keyless Hunter, by Benson, Hughes photo rotoscope cinematograph attachment (new condition), with £4 worth of films (short subjects).—No. 829, The Motor Cycle Offices, Coventry.

TWO-SEATER Herald Car, 10-12 h.p., two cylinders, three speeds and reverse, artillery wheels, Stepney wheel, four lamps, spares; £65, would entertain exchange for good tricar; expert examination allowed and required.—L. Mountview, Gordon Hill, Enfield, N.

EXCHANGE 3½ h.p. N.S.U., magneto, with two speeds and free engine, new 1907; also 3½ h.p. 1907 Triumph, with spares including heavy cover on back, speedometer, and butt end tube, not done 500 miles; exchange both for a good make car.—Apply, 96, Tamworth Street, Hulme, Manchester.

BILLIARD Table, full size with cues, cue holder, rests, two hanging chalk holders, balls, mahogany marking board, heavy four bracket brass pendant, including wire frames and hoods; exchange for 1908 magneto 3½ h.p. Minerva, Norton, Triumph, or two-speed Roc; must be in good order; room wanted.—Baxter, ironmonger, Coatbridge.

WANTED.

WANTED, trembler coil, in working order. —Moss, St. Mary Street, Liskeaton.

F.N., four-cylinder, 4½ h.p., wanted, spring forks, etc.—W. Clark, Walton-on-Thames.

WANTED, a Kent three-speed gear, good repair.—Sampson, School, Spreyton, Bow, Devon.

FIRST-CLASS Motor Cycle, known make; cheap, spot cash.—R. Else, Leawood, near Matlock.

WANTED, Good Sidecar, will give gent's 10-guinea pedal cycle, new.—Farrar, Square Road, Halifax.

WANTED, two wired covers, 26 by 2, second-hand, good.—W. McClatchie, Grove Avenue, Chilwell, Notts.

PHENIX Front Seat, cash, or exchange Phoenix bonnet and toolbox; also want electric horn.—61, Denmark Hill.

SPOT Cash Offer for very good twin Rex, aluminium finish, blue lines.—Box 827, The Motor Cycle Offices, Coventry.

ADDRESS of George Bull, late of 39, Marks Road, Enfield; 10s. given. — Halifax Motor Exchange, Westgate, Halifax.

WANTED, good motor cycle; exchange prize Borsoi, value 25 guineas.—Particulars, Crowe, Milview, Fakenham.

WANTED, motor cycle frame, for vertical engine, any condition.—42, Darnley Street, Brooks's Bar, Manchester.

WANTED, Mills-Fulford sidecar, castor wheel, 26in. by 2½in.—Write, R., Laburnum Mount, St. Ann's Road, St. Helen's.

WANTED, tricar, water-cooled; exchange 3½ h.p. Imperial Rover motor cycle and cash.—Norris, Little Pagehurst, Staplehurst.

26 by 2½ Goodrich Rubber Studded Tyre, 17s. 6d.; brand new 26 by 2½ extra heavy beaded edge cover, 21s.; 26 by 2½ inner tube, nearly new, 4s. 6d.—45, Parade, Leamington.




"A PLACE FOR EVERYTHING."



Takes spare Tube and Bel's

No Metal parts to injure tube, and no rattling.
In solid leather, to fit on top or side of luggage carrier, or on girder forks.
Price complete only 6/6.

**DON'T BE BOTHERED
BY THE "BAD-STARTING BOGIE."**

WHITE'S ECONOMISER

(Patent applied for).
Starts instantly, and saves your Petrol.

Only

4/ =

Each.



Only

4/ =

Each.

DON'T BE BOTHERED with that flimsy, rattling apology for a lamp. Try the "ELECTARY" LENS MIRROR PROJECTOR with adjustable Focus to suit all riding conditions.
Made to last. Price only 30/.
Complete with Generator.

W. & R. JACOBS,
39c, King William St., LONDON, E.C.

Phone.: 7930 Wall.
Telegraph: "Electary," London.




The RICH DETACHABLE

AGAIN IMPROVED IN MANUFACTURE.
THE ONLY PERFECT DETACHABLE AIR TUBE.

		SAVES TIME			
26in.	28in.			Extra Thick	
1½ 8/6	9/-			26in.	28in.
2 14/-	14/6			2½ 20/-	22/-
2½ 14/6	15/6			2½ 25/-	27/-
2½ 15/6	16/6			3 35/-	38/-
3 22/-	28/-			3½ 38/-	40/-
				24in 6d. less.	

PATENTED AT HOME AND ABROAD.
Your own tubes converted.

The great success of this seasons reliability trials has been through the use of the Rich Detachable Air Tubes—as admitted by riders themselves—punctures causing only five minutes delay by replacing another tube.

Any defective joint replaced or repaired free of charge within 9 months of purchase.

Write for Booklet.
The Rich Detachable Air Tube Co.,
Patentees, CRAWLEY, Sussex.
Agent for India—F. B. STEWART & SON, Poona.

WANTED.

TRIUMPHS wanted, 1907 or 1908 cheap cash.—Rey, 5, Heath Street, Hastead.

WANTED, Fit-all two-speed gear, for 1 h.p. Peugeot.—65a, Rosendale Road, West Dulwich.

WANTED, 5 h.p. 1906 Vindec frame, 26 by 2½ front wheel.—18, Newstead Road, Liverpool.

WANTED, motor cycle, any condition; cheap for spot cash.—H., 13, Rait Road, Brixton, S.W.

GOOD Motor Cycle, in first-class running order; cheap for cash.—Jenner, T. Lin, Rayleigh, Essex.

WANTED, four-cylinder F.N., any condition; cheap for spot cash.—Rey, Heath Street, Hampstead.

WANTED, water-cooled or air-cooled cycle, 80 to 85 bore, perfect and cheap.—237, Hertford Road, Edmonton.

WANTED, twin V w.c. engine, about 1 h.p., or crank case only; also crank case for 6 h.p. De Dion.—126, Lordship Lane, S.E.

OPPERMANN Three-speed Gear, sound condition.—Send particulars, dimensions to 89, Wilmslow Road, Withington, Manchester.

WANTED, 2-3 h.p. Engine, with carburetor, outside flywheel preferred, small weight.—Newman, Spring Road, Kempston Beds.

WANTED, 3½-4 h.p. cycle, 1907 or 1908, cheap, cash; magneto preferred; state all particulars.—91, Melbourne, Farnborough.

WANTED, gear box, cheap, three speeds and reverse, suitable for 7 h.p. engine, chain drive.—Wilby, 8, City Road, Birmingham.

WANTED, motor frame, tank, complete, good make, for about 2½ h.p., right; approval.—831, The Motor Cycle Offices, Coventry.

WANTED, motor cycle, about 3½ h.p., right; be cheap.—Details and lowest price to Masters, Victoria Street, Wotton, Bucks.

WANTED, variable free engine pump, complete, adjustable from saddle, 3½ h.p. Minerva; approval.—Wood, 108, B Road, Liverpool.

WANTED, 3½ h.p. Triumph, or Minerva, magneto, spring forks, accessories; cheap; first-rate condition.—Vicar, Badley, Atherstone.

GOOD Single-cylinder for very powerful twin Rex, guaranteed. Give cash justment for up-to-date magneto machine. Box 619, The Motor Cycle Offices, Coventry.

WANTED, 8ft. 6in. Whittle, 2in., 1in. proval; for sale, 26 by 2 Grose, skid, 20s.; Goodrich 26 by 2½in. new, Brooks pan seat, new, 30s.—Motorist, 82, ham's Road, Falkirk.

WANTED, good motor cycle, tricar, small car; exchange new high-furniture, valued wholesale, direct from factory.—Furniture Manufacturer, 9, Farn Place, Shoreditch, London.

TRICAR Wanted, perfect condition, 1 frame, water-cooled, good at 1 Phoenix, Lagonda, or other good make; reasonable price; preferably brought for and trial to Tringham, Longcross, Chertsey, Surrey.

WANTED to purchase, for prompt second-hand motor cycles, as Triumphs, F.N.'s, Vindec Specials, Phelon, etc., Anglian Rocs, Rexes, Bats, geats, etc.—Wauchope's, 9, Shoe Lane, Street, London.

SIDECARS wanted; give new cycles, 1 speed Sturmey-Archer gears, level change; wanted also Drummond or S.C. lathe, gramophone; reasonable price given for good motor cycles.—B. Wade Street, Halifax.

WANTED, 45 h.p., with sidecar, Brown, or Triumph preferred, in change for 2 h.p. Clement-Garrard, condition, and over £20 worth of high-breeding canaries and cages, etc.—G. Wood, 61, Carthage Street, Oldham.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."



THE MOTOR CYCLE



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Agents for the Colonies: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

Subscription Rates: Home, 6s. 6d.; Foreign, 10s. 10d.; Canada, 8s. 8d. per annum.

Impressions of the 1908 T.T.

THE 1908 Motor Cycle Tourist Trophy Race cannot for several reasons fail to impress itself forcibly on the minds of those who have the best interests of the pastime at heart. Firstly, there were a record number of entries for it, since in this direction they equalled the Four Inch Race, the entries for both numbering the same; secondly, it was a great success, and how much can be learned from it we shall shortly show; and, lastly, it was totally devoid of any serious accident. The controlling of the speed by the limitation of the fuel supply works exceedingly well in the case of a motor bicycle. Marshall's average was forty and a half miles an hour, and in view of the very small number of mishaps there is no reason why the race should not be held in the Isle of Man next year. The course is eminently suitable, since, being hilly, it adequately tests flexibility, hill-climbing, reliability at high speed, and incidentally tends towards economy. This year most of the machines started with much greater ease than last year, proving that valuable lessons have been learned in this respect. On the next occasion on which the race is held we should suggest the same fuel allowance—1 gal. 4 pts. 13 ozs. for the singles and a slight increase over the 1 gal. 7 pts. 16¼ ozs. for the twins—as the majority of the latter were not able to acquit themselves sufficiently well on the amount of petrol allowed to them. As a contrast to this, Clark's four-cylinder F.N., which had 58 ozs. of fuel

left over at the end of the race, might have done marvellously well if its rider had known the exact amount of fuel he had left whilst riding. Here an improvement might be made, and the ingenuity of motor cycle designers should be exercised with a view to constructing a gauge, float, or some other kind of tell-tale which would show how much petrol the rider has left while actually driving at high speed; Marshall, McMinnies, and Franklin could also have done much better. Marshall's performance was really splendid; he and C. R. Collier had a magnificent fight, and the greatest credit reflects on them both.

Taking it as a whole, the organisation was excellent except as regards the sealing. In several instances thin brittle iron wire was used, which, as will be seen from the results, broke in many cases, and in one instance led to a dispute, which was not pleasant to listen to.

The Organisation.

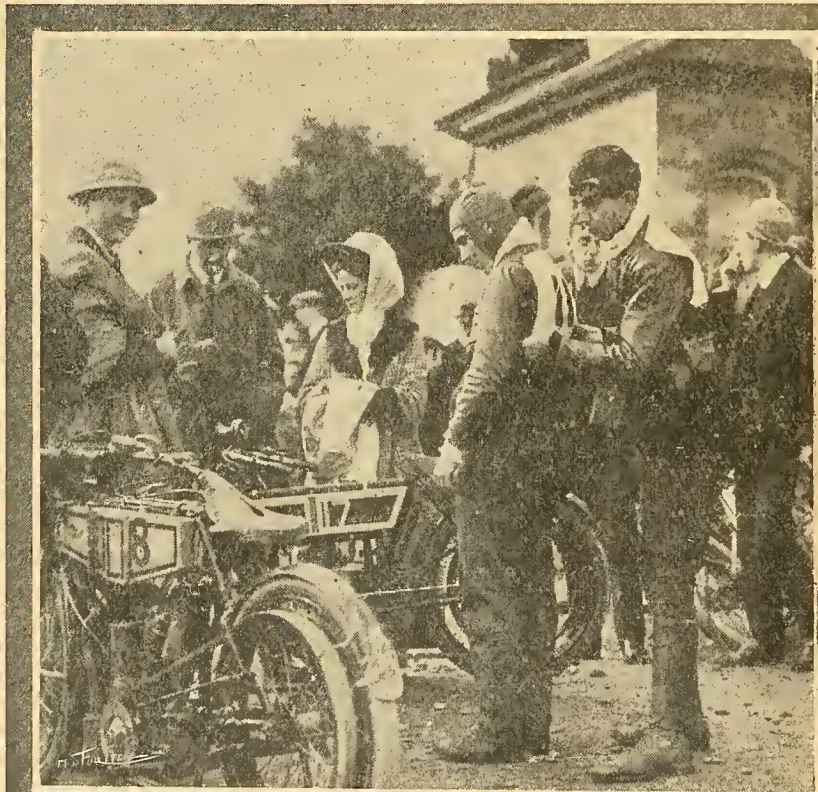
THE officials all worked with a will. As judge, Mr. A. G. Reynolds worked as hard and as energetically as ever, while Mr. Robert Todd, the chairman of the Club, also devoted the whole of his time during the event in that capacity. As chief marshals, Messrs. R. D. F. Paul and J. K. Starley did much towards the success of the meeting, while others who did most excellent work were Mr. F. Straight (secretary), H. G. Cove, J. W. G. Brooker, A. S. Blanch, H. C. Ebbutt, S. W. Carty, W. Pratt, H. Fear, J.P., G. F. Heath, and G. Todd (marshals).

Mr. F. A. Hardy made a most efficient press steward, while the timekeeping was in the able hands of Messrs. A. V. Ebbelwhite, C. P. Glazebrook, and F. Straight, assisted by Messrs. J. S. Mallam and R. A. Tyler. The stewards, who lent valuable assistance, were Messrs. J. R. Gissing, A. E. Dendy, E. J. Chapman, and E. L. Bates, while at the weighing and examination of the machines Mr. J. Lyons Sampson gave invaluable help. An excellent point about this year's race which we have not yet mentioned is the success of the amateur riders. In the single-cylinder class that popular sailor, Captain Sir Robert Arbuthnot, R.N., while waiting for his new ship, the *Lord Nelson*, to be commissioned, took third place, while Mr. W. H. Bashall, another amateur rider, came in second in the twin-cylinder class. As matters at present stand the trophy is not capable of being won by a multi-cylinder machine, but we sincerely hope that next year's regulations will allow it to be won by the first machine past the post irrespective of the class to which it belongs. This, we are sure, was the original wish of the donor. We would draw attention to the fact that both last year and this year a single cylinder machine accomplished the fastest time. In conclusion, we should like to express our hope that such a fine event as the Motor Cycle Tourist Trophy Race will long continue to be an annual affair.



The winner and his Tourist Trophy Triumph immediately after the conclusion of the race.

THE TOURIST TROPHY RACE IN THE ISLE OF MAN.



Fixing the numbers on the competitors' backs.



Filling up the tanks with the precious spirit.

We have received a small sample of gear grease called Vasoleum, and sold by the County Chemical Co., Birmingham, who will be pleased to send a sample for trial to any reader who applies for it.

Riders who experience the same difficulty as Mr. Whaley, who wrote on September 16th regarding the re-tailing of small quantities of petrol in the city, should make a note that just outside the city boundary is the Service Motor Co., who keep a stock of petrol at their premises in Featherstone Buildings, High Holborn.

Judging from a series of testimonials which we have had sent to us, the new lightweight Wolf is quite a reliable machine. Up to the present we have not had the pleasure of riding one of these machines ourselves, and therefore cannot speak of it from practical riding experience, but the copies of testimonials sent for our perusal are from riders all over the country, and in some cases in the Colonies. We understand that the Wolf set will suit any strongly built roadster bicycle, and as it is sold at a very reasonable price it should shortly become very popular.

THE TOURIST TROPHY RESULTS AT A GLANCE.

Single-cylinder Class.

Rider.	Machine.	Bore and Stroke.	Time.*	Average Speed.	Petrol left in Tank.	Remarks.
		mm.	h. m. s.	m.p.h.	ounces.	
J. Marshall	3½ h.p. Triumph	84 × 86	3 54 50	40½	38	Seal wire broken.
C. R. Collier	3½ h.p. Matchless	85 × 76	3 57 0	40	22	
Capt. Sir R. K. Arbuthnot	3½ h.p. Triumph	84 × 86	4 7 57	38½	18	Seal wire broken.
W. F. Newsome	3½ h.p. Triumph	84 × 86	4 12 47	37½	41½	
W. G. McMinnies	3½ h.p. Triumph	84 × 86	4 14 25	37½	48	
J. B. Franklin	3½ h.p. Chater-Lea	85 × 85	4 30 32	35	45½	
H. Lister Cooper	3½ h.p. Triumph	84 × 86	4 33 36	34½	22	Seal wire broken.
D. C. Godfrey	3½ h.p. Rex	82 × 89	4 33 54	34½	6	Seal wire broken.
R. M. Brice	3½ h.p. Brown	83 × 89	4 39 58	33½	22	
Gordon Gibson	3½ h.p. Triumph	84 × 86	5 19 5	29½	10½	

Multi-cylinder Class.

H. Reed	5 h.p. Dot-Peugeot	75 × 75	4 5 58	38½	2½	
V. H. Bashall	6-7 h.p. Bat-J.A.P.	85 × 60	4 8 15	38	21	Had a puncture, and so lost time.
R. O. Clark	5 h.p. Four-cylinder F.N.	50 × 57	4 11 2	37½	58	Lowest petrol consumption in this class.
V. H. Wells	5 h.p. Vindec	75 × 76	4 15 15	37½	4½	Ran out of petrol in Peel, and just succeeded in coaxing his machine to the tape.
J. Lang	6 h.p. N.S.U.	75 × 90	4 22 41	36	16	Seal wire broken.
N. E. Drury	5 h.p. Matchless-J.A.P. ..	85 × 60	4 25 56	35½	10	
A. Moorhouse	5 h.p. Rex	76 × 80	4 45 26	33½	—	Ran out of petrol. Pushed six miles.
O. M. Dixon	5 h.p. Vindec	75 × 76	4 46 57	33	8	
H. V. Colver	7 h.p. Matchless-J.A.P. ..	85 × 85	4 52 33	32½	17½	
C. Perryman	5 h.p. Norton	76 × 80	5 12 21	30½	36	Seal wire broken.

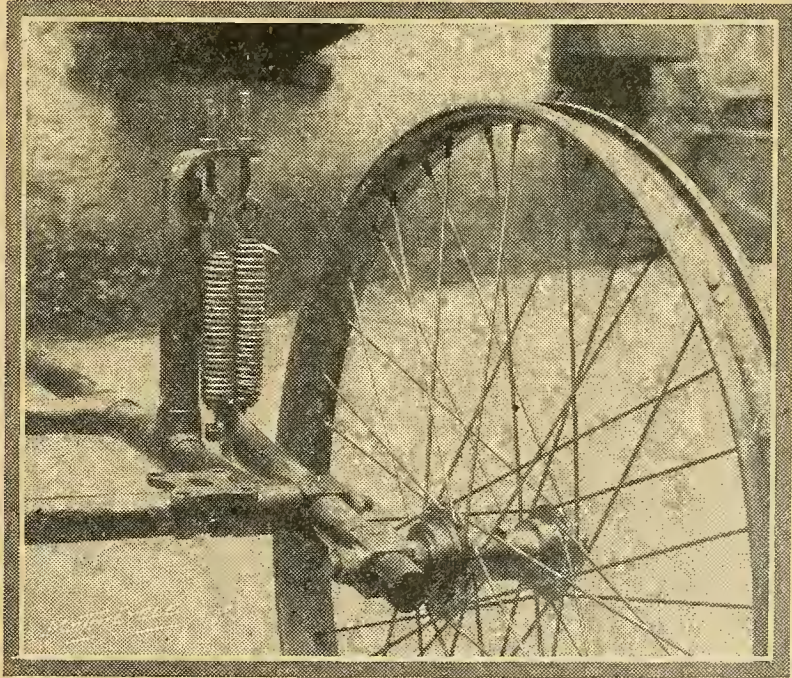
Retirements.

R. M. White	6-7 h.p. Bat-J.A.P.	85 × 76	—	—	—	Completed six rounds, stripped mag-neto drive bevel pinion.
E. Bennett	5 h.p. Vindec	75 × 76	—	—	—	Covered four rounds, collar came off exhaust pipe.
V. Gurr	5 h.p. Four-cylinder F.N.	50 × 57	—	—	—	Retired first round through sideslip.
V. Heaton	5 h.p. Rex	76 × 80	—	—	—	Covered four laps.
F. Applebee, jun.	5 h.p. Rex	76 × 80	—	—	—	Covered four laps.
C. Smythe	5 h.p. Rex	76 × 80	—	—	—	Completed six laps.
J. Slaughter	3½ h.p. Triumph	84 × 86	—	—	—	Completed seven rounds, broke ex-haust valve, and could not remove it.
F. E. Barker	3½ h.p. Rex	82 × 89	—	—	—	Broke piston, covered three rounds.
T. Bell	3½ h.p. Two-speed N.S.U.	80 × 80	—	—	—	Completed five rounds, had several punctures and a fall.
H. Geiger	4 h.p. Two-speed N.S.U.	64 × 85	—	—	—	Completed five laps, valve trouble.
L. Genisa	3½ h.p. Acme	68 × 76	—	—	—	Reported broken cylinder.
E. G. Young	3½ h.p. Acme	68 × 76	—	—	—	
J. Baxter	5 h.p. Rex	76 × 80	—	—	—	Covered two rounds, sideslip at Balla-craine.

*Ten minutes, the duration of each competitor's stop at the completion of the fifth round, have been deducted from the times published in last issue.

A SPRING SIDECAR.

THE increasing popularity of the sidecar has set many minds to work on the introduction of improvements, and the feature illustrated appears to be a decided step in that direction. It is the invention of E. A. Crowsley, of 167, Victoria Street, London, S.W., and consists of an arm pivoted on the axle tube of the sidecar. The side wheel is carried on one end of this arm, and at the other end a spring is arranged. The design of the spring may be as shown, with the springs in tension, or the springs may be arranged below the frame and in compression, or the two styles may be used in combination. The springing can be adopted when used with a spring or rigid framed bicycle. An examination of the picture shows that the hub is screwed for a brake drum, and the machine will be so equipped. A similar drum will be fitted to the bicycle rear wheel, and the two operated by one lever with a compensating device introduced. The fittings for the brake are all mounted on the spring arm, which also carries the mudguard, so that there is no alteration in the relative positions of these parts.



A spring sidecar, the subject of a recent patent.

The Hill-climbing Question Reviewed.

By B. H. DAVIES.

THE correspondence on this question has brought three facts into high relief, viz.:

1. That there is great heart-burning among amateurs about special machines.
2. That the majority of machines entered differ from standard practice in details more or less important.
3. That the existing regulations are too lenient, and allow such a machine as McMinnies's racer to be pitted against standard tourist roadsters in all honesty, and without straining the rules.

No other solution of the difficulty has been offered, other than my own notion of employing a disqualifying engineer, and using his services to confine all special machines to a special class.

The Factor of Weight.

I now wish to emphasise the matter of weight. A reader signing himself "H.M." rather unfairly misrepresents my statements, and makes me allege that it is owing to weight reduction that the special machines win. It is true that I named weight as a factor, and that it is a more important factor than many people suppose, but the real root of the evil is undoubtedly the special engine. It is the special engine that wholly puts the amateur out of court, and other details, such as cutting down weight, using small, thin, smooth tyres, special carburettors, special fuels, etc., merely complete his discomfiture. But the weight question will stand emphasising, and in this article I intend to emphasise it. Some months ago Mr. S. F. Edge sent down a big Napier racer to Brooklands Track, with a tailboard in the form of a big shallow tray. A number of large iron ingots were provided, and the car was tested against the watch with varying numbers of ingots carried in the tray. The times proved that the addition of a heavy weight to the load scarcely slowed the car at all in flying sprints on the level, but that the presence of the extra load had a very perceptible effect in retarding the acceleration of the car from rest, and this effect is naturally most of all marked when the acceleration is performed on a gradient. Now if "H.M." and other readers will consider the matter, a motor cycle hill-climb is nothing more or less than a refined and complicated weight lifting competition. Each competitor is provided with a restricted amount of mechanical energy, with which he has to lift a certain weight to a certain height in the shortest possible time. The amount of energy is fixed, because he may not exceed a certain bore and stroke, but the illogical part of the conditions is that the weight is not fixed. Hence the cuter entrants do their best to cut down the weight to the absolute minimum. Every entrant has two points to aim at under present regulations: the first to get the maximum amount of power out of the fixed engine dimensions; the second, to reduce the load he has to lift with this fixed amount of energy. In a flying start hill-climb of short duration the 30 lbs. or 40 lbs., which is all he can jettison, makes little difference; but in such a hill as Birdlip, Newnham, and Sutton Bank, with a long climb on a steadily rising gradient, culminating in a lengthy stretch of 1 in 8 to 1 in 6, every 5 lbs. will show its presence on the watch. Consider Class IV. in the recent Coventry M.C. climb. There was only 12s. between the first man and the seventeenth man; it is at least possible that if the first man had

carried an extra 3 stones of weight he would have been seventeenth instead of first; and probably as the first man rode a T.T. racer, he actually carried about 50 lbs. less than if he had ridden a standard roadster of the same make in full touring kit.

Fixing a Minimum Weight.

The regulations of every "roadster" hill-climb are framed to prevent weight reductions; it is for this purpose alone that motor cycle metal mudguards, roadster motor cycle tyres, and other touring appurtenances are specified. A much simpler and surer method of attaining this point would be to fix a minimum weight for each class except the racing class. This method was tried at Fernhurst in 1905, where practically every competitor was loaded up with sandbags; in fact, I carried one myself in that climb, though I was mounted on a standard roadster, and I weigh 13 stones. The method was afterwards abandoned, partly because of the trouble of providing bags and sand, and partly because some competitors objected to lashing them on to the machines. Let us suppose future regulations contained a clause saying, for instance, that every $3\frac{1}{2}$ h.p. must scale 160 lbs. at the weighing in. An empty canvas bag could be sent to each entrant with his acceptance, and he would be told he was held responsible for bringing his machine to the scales at the proper weight. He would err on the safe side, and bring an excess of sand. Arrived at the scales, his machine would be weighed, the officials would untie the bag, and scoop out sand till the minimum was touched. The organisers would incur no extra trouble or expense beyond the provision of returnable bags at a trifling cost, and the whole evil of weight reduction would be killed by this one stroke. If the bags are properly made and attached there is no danger to competitors in carrying the extra weight on the machine. I should prefer, personally, to see riders' weight considered as well, and the minimum weight, say, for a $3\frac{1}{2}$ h.p. to be fixed at 160 lbs. for the cycle and 11 st. 7 lbs. for the man. This step alone would even up matters tremendously in standing start events, and if disqualification by a properly qualified engineer accompanied it, we should see amateur classes or roadster classes won by real amateurs on real roadster machines.

Weight and Public Demand.

This step would have no arresting effects on motor cycle development from the weight aspect. One or two makers have brought down the weight of the standard single-cylinder roadster to 160 lbs. without any other inducement than public demand. It is not hill-climbing competitions alone that urge weight reduction on the industry; popular outcry, the Tourist Trophy Race, and all open speed events serve the same object, and even if we fixed a generous weight minimum for amateur or standard classes in hill-climbs, we should still have public demand, the T.T. Race, and the open classes in hill-climbs to keep low weight before the eyes of the industry as a valuable desideratum. In the very near future, there will be the added competition of 80 lbs. machines, threatening the very existence, maybe, of present day standards of weight. Riders who have tested the best modern lightweights, as I have done, are beginning to realise the 80 lb. roadsters may soon be as serviceable as the 150 lbs. machines.

A Tricar Tour in Cuba and Florida.

ALTHOUGH we have owned a car for six years and had many pleasant rides, much more pleasure has been derived from our little tricar.

At one time I did not see how anyone would be able to ride on a motor bicycle, for all the motor cyclists we met on the road were besmeared with grease, the leather clothing was covered with dust, resembling an engine-room hand on an ocean liner. His duty it is to see that the bearings of the propeller-shaft are kept cool and who has neglected to wash after the last voyage, and, besides, motor bicycles are so noisy. When my husband returned from the Florida Beach Races it was plainly seen that his automobile had seen its best days.

On Sunday mornings he did not want to take it out, and after dinner it was nearly dark before it was ready or he made me excuse to avoid a run. When we did get started it required so much attention that the pleasure was lost. Having plenty of spare room in our garage, a friend left his tricar, with permission for us to try it.

I Tried the Seat.

It was a delightful day, and just as we were about to start our car a valve blew out, which meant two hours' labour to get the valve for a few seconds' pairing. We both looked at the tricar. My husband inspected the contents of the tanks; there was oil and petrol, and the rear wheel jacked up. He switched on and pedalled the engine over, and it immediately went off like a Gatling gun. I tried the seat (to my surprise it was comfortable), but with the thought of what the neighbours would say

and the attention we might attract, rather than lose the afternoon's ride I told him to see if the road was clear and "get away" just as soon as possible. Before the afternoon was over we jointly decided an Indian tricar would suit us, and the order was placed the next day. Although sceptical at first, I was soon convinced of its capabilities and the extreme ease with which one travels over rough surfaces without shocks or engine vibration. On a level surface the motion is not unlike sailing on absolutely smooth water. The maintenance is much less in proportion than that of any small car, and it serves the same purpose on good roads. But who wants to ride for pleasure on bad roads?

Another advantage is the small amount of care necessary to keep it in readiness for immediate use. With fuel tanks full, with an occasional glimpse at the chains and batteries, it seldom refuses to "mote."

Moderate Expenses.

Placed in a crate, our little tricar was carried from New York to Ormond, Florida, for \$5.90 (25s.) where we made a stop of two weeks, during which

time we rode on all the roads in the vicinity which were rideable for any motor-driven vehicle, and on the famous beach with one twenty miles straightaway run our cyclometer showed some six hundred miles. The garage charges were nil, having run it under cover only when the weather was wet, and other times leaving it on the drive. Total consumption about ten gallons of petrol.

From Ormond, Florida, it was freighted three hundred miles south to West Palm Beach at a cost of 18s. 6d., where it was uncrated and the empty crate shipped to Miami for 3s. But our hopes were shattered when we were informed that nothing but



A bad place for a sideslip! The road is twelve feet wide, and flanked on each side by deep water.
Near Fort Lauderdale, Fla.

"nigger mobiles" (as I have heard the coon-pushed wheel chairs at Palm Beach styled) were allowed on the beach.

Here we perforce had to leave motoring alone for several days. We enjoyed a motor boat carnival. The road from Palm Beach to Miami is made of pure lime rock, and on the straight stretches reminds one of a silver white ribbon laid through the tropical verdure of the land of flowers. So narrow is this road that were one to meet or attempt to pass another vehicle, it would require much care to avoid an accident. For several miles there is a ditch on both sides of the road, the latter being only 12ft. wide. We much regretted this road was not longer, as the sixty-six miles were quickly covered. The scenery was grand, and it was new to us to see convicts working on the roads guarded by a typical Southern sheriff with his never-failing Winchester across his arm and a brace of vicious-looking bloodhounds by his side.

We had three days to wait before the steamer left for Cuba, so we stored the crate, giving a negro Stevedore some loose change to keep it until wanted. Two gallons of petrol was the expense here. We were not

A Tricar Tour in Cuba and Florida.—

long exploring all the least resemblances of roads, but what a figure we did cut. Everybody wanted to get a look at our machine; one would have thought a circus was in town. Wheeling it on board the steamer, we had it registered to Havana, and it must have made the owner of a \$750.00 runabout green with envy. His car cost him \$25.00 freight and \$7.00 counsels' fees each way, and then we met him on the road in Cuba, only to speed by him with a smile.

We traversed all the good roads of Cuba in the neighbourhood of Havana as far as San Christobal and Muiriel, making several trips to Guanajay, and inspected the international automobile course. The riding here is said to be better than in Europe, and the scenery is grand. Here and there, scattered along the road, are the historic Spanish block houses, pineapple fields, banana groves, and coconut palms. It is hard to realise that one is in a place so foreign only ninety miles from the United States and with absolutely no speed laws. However, one must be a careful driver, for Cuban traffic is strange compared with New York.

Traffic Dodging in Havana.

Fifth Avenue on a pleasant afternoon when congested with horse-drawn vehicles is an easy task for a tricar driver compared with the Prade of Havana. Though this thoroughfare is wide and divided in the centre by a park, the Cuban driver of any vehicle forgets there is another soul in the world but himself. He drives his horse zigzag, turns out to left or right as his fancy may select, and observes not the smallest rule of the road. The same shiftless custom is followed by all on the Cuban turnpikes from the ox-cart moving at three miles per hour, with the driver asleep on the seat, to the "wah-wah" going as

speedy as a horse-drawn carriage can travel. Most of the pedestrians in Havana are more careful than an "Americano" in crossing the streets, and a touch of the bell which all vehicles carry causes a rush to a place of safety. It is said that there are 8,000 ca



Native Cubans by the roadside.

in Havana, and the drivers are always looking for "fares" or disturbing pedestrians by clanging the bells.

It was said that when the electric tram was first introduced into the streets of Havana it was necessary to smash many vehicles before the horse drivers would give way to the cars. Now they keep at a safe distance, and jump at the warning of the motorman like a dog bolts at the report of a gun after once having been wounded by a stray shot. Let us hope the Cuban people will soon realise the importance of observing the rules of the road, and then it will be a pleasure to tour with a tricar and enjoy the tropical trips and scenery of the "Pearl of the Antilles."

JEANETTE DONALDSON HASTINGS.

SOME USEFUL ACCESSORIES.

Hunt's Stores, Ltd. 104, Newgate Street, E.C., have lately devoted their attention to catering for motor cyclists, and have succeeded in placing before the motor cycling public several accessories of no small interest. Perhaps the most attractive of these is a mirror working on a ball joint, specially designed to be attached to the handle-bars of a motor cycle. Another useful accessory is a lamp bracket for attaching an extra lamp to the handle-bar, and while dealing with the question of lamps it is interesting to note that Hunt's Stores, Ltd., are making a speciality of an extra heavy acetylene generator of sound design. It is carried on a powerful bracket, and is also provided with a two-way tap for two lamps if necessary. Other lamps which can be obtained from these people are a lens mirror lamp, the Alpha (B.R.C.), and the

Autoclipse. Box spanners suitable for motor bicycle work can also be obtained from the same address. Motor cyclists in want of anything for the motor cycle would do well to write for the firm's catalogue or call personally at 104, Newgate Street.

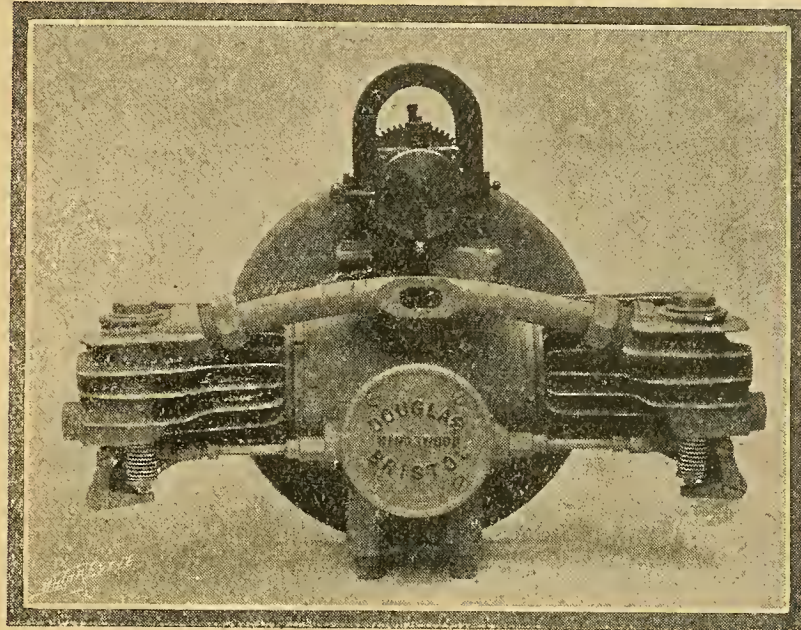
An advertiser in an announcement regarding the repair of accumulators recently stated that "Minerva accumulators cannot be repaired," meaning thereby that, as he was interested in another make, *he* was unable to undertake the repair of Minerva accumulators. It has been pointed out that some of our readers might think that it was impossible to repair Minerva accumulators. This, of course, is not so, and this make of accumulator is as easily repaired as any

An Examination and Report of the Douglas Engine.

A SHORT time ago Messrs. Douglas Bros., Kingswood, Bristol, forwarded to us for examination and report a twin-cylinder engine which had been used on the Douglas motor bicycle ridden by Mr. Eli Clark in the A.C.U. Land's End to John-o'-Groat's trials. This machine practically completed the trial, as it arrived within a few miles of John-o'-Groat's, and after the trials was ridden in the A.C.U. Land's End to Plymouth and back twenty-four hours run (gaining the silver cup in its class), and then home to Bristol by road. We dismantled the engine and examined all the parts carefully, and find the two cylinders, which are 60 mm. bore, are in excellent condition, the difference between the diameter at the top and bottom of the cylinder being only about one-thousandth of an inch. The piston rings are very little worn, and there is very little play on the big ends, and practically none on the gudgeon pin bearings. The fastenings for the gudgeon pin, which consist of a split pin through the lug of the piston, also bedding in a keyway cut in the gudgeon pin, show no traces of having moved, and the cotter pins are not broken or bent. On the piston there is a fair deposit of carbon, the front piston having more deposit than the back one. Neither of them, however, shows anything above the normal, considering the distance the machine has been ridden. There is practically no wear on the crank axle, which is in perfect order. The last drive to the magneto shaft is exposed on this machine. The gear, nevertheless, is in good order, and is not worn; neither does the magneto armature shaft show any appreciable signs of play except the slight end movement, which is usual with these bearings. The inlet and exhaust valves show slight traces of over-lubrication, the inlet valves being rather foul and the wear on the washers at the top of the stems is considerable, *i.e.*, the inlet valves

originally opened $\frac{1}{8}$ in., but they now open $\frac{3}{16}$ in. The exhaust valve faces are not pitted, but are ground slightly hollow.

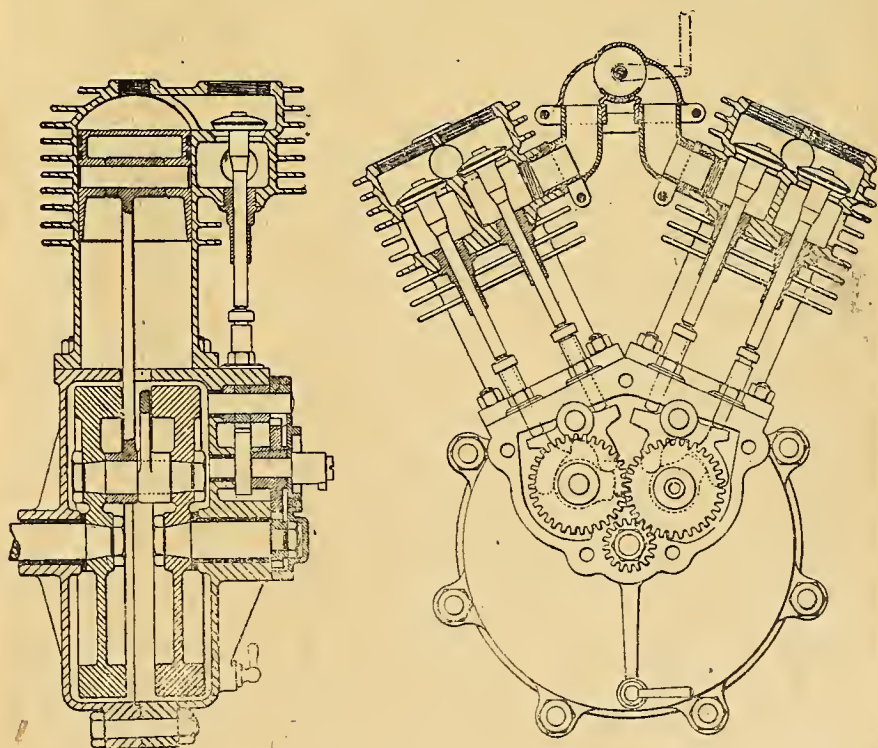
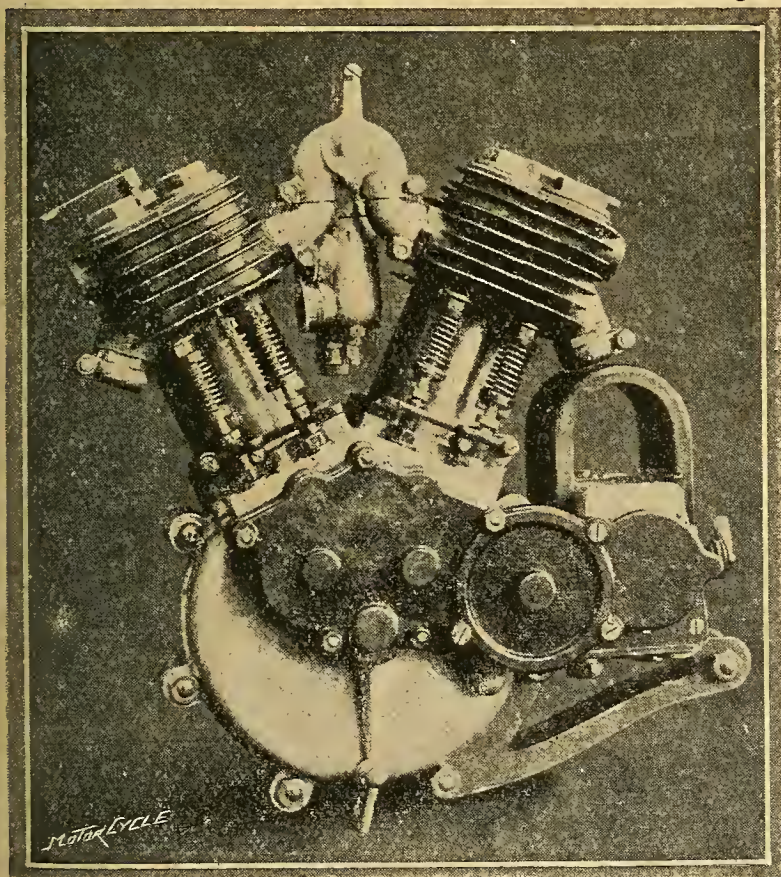
The timing gear on these engines is rather inaccessible, as the crank case would have to come apart to get at the timing gear or cams operating



The Douglas 2 1/2 h.p. twin-cylinder opposed engine with automatic inlet valves.

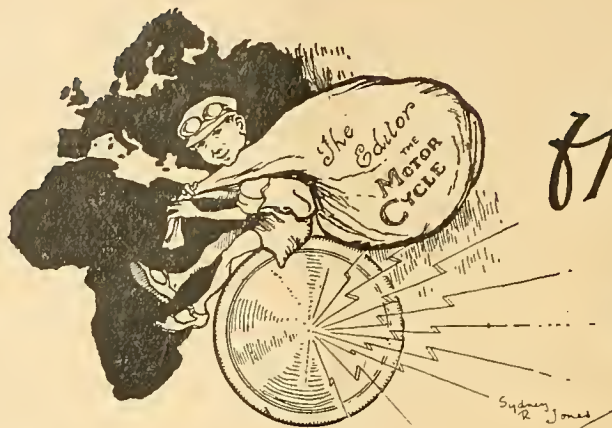
the exhaust valves, although the tappets operating the exhaust valves can be removed with ease. Another little disadvantage in the way of inaccessibility is the fact that the cylinders cannot conveniently be removed from the crank base without removing the engine bodily from the frame. The cylinders are screwed into the crank base and locked with a lock ring.

Taking everything into consideration, the engine is in excellent condition.



The Acme 3 1/2 h.p. twin-cylinder V-type engine, with mechanically-operated inlet valves, the bore and stroke being 66 mm. x 70 mm. As will be seen from the drawings showing the end section and side elevation, the engine is of neat design. Its complete weight with Bosch magneto is said to be 48 1/2 lbs. Two Tourist Trophy machines were fitted with this make of engine—one entered by Messrs. Pellaux and Bilbie, the other entered and ridden by Mr. E. G. Young,

Letters to



the Editor

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Petrol Tin Stoppers.

[3570.]—Why have the firms who supply petrol adopted the very awkward means supplied for removing the cap from their cans? After "barking" my knuckles over obstinate stoppers on numerous occasions I have "longed" for the day when the caps will be so shaped that an 8in. spanner can be used. This is a method to which I can see no objection, as every motorist has a spanner included in his kit.

W.J.D.

To Ensure Easy Starting.

[3571.]—May I draw your attention to a fitment to ensure certain starting of motor cycles in all weathers and conditions. Remove from an old camera lens the Iris diaphragm and fit it underneath the mixing chamber of the carburetter. This when closed will cause a good supply of petrol to issue from the jet and ensure an easy start. It can be regulated by the usual lever or Bowden control from handle-bar. This acts in the same way but better than an adjustable air adapter. Why are there no fuses in the circuit of battery-ignited motor cycles? Look how many ruined cells it would save. I have always used a fuse.

SV 79.

The Standardisation of Motor Cycle Rims.

[3572.]—We are extremely surprised to read letter No. 3546 in your issue of September 16th regarding "The Standardisation of Motor Cycle Rims." If your correspondent "BD 552" will kindly refer to our printed list he will find that we make it a special feature to fit his particular rim (Clincher), and all such tyres are stamped "Special." We have supplied thousands of covers of this size, and this is the first time we have read of a complaint. It is evident that "BD 552" has got hold of a cover made for quite a different rim. The large variety of sizes made by us enables us to fit almost all existing motor cycle rims.

To correct the erroneous impression caused by "B.D.'s" letter, we ask you to be good enough to publish this letter.

THE HANOVER RUBBER CO.

A Good Climb on an Old Machine.

[3573.]—I thought that it might interest the readers of *The Motor Cycle* to know the excellent climbing powers of the Quadrant motor cycles. I have an old 1½-2 h.p. (2½in. bore by 2½in. stroke) machine of this make, surface carburetter, 6½ to 1 gear, weight of machine about 120 lbs., my weight 9 stones.

I took this machine to a hill in Chingford, Essex, known as Friday Hill, which has a gradient in parts of, I should think, 1 in 5 or 6. The hill is about a quarter of a mile long with a very sharp pitch at the top. The machine, with me up, climbed it at a good 12 m.p.h., which I think is an excellent performance for so small an engine carrying such a heavy weight (246 lbs. self and machine). I think the hill in question would tease a good many much higher-powered machines. Of course I did *not* assist with the pedals.

QUADRANT.

[Modern machines have a higher gear than 6½ to 1; that is why they do not always climb better or faster than some older patterns.—Ed.]

Puncture Repairing.

[3574.] — With reference to "Ixion's" remarks on "tacky" trouble in a recent issue, I would strongly advise all those who find it difficult to make a good repair job with the ordinary solution and patches to try a Patchquick outfit. Apart from getting the cover off, there is absolutely no difficulty in mending a puncture with these outfits, as the patches stick at once and never curl.

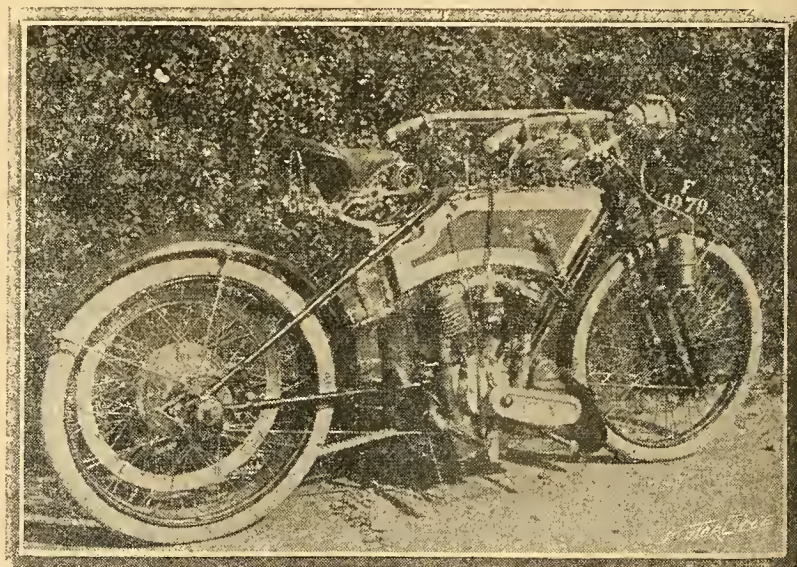
With regard to the belt controversy, I should like to say that during my earlier experiences as a motor cyclist I tried most of the leather belts, but found none of them really satisfactory. About two years ago I bought a Stanley Dermatine, and since then, apart from the inevitable stretching at first, I have had no belt trouble. A few weeks ago I bought a new one, and am now carrying the original one as a spare. My machine is a 3½ h.p. Quadrant, with ¾in. pulleys.

C. L. MASSY.

P.S.—I am not financially interested in the industry.

Combined Tool-bag and Holster for Starting Handle.

[3575.]—Some time ago I read in *The Motor Cycle* that a Rex Modèle De Luxe rider was wishing to know a way to carry his starting handle. I enclose you a photograph of my machine showing tool-bag and holster for starting handle combined. This was made for me by a local harness maker. The tool-bag is made to fit in the frame under the saddle, and the holster is strongly sewn on to the tool-bag. You will also see just at the back of the engine a triangular-shaped



piece of wire hanging from footrests to within about a quarter of an inch of the ground. I have found this very good for preventing nails getting into the back tyres. I was constantly troubled with nails, but since fitting this I have done about 2,000 miles and the tyre has not picked up a single nail.

B. G. DURKIN.

A Problem to be Solved.

[3576.]—I am afraid your explanation *re* exhaust lift at the end of letter 3500 will not hold water, because the extra air coming *via* the exhaust must be very foul, if, indeed, it is not entirely innocent of atmospheric oxygen. This

phenomenon shows itself in my own machine, which has a long exhaust pipe and a silencer whose cubical capacity is larger than that of the cylinder. I should also like to let your readers know my experience of benzol. I have now completed 6,000 miles on nothing else but pure benzol (prepared by Stainsbe and Lyons, Knottingley). I have taken out the engine every 2,000 miles, and have found absolutely nothing wrong. Every part as clean as with the best oil. My machine is just as easy to start as with petrol. Mileage has been increased twenty to the gallon, and I have to try very hard to get my engine to knock now. Satisfaction is such that I can say without exaggeration that were I offered a can of petrol and a can of benzol at the same price I should certainly choose the latter. I have used a mixture of crude wood naphtha and benzol on my car without any of the sooting, etc., mentioned in letter to MEDICUS.

With regard to slight partial lift of exhaust causing an acceleration of speed we can only repeat that it has been our experience many times, and we have always credited it to lack of air *via* the carburetter.—Ed.]

Belts.

[3577.]—There has been a good deal written about belts. *The Motor Cycle* during the last two months, some contributors attempting to show the superiority of rubber and others belts over any other kind.

Four years ago I had a rawhide belt, and do not think I returned from a ride without the belt having broken. I did not know whether to give up motor cycling or experiment with belts, but I decided on the latter.

In order to give the belt makers a fair chance, I thought I should also supply the pulley, so I ordered a two-ply Watawata belt and pulley from Ormerod, Ltd., Rochdale, my 3½ h.p. Rex; they also sent me a book on "The Use and Care of Belts." I carefully carried out their instructions, with the following result: The belt was put on in June, 1906, taken off in July, 1908, not having broken once. I rode all the year round about three days per week, and in all weather, which has had no effect whatever on the belt.

About three weeks ago I was riding for about nine hours; rained all day without ceasing. At the close of the ride had to negotiate a hill three miles long (some parts 1 in 5), and the belt was still in good order. This belt I had carried on the head of the machine for twelve months without using it, and it was my desire to try this one that caused me to take the old one off; it is a three-ply ¾ in. Watawata.

What make of leather belt or what attention one of your correspondents could have paid to his belt to call it "a pile of yards of slime," I cannot understand. Perhaps my method of treating a leather belt may be of use to others.

About every two or three months remove belt, and with blunt knife scrape the grit from the sides, and with a piece of thin wood dislodge any dirt that may have got into the spaces between the rivets; brush well to clear away all dirt, then paint the belt on top and bottom only with linseed oil, leaving it all night in a warm room to allow the oil to penetrate the leather.

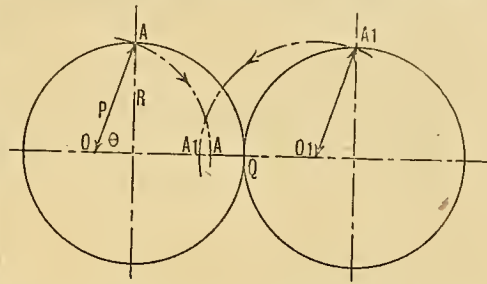
After riding several hours in the wet, the belt should be taken off and washed, using a scrubbing brush, wiped perfectly dry, hung up in a warm room for a few days to dry, and treated as above.

Although I feel greatly indebted to the makers for the pleasure derived through using their belts, my object in writing this is to give the benefit of my experience to others, that they may participate in the same pleasure. E.O.E.V.

An Interesting Magneto Transmission.

[3578.]—With reference to Mr. Walford's interesting article on the Gianoli magneto transmission. It is not clear how two eccentric pinions can be made to gear correctly.

The diagram shows the pitch circles of two eccentric pinions on axes $O O_1$. As shown, the maximum radius of the left-hand pinion is in contact with the minimum radius of the right-hand pinion at Q. The distance between the axes through this point Q should obviously equal the diameter of one of the pinions or Q R, but when, for instance, a quarter of the circumference of the pitch circles of pinions have geared and the points A and A_1 are in the same straight line as the axes $O O_1$, viz., at A and A_1 , then the distance between the axes should equal Q P or Q R

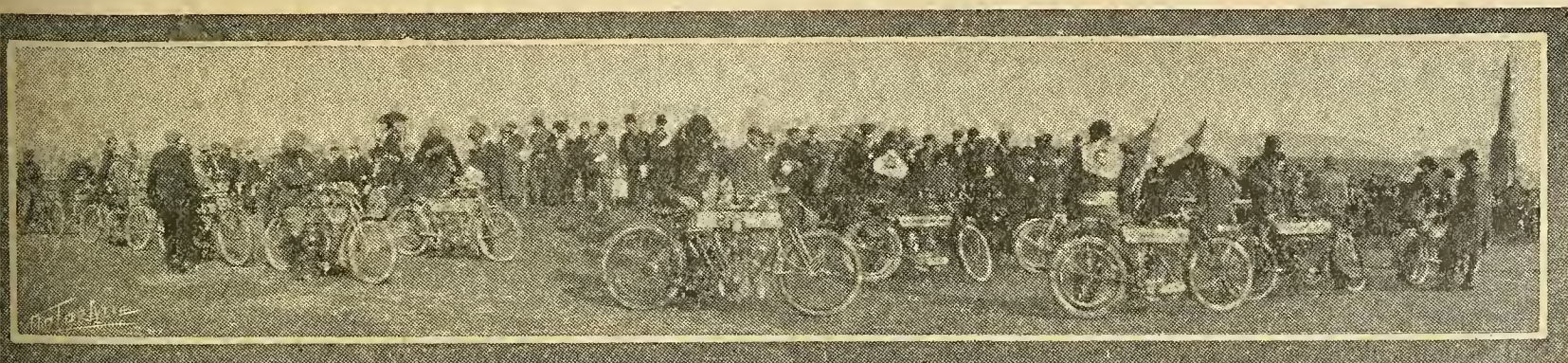


—, which is obviously greater than Q R, the original distance. Therefore, the pitch circles must overlap at this distance. The difficulty is probably overcome by having the teeth of sufficient depth to allow for this. F. P.

The Lightweight Question.

[3579.]—Much has been written in your paper of late for and against the lightweight, inasmuch so that I feel it almost a moral duty, with your kind permission, to give your readers my slight experience.

Although knowing something of petrol motors for some years, having owned a car and more than one motor boat, strange to say until the last few months I knew absolutely nothing at all about motor bicycles; in fact, I had always regarded them as noisy, unsightly, uncomfortable, and dangerous nuisances, until a friend of mine was telling me one day that he had just seen the nicest and prettiest little motor bicycle he had ever come across, and whose owner was delighted with it. As I thought, it turned out to be a well-known 1½ h.p., and I chanced to meet a gentleman staying at an hotel in a neighbouring town just afterwards who had one of these machines, and fully imbued with that courtesy usually exchanged among the motoring fraternity, he very kindly rode his machine here and tried it up over the three hills out of this town. I was rather disappointed to hear him report that, although he was highly pleased with the performance of his little 1½ h.p., it was as much as ever he could do with hard pedalling to get up either of the hills, and even then he had to rest in the middle of each for a few minutes, and he frankly told me that, living in a valley such as this, he should advise me to have more power. I forthwith invested in a copy of *The Motor Cycle* weekly in quest of the next best thing in lightweight, and I saw an illustrated advertisement of a twin 2 h.p., which I thought would be just the machine I wanted, which opinion was confirmed upon my getting full specification from the makers. Even then I had grave doubts whether this machine would be able to negotiate this country roundabout, which is as bad as, if not worse than, any in Devon, the town itself being hemmed in on all sides by hills very nearly two miles in length and rising from sea level to an altitude of 500 to 600 feet, with twisting and irregular roads. Eventually I got the makers to send a



Tourist Trophy competitors lining up for the start at St. John's. This year there were thirty-six riders, last year only twenty-five.

machine here and demonstrate its possibilities, and I had my first ride on a motor bicycle, when I was so agreeably surprised that I there and then decided to purchase one. I have now owned one for two or three months, and have done about 500 miles on it over as bad a country as it could traverse, right across the heart of Dartmoor, and I am delighted with it in every way. It takes the hills with ease, and is simplicity itself to handle, and I can pay my little iron steed a very high tribute and say it is an ideal mount. I use a good oil, and am very careful about lubrication; it is very comfortable riding, and very easy to start and to manage in traffic. I have ridden it well over 100 miles in a short day on a gallon of spirit, and with the gradual opening of the throttle it purrs away across country like a little contented kitten. I think this particular make is bound to become popular, and deservedly. I have not had a puncture, nor has a nut come loose. I have suppressed names, as I have no interest in any firm, but I will gladly inform any reader the name of the makers.

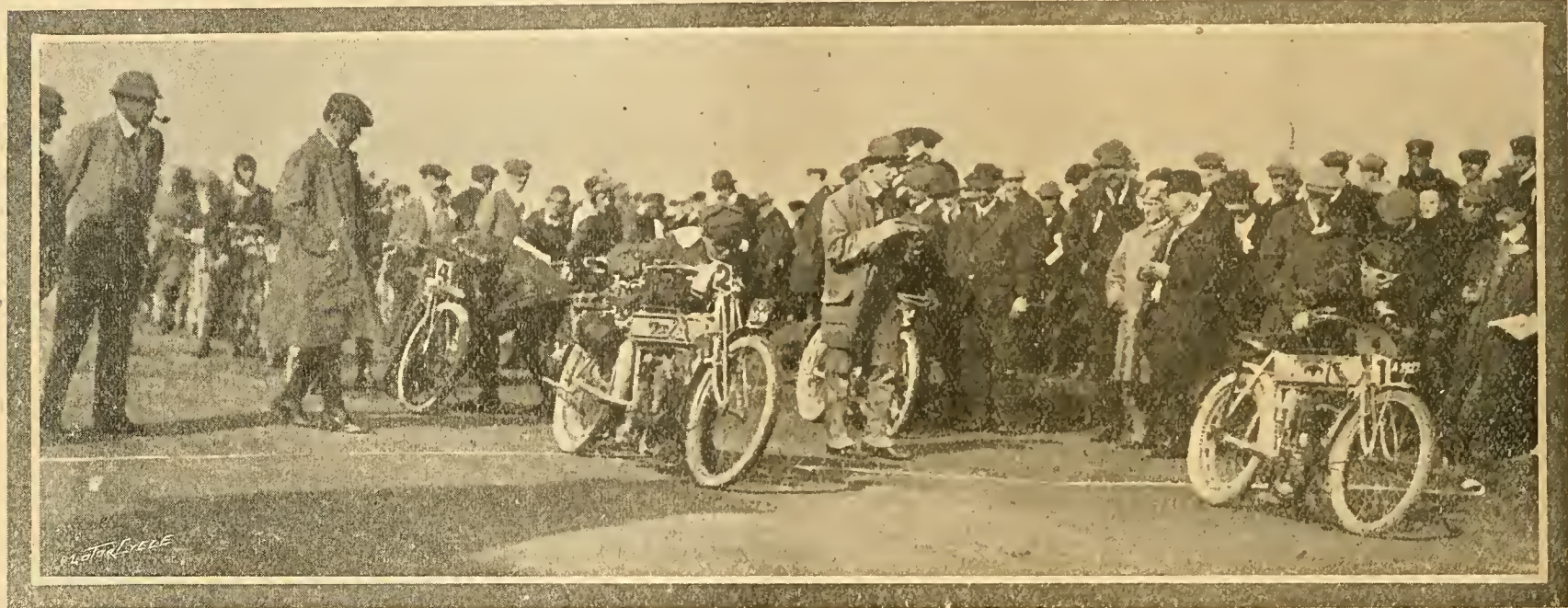
Dartmouth.

J. D. HAWKE.

extent of, at the outside, 10%. For two-stroke engines the formula would become $\frac{C \times T}{W}$ plus one-tenth, than which nothing could be simpler.

With regard to the practice of the Marine Motor Association of America, which, as you point out in your leaderette, is to impose a handicap of 50%, one has to remember that these marine motors are slow-speed water-cooled engines, and that in consequence the proportion of the stroke rendered ineffective is much smaller, and the mean effective pressure attainable is higher than in the case of the high-speed air-cooled motor of the bicycle.

I have written so far as a sportsman. By profession I am an engineer, and have been for the last two and a half years engaged to a considerable extent in the development of a new type of four-stroke engine (not two-stroke). I know by experience, therefore, what hard work is involved in bringing out a new engine, and how easily its mode of action, its limitations, and its advantages can be misunderstood, and I



The previous holder of the Tourist Trophy, No. 1, C. R. Collier (3½ h.p. Matchless), and the holder of Dr. H. S. Hele-Shaw's trophy, No. 2, H. Rem Fowler (5 h.p. Twin Norton), led off the procession in this year's race. Our illustration shows them as they were starting.

Two-stroke Engines and Formula in Hill-climbs.

[3580.]—In connection with your leaderette and the recent correspondence in your columns on two-stroke engines, there are two points which have so far not received attention, which appear to me to be of vital importance, and to throw considerable light on the question of handicapping. I refer to the comparative lengths of stroke and mean pressures of the two and four-stroke engines.

In two-stroke engines the piston during 15% to 23% of the stroke is functioning as a valve, so that on the average the effective stroke is fully 19% shorter than the mechanical stroke; in other words, in designing a two-stroke engine, after you have settled what length of stroke you require for developing the power, you have to add on a considerable length to provide for the uncovering of the ports. Hence, when the capacity of a two-stroke engine is estimated from the bore and stroke, the engine is at once handicapped to the extent of 19% on the A.C.U., or Professor Callender's formula.

Again, the mean effective pressure attained at the usual working speeds in a two-stroke engine of first-class design is from 37 to 40 lbs. per square inch, as against 60 lbs. in a four-stroke engine. On the other hand, the two-stroke engine has one working stroke per cylinder every revolution. Taking the average mean effective pressure attained in the two-stroke engine as 38½ lbs. per square inch we can compare the engines on the pressure and cycle questions by taking 77 lbs. for the two-stroke and 60 lbs. for the four-stroke engine, i.e., on this score we may fairly say the two-stroke engine has an advantage of 17 in 60, or 28%. Hence, the nett advantage of the two-stroke engine is 9%.

It is, therefore, obvious that all the requirements of sport would be met by handicapping the two-stroke engine to the

would, therefore, like to suggest that no action be hastily taken which might hinder the development of the two-stroke engine.

W. H. GLASER, M.A.

SUMMARY OF OTHER CORRESPONDENCE.

The Bat Motor Manufacturing Co. write: "We notice 'Ixion' in 'Occasional Comments,' September 16th, page 728, deplores the fact that up-to-date machines are not fitted with automatic lubrication. In this, however, he is wrong, and we would point out that the Bat is, and has been for the past year, fitted with the J.A.P. patent drip feed lubricator, which is quite automatic and perfectly satisfactory. The tell-tale is fitted right in sight of the driver, and an adjusting screw gives any desired feed."

EXPERIENCES WANTED.

Tam Pearce would like readers' experiences with the Clair silencer.

"W. T. F." would like readers' experiences of the Nala two-speed gear.

"Buckboard" would like readers' experiences with the engine fitted to the Orient Buckboard, particularly with regard to easy starting and the prevention of overheating.

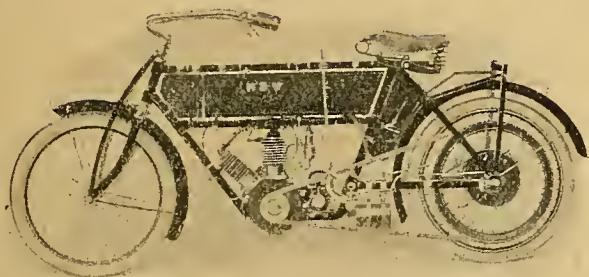
NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

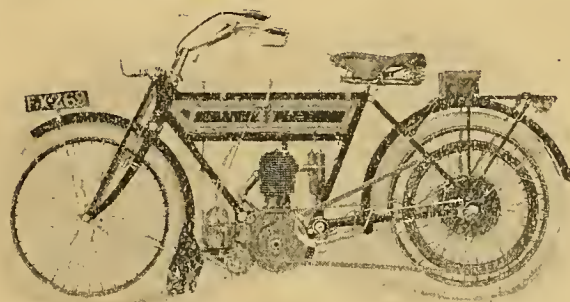
EVOLUTION.

POPULAR TYPES MADE PERFECT

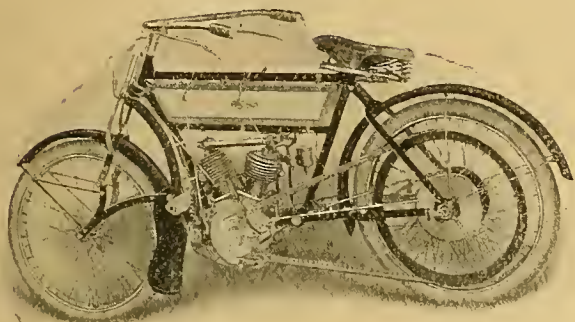
by the incorporation of the ROC patent clutch and two-speed gear, complete with live axle and hand starting.



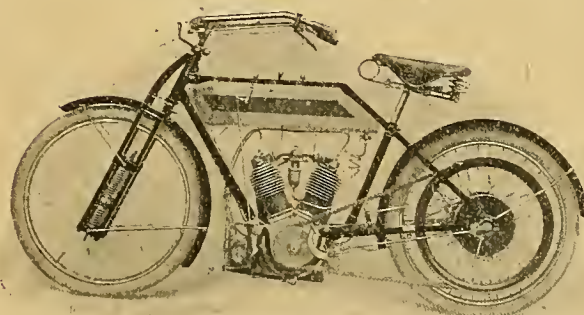
N.S.U.—Roc Conversion.



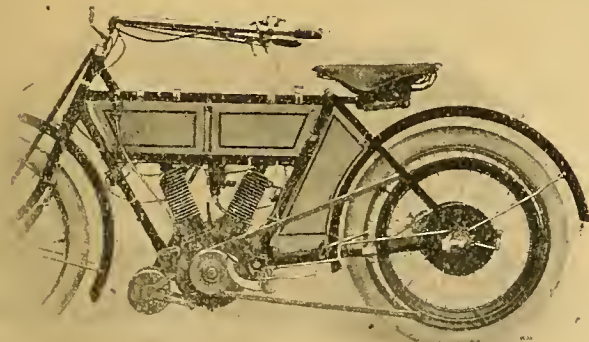
Triumph—Roc Conversion.



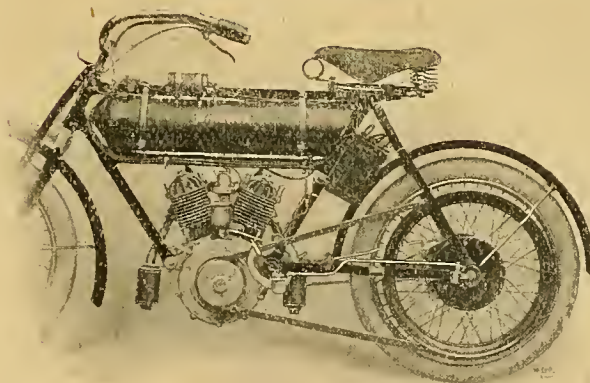
Vindéc—Roc Conversion.



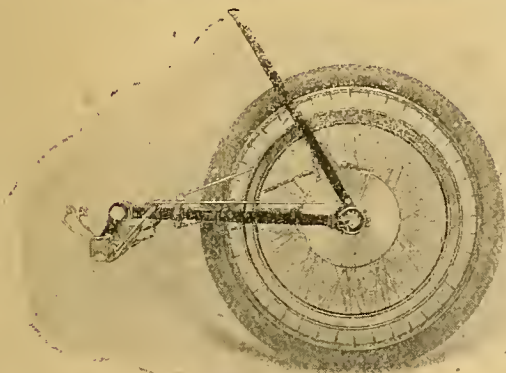
Rex.—Roc Conversion.



Chater Lea—Jap—Roc Conversion



Minerva—Roc Conversion.



Showing Roc Conversion Set. Adaptable to all makes of machines

The complete 4 h.p. Roc Military Model, a pioneer to motor cycle progress—note the long, low, safe, comfortable position.

The Conversion Set comprises—Live Axle and Hub. Metal to Metal Brakework. Belt Rim, new large V section, $\frac{3}{4}$ in. or 1 in., built with Tangent Spokes. Frame Members 1 in. Outside Ball Bearings. Footrests with actuating Levers for the Clutch, Gear and Brake—exactly as on a car. Starting Handle. All finished, enamelled and plated, ready for immediate use. **Inclusive price, 10 gns.** NOTE.—The same materials are used in the conversions as are incorporated in the genuine Roc Motor Bicycle, and bear the same guarantee.

Write for illustrations and users' opinions from the Sole Manufacturers—

Clutch Dept. **A. W. WALL, Ltd.,** ROC MOTOR CYCLE WORKS, Aston Road and Dartmouth Street, **Birmingham.** Tel.: 5712. Tel.: Roc, Birmingham.

Photograph of a "TRIUMPH AGENT"
on receiving the Result of the
TOURIST TROPHY RACE - 1908.



WELL I'm jiggered?
THEY'VE NOW COLLARED THE LOT!!

W/H.

OCCASIONAL COMMENTS.

By "IXION."

Improvements on Lightweights.

Several writers have lately spoken severely of the minor fittings of modern lightweights, and especially upon the flimsy nature of the wheels and tyres employed. I am authorised by several makers to say these points are receiving immediate attention, and that heavier wheels and tyres will be standard on two or three makes within a few weeks.

A Lamp Securing Tip.

I see many lamps tied on with copper wire or string, and riders tell me they are afraid to put a bolt clean through the clamp and the bracket tongue, because the clamp then usually snaps off short at the point where it joins the body of the lamp. A good tip is to make an S hook of stiff steel wire, of such a length that one end will hook round any convenient bit of the lamp on the side remote from the bracket clamp, while the other end hitches on to some part of the frame below the bracket. The point to watch is that the hook is taut when sprung into position. This clips the lamp at the opposite side to the bracket, and makes the friction locking quite secure and reliable.

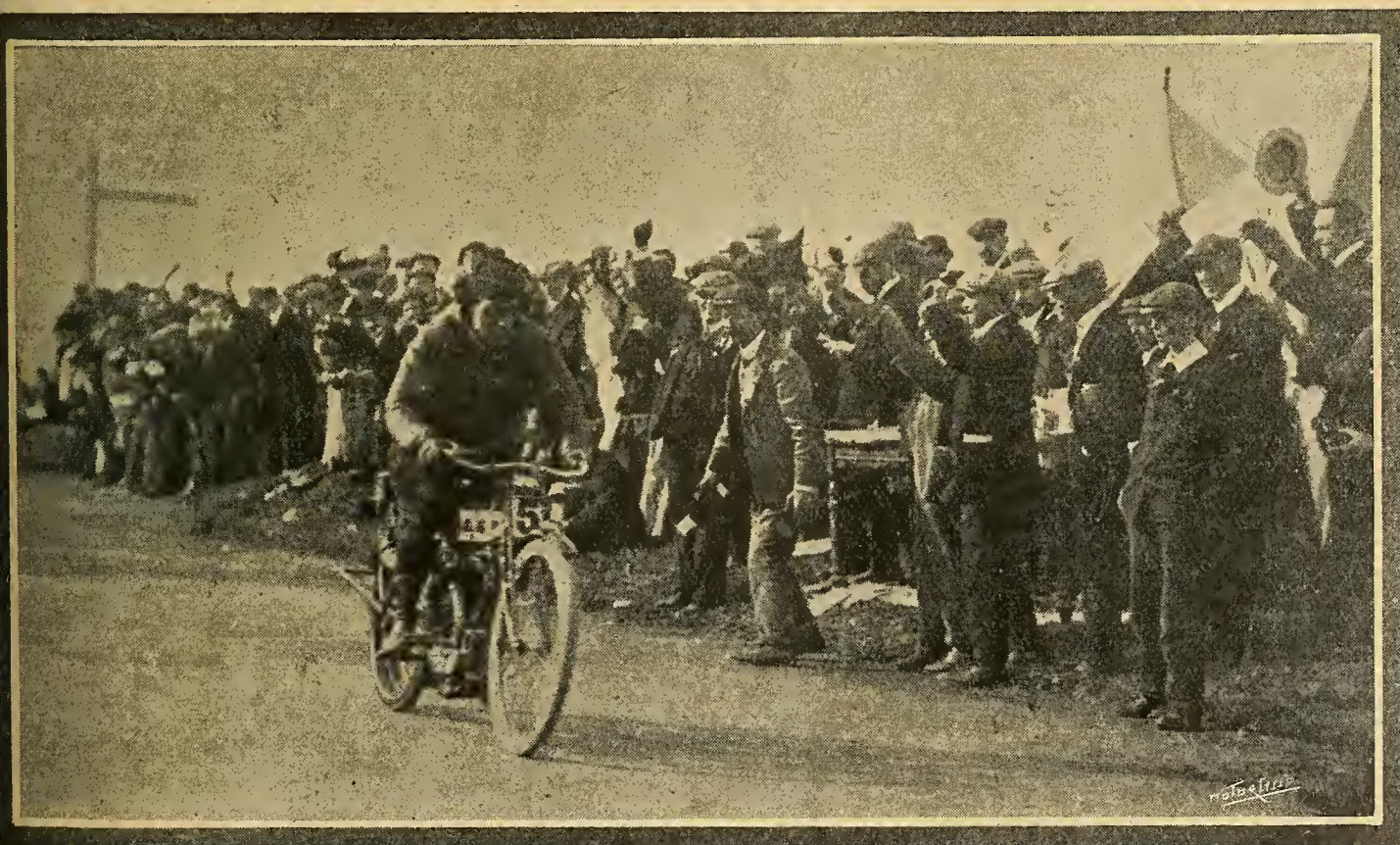
Adjust Contacts with Engine Running.

I find there are still thousands of novices who adjust their contact breaker platina with the engine switched off. It is doubtful if even an expert will get the best adjustment three times out of four by this method, and there is no doubt at all that the novice is likely to sacrifice a third of his maximum engine power by so doing. Thanks to magneto ignition, this point is of far less importance than it used to be, but there are still thousands of accumulator-ignited machines about, which is my excuse for mentioning the proper plan. The three essentials are a level place, a fat friend, and a screwdriver. Put the machine on its legs upon the level place, put the fat friend in the saddle, and with the screwdriver make the platinum pointed screw advance

to and retreat from the blade, after the fat friend has started the engine up. It is best to test the setting with the spark two-thirds retarded, and tighten it up temporarily at the setting which makes the engine run fastest. Then advance the spark fully, and if there is no misfiring there is not much amiss with the adjustment.

Hard Lines!

We all realise that in every big trial a small percentage of riders are regularly thrown out by sheer hard lines. A trouble attacks them of that haunting sort which only befalls one rider in a thousand, and which perhaps only affects one machine of the makers' total outfit. Mr. J. O. M. Dixon was one example in the End-to-end, but he managed to rise superior to circumstances. Mr. T. F. Cox now sends me details of his own exasperating experience. Everyone who saw the early stages of the trial realised that Mr. Cox was in difficulties with his big twin-cylinder, and he now informs me that he was troubled with practically permanent misfiring in one cylinder. As a skilled rider he made every possible test and substitution, but without effect, and finally he was compelled to retire at Perth. When he got home he still failed to probe the mystery, and at last sent his coils to be tested; they were pronounced perfect. Finally, he was wheeling his machine backwards, some three weeks after the trial, when he noticed a grating noise proceeding from the distribution gear. He promptly dismounted it, and discovered that the arm of the bell crank which lifted the valve tappet had split lengthways. The split had gaped a little, and at times one arm of the split crank would bind against the side of the crank case, causing the tappet to stick up momentarily, and prevent the exhaust valve from returning to its seat. When he dismounted to seek for the trouble the refractory bell crank dropped down, so that his valve appeared to be working correctly. This was indeed rough luck.



J. Marshall!

(3½ h.p. Triumph,) the winner of the Tourist Trophy, just crossing the finishing line. He made the fastest time of the day, averaging 40½ miles per hour.

CURRENT CHAT.

SPECIAL FEATURES.

1908 T.T. RESULTS AT A GLANCE.

Special Illustrations from Manxland.

THE HILL-CLIMBING QUESTION REVIEWED.

TIME TO LIGHT LAMPS.—Sept. 30th, 6.42 p.m. ; Oct. 3rd, 6.35 p.m. ; Oct 7th, 6.26 p.m.

A Distinct Novelty.

The Continental Tyre Co. are introducing a green coloured air tube for pneumatic tyres. It will be made of the finest quality indiarubber obtainable.

La Coupe d'Evreux.

In the above speed trials, which were held at the beginning of last week, a Quentin machine covered the flying kilometre in 42 $\frac{2}{5}$ s. = 52 $\frac{1}{4}$ miles per hour. This was in the class for machines fitted with engines not exceeding one-



R. M. Brice (3 $\frac{1}{2}$ h.p. Brown) who completed the T.T. course in 4 hrs. 49 mins. 58 $\frac{1}{2}$ secs. He used accumulator ignition on his machine.

third of a litre. The second and third places were secured by Moto-Rêve lightweights, the speed being 33 $\frac{3}{4}$ miles per hour. In the quarter litre class the Albatross was successful. The Herdtlé-Bruneau beat the Moto-Rêve by 1 $\frac{1}{2}$ s. in the class for machines weighing less than 62 lbs. In the class for racing machines Grapperon (Alcyon) tied with Olieslagers (Albatross), time 33 $\frac{2}{5}$ s. = 67 miles per hour. In the mile race, uphill with a standing start, the Quentin machine again beat the Moto-Rêve, and also won the quarter-litre class. In the lightweight contest (machines under 62 lbs.) Moto-Rêve machines were first and third, and the

Herdtlé-Bruneau second. The fastest time was 1m. 59s. = 30.4 miles per hour. Olieslagers just beat Grapperon in the racing class by 3 $\frac{1}{5}$ s. in the time of 1m. 9 $\frac{1}{5}$ s = 52 miles per hour.

Mr. Fawcett Still Climbing.

Readers of Mr. E. Douglas Fawcett's adventurous tours which have been published in *The Motor Cycle* will learn with interest that he has just successfully climbed the Grande Arvey, Haute Savoie, which is 4,000 feet above the level of the sea—this time on a car, one of the latest single-cylinder De Dion voiturettes. The climb comprises at least six kilometres with gradients varying from 1 in 4 to 1 in 3 $\frac{1}{2}$.

Semmering Hill-climb.

There was only one class for motor bicycles at the annual hill-climb on the Semmering Pass, near Vienna, and that was confined to lightweight machines. The results were: 1, Wolf (Puch), 11m. 27s.; 2, Kradetzy (Puch), 11m. 47s.; 3, Werlin (Puch), 12m. 31s. It is interesting to note that two of the heavy racing cars were driven by some time motor cyclists, and both were successful in their respective classes. Willie Poege drove a Mercedes in the class for cars run under the Prince Henry Cup formula, and beat Nikodem, another old motor cyclist, on an Austrian Daimler. Nikodem, driving a Laurin and Klement, was first in the class for cars with single-cylinder engines not exceeding 130 mm. bore.

A.C.U. Council Meeting at Leamington.

It is intended to make the meeting at Leamington on October 10th an attractive one, and by this means to induce a large number of motor cyclists to take part in the gathering. The council meeting will be held in the afternoon, and in the evening a dinner will take place followed by a smoking concert, of which further particulars will be announced later. Leamington is an ideal place for the holding of such a meeting, and motor cyclists will find much to interest them in the neighbourhood. It also has the advantage of being easily reached from practically anywhere. The roads and scenery in the district are excellent. For those who ride back on the Sunday some delightful trips can be found to Stratford-on-Avon, Warwick, Coventry, etc. The secretaries of provincial clubs are urged to support this fixture and to make Leamington the objective for their members on October 10th.

An Eminent Author witnesses the T.T. Race.

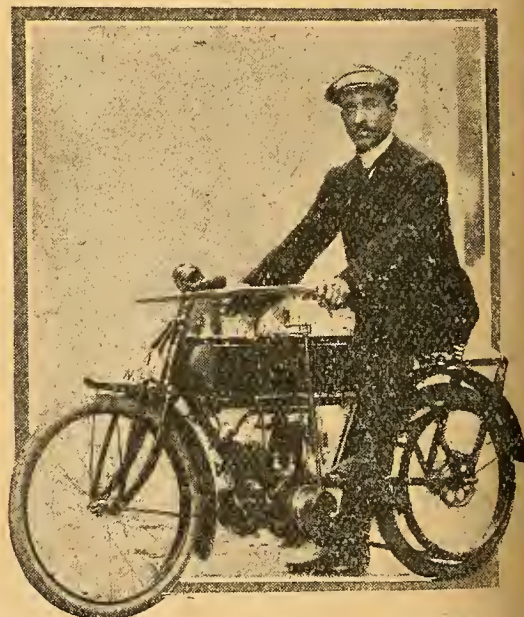
Mr. Hall Caine was among the interested spectators of the T.T. Race.

Saturday's Motor Cycle Race at Brooklands.

Entries for the 5 $\frac{1}{2}$ miles handicap race at Brooklands closed last Saturday, several of the Tourist Trophy competitors being among the entrants. For this event the limit size of twin-cylinder engines was increased from 80 by 98 mm. to 85 by 95 mm. each cylinder.

Lessons from the T.T. Race.

In our description of the T.T. Race last week we gave the average speed of the winner as 38.7 miles per hour, but our figures were calculated without deducting the ten minutes allowed after the fifth round for replenishing the tanks. J. Marshall's actual time was 3h. 54m. 50 $\frac{1}{5}$ s., which is equal to an average speed of 40 $\frac{2}{5}$ miles per hour. C. R. Collier was second fastest, his speed being 40 miles per hour, and H. Reed (the winner of the twin class) third fastest, average speed 38 $\frac{1}{2}$ miles per hour. Last year's best average speed was 38 $\frac{1}{5}$ miles per hour by C. R. Collier, the petrol allowance in this case being ninety miles to the gallon, so that, although the mileage per gallon was increased in this year's race, the competitors were able to make better average speeds. This is a striking proof of the utility of the race, and the improvements that have been made during the last twelve months.



M. Geiger, who rode one of the two N.S.U. machines in the T.T. Race fitted with a two-speed gear.

Dangerous Tram Lines.

Following a letter addressed to the manager of the Croydon Tramways by the Motor Union as to a 3in. gap in the metals opposite the Thornton Heath depot, and many other places where the aperture is dangerous to motor vehicles with tyres smaller than 65 mm., the Union is informed that the dangerous place at Thornton Heath has been repaired.

To Protect Deaf Cyclists.

The Council of the Cyclists' Touring Club desires to call the attention of road users—and motorists in particular—to a simple and efficient device for safeguarding deaf cyclists. This consists of two red and white semi-circular discs attached to the back forks of the bicycle. They feel that, if once this signal is understood and recognised by road users, deaf cyclists will have the assurance that their affliction will not endanger their lives, as motorists and others when overtaking a rider provided with these discs will be aware that the motor horn or other sound signals are inaudible to him, and will act accordingly. This simple and practical device was invented by Mr. W. E. E. Baxter, who is himself a sufferer.

A. F. Wilding on the way to New Zealand.

Mr. A. F. Wilding, the champion lawn tennis player, and an enthusiastic rider of a Bat motor bicycle on which he successfully competed in the A.C.U. End-to-end Ride, sailed for his native land (New Zealand) last week. A portion of his baggage comprises a set of sample Bat motor cycles, and he will represent the makers in future for both Australia and New Zealand. Interested colonial readers should address letters to A. F. Wilding, Hereford Street, Christchurch, New Zealand.

A Tourist Trophy Veteran.

Apropos of the Tourist Trophy Race, H. A. Collier has probably competed in more eliminating trials and trophy races than any other British rider, he having twice raced abroad in the International contest, while he has been a competitor in eliminating trials three times. Collier will attempt next year all the long-distance records, and will endeavour to crowd 1,000 miles inside the twenty-four hours, probably at the Brooklands Track. He is the present holder of the world's 100 miles record.

The Hour Record.

C. R. Collier, who finished second in the single-cylinder class in the I.O.M. race, has designs on the hour record of 63 miles, held by Giuppone, made at the Parc des Princes track, Paris. Collier is having a special machine built, and in the very near future will endeavour to accomplish 65 miles in 60 minutes. The speedy rider considers Canning Town the best track for short-distance speed work, but for long distances, such as the hour, Collier prefers Brooklands, and will make the attempt on the Weybridge enclosure.

Handle-bar Control in the T.T. Race.

It was possible to count on the fingers of one hand the T.T. machines that had the old-fashioned tank control levers. No one who has ridden a machine with a handle-bar-controlled carburettor would think of returning to tank levers, and there being no strain on the levers the wires do not give trouble through stretching, even after continued use. We predict that a motor cycle with control levers on the tank will be difficult to find at this year's Stanley Show.

Notices of Expiring Driving Licenses.

Summoned for riding a motor bicycle without a driving license, F. Durling wrote to the court stating that his license expired in August, and it was an oversight that it was not renewed. He tendered his apology for what he termed a trivial offence, and thought that notices should be sent to license holders before the licenses expired. The Chairman concurred, and he was let off with a fine of 2s. 6d.

Italian Customs Regulations Involved.

Messrs. Davies, Turner, and Co., Ltd., international carriers, 52, Lime Street, E.C., sound a note of warning to tourists in Italy, and our readers would do well to make very careful arrangements prior to importing motor vehicles into that country, as the unfortunate owners are subject to all manner of pains and penalties if clearance through the Customs be not effected by experienced clearing agents fully conversant with the rules and regulations of the Italian Customs. Should it happen that a technical misdeclaration take place, the authorities do not hesitate to invoke the operation of the very drastic laws which necessitate the payment of a colossal fine. The company named will at all times respond to any application made by our readers for that advice which it is so necessary to obtain from expert sources.

Hill-climbing Formula.

As our readers know, questions have arisen regarding the performances of certain types of engines at hill-climbs during 1908, and the Auto Cycle Union has invited Prof. H. L. Callendar, Prof. Archibald Sharp, and Mr. J. W. G. Brooker to act as a sub-committee to consider the matter.

Hedge Cutting.

As a result of representations by the Motor Union, steps are being taken to trim the hedges on portions of the Reigate-Dorking Road.

Exciting Finishes.

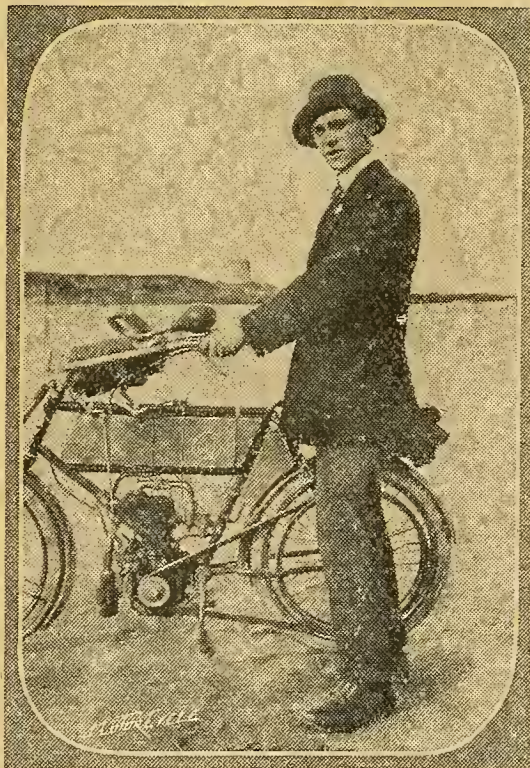
Some extremely close finishes were witnessed in the motor cycle and car races held in the Isle of Man last week. For instance, in the motor cycle race which occupied nearly four hours, Marshall only beat Collier by 2m. 10s., and in the car event Watson led Lee-Guinness by 2m. 16s.

A Penny Motor Fine.

Hugh Tyndale was fined one penny at the Mortlake Police Court on the 17th inst. for driving an unregistered tricar. Defendant said he was an apprentice employed by a motor company, and did not know that the machine he was using was not registered. Registration was a matter with which he personally had nothing to do. The Chairman of the Bench said that before the defendant could be held liable he must have had the opportunity of registering the tricar. If an offence had been committed it was a very technical one.

FUTURE EVENTS.

- Oct. 2—Gailion Hill-climb, France.
- " 3—Bradford M.C.C. Open Hill-climb for Motor Cycles.
- " 3—Brooklands A.R.C. Meeting (Motor Cycle Handicap).
- " 3—Penalty Run for Members of the A.C.U. and Clubs in the South of England Districts affiliated to it.
- " 10—Auto Cycle Union Council Meeting at Leamington Spa.
- " 17—Auto Cycle Union Quarterly Trial of Motor Cycles, Uxbridge to Banbury and back.
- " 21—Motor Union General Committee Meeting.
- Nov. 20-28—Thirty-second Annual Stanley Show, at the Agricultural Hall, Islington.
- " 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.
- Dec. 16—Motor Union General Committee Meeting.



The Dublin and District M.C.C. owes its initiation to Mr. M. J. Chambers, the present hon. sec., who is depicted above with his 2½ h.p. F.N. Motor Bicycle. The club was formed at the commencement of the present year, and has carried out an extensive programme of hill-climbs, reliability trials, and speed competitions, the latter being held on the velvet strand at Portmarnock.

THE BROOKLANDS MOTOR CYCLE HANDICAP.

FOR the Motor Cycle Handicap Plate of 25 sovs., to be run on Saturday next at Brooklands, twenty-eight entries have been received, as under noted. The race is open to motor bicycles of which the engines, if twin-cylinder, do not exceed 85 by 95 mm. for each cylinder. Starters barred. Distance five and a half miles. The entrant of the winner to receive 15 sovs., the entrant of the second 7 sovs., and the entrant of the third 3 sovs.:

Entrant and machine.

Mr. J. C. Davis (5 h.p. Rex).
Mr. G. Gibson (3½ h.p. Triumph).
Mr. W. B. R. Moorhouse (J.A.P.)
Mr. F. G. Andreae (5 h.p. Rex).
Mr. G. Schink (8 h.p. N.S.U.).
Mr. G. Schink (2¾ h.p. N.S.U.).
Mr. G. Schink (6 h.p. N.S.U.).

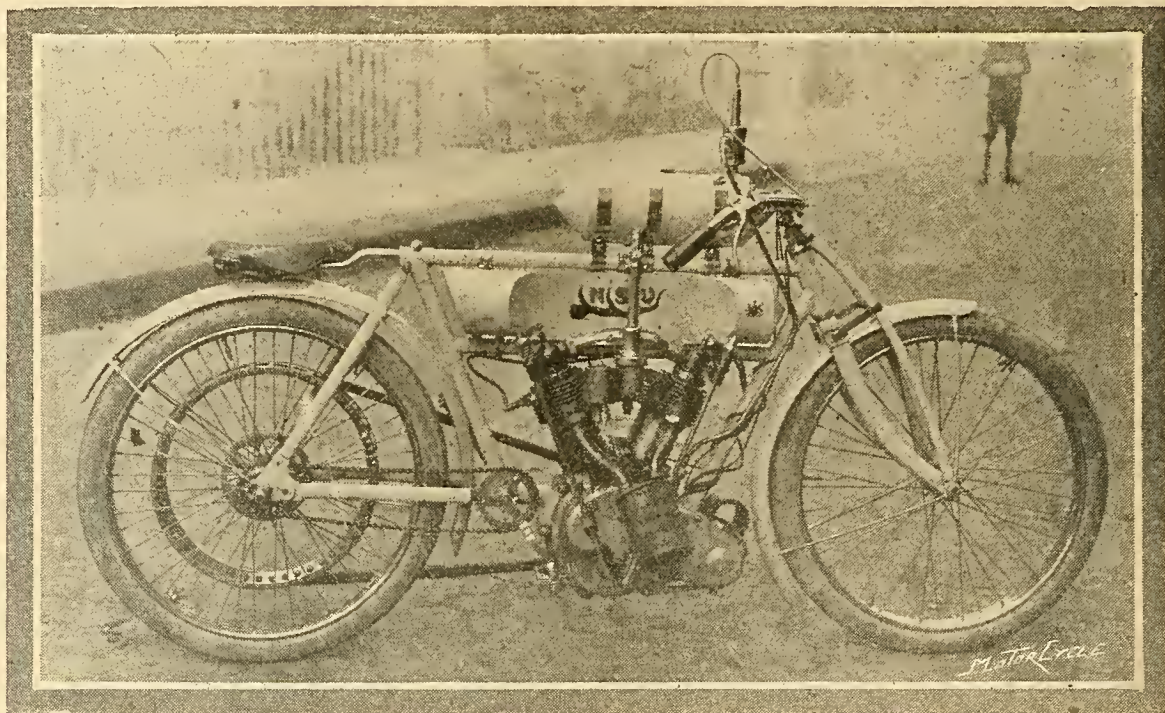
Mr. W. H. Wells (5 h.p. Vindec-Special).
Mr. H. G. Partridge (6 h.p. N.S.U.)
Mr. W. M. Partridge (Minerva).
Mr. W. W. Genn (Minerva).
Mr. W. H. Bashall (3½ h.p. Triumph).
Mr. R. M. Brice (3½ h.p. Brown).
Mr. H. H. Bowen (L.M.C.).
Mr. H. Shanks, jun. (2¾ h.p. Chater-Lea).
Mr. F. Toman (Laurin-Klement).
Mr. H. V. Colver (Matchless).
Mr. E. W. Caswell (2½ h.p. Matchless).
Mr. F. Eagles (N.S.U.).
Mr. A. J. Sproston (5 h.p. Rex).
Mr. A. G. Forster (7 h.p. N.L.G.).
Mr. A. Cumming (2¾ h.p. Givaudan).
Mr. C. R. Collier (Matchless).
Mr. H. A. Collier (Matchless).
Mr. T. H. Tessier (Bat).
Mr. R. O. Clark (5 h.p. F.N.).
Mr. Phil Baker (2¾ h.p. Minerva).
Mr. F. H. Arnott (Chater-Lea).

A BROOKLANDS RACER.

THE latest production of the N.S.U. Motor Co. is an 8 h.p. racing motor bicycle fitted with a twin-cylinder engine, having a bore and stroke of 80 × 100 mm. The machine, to put it briefly, is

quite the most perfect high powered racing motor bicycle we have yet seen. Carried on the top bar is a large torpedo-shaped oil tank fitted with a pump operated by means of a Bowden wire attached to a lever fitted to the handle-bar, so that to give a charge of oil the racing man has no need to let go of the handle-bar and fumble for a tap. The engine is fitted with mechanically-operated inlet valves arranged on the overhead principle so effectively carried out by the N.S.U. Co. For the sake of lightness an aluminium crank-case has been provided, which is contrary to N.S.U. practice. The Bosch magneto is gear driven, the gear wheels being enclosed in an aluminium gear case. The carburetter is of large dimensions, and the throttle works on a ratchet so that it cannot shake loose. The advance spark lever is situated on the handle-bar, and is capable of remaining in any position in which it is set. It is connected to the contact breaker

by means of a Bowden wire. The machine is intended for racing on the Brooklands track. It is interesting to note that the 6 h.p. touring N.S.U. can now be purchased with mechanically-operated valves arranged on the same



A racing N.S.U. of 8 h.p., which the makers are anxious to run on the Brooklands Track.

principle as that referred to above. We have previously pointed out the importance of having mechanically-operated valves on twin-cylinder engines.

A RELIABLE LIGHTWEIGHT.

WE were, fortunately, able to refer briefly in last week's issue to the 2 h.p. Moto-Rêve which we used during the Isle of Man races. This little machine, which was placed at our disposal by the Moto-Rêve Co., did most excellent work. Almost immediately after its arrival on the day preceding the race it had to work extremely hard. In the town of Douglas it buzzed merrily about, easily carrying the writer up the steep hills which abound, and later it took him safely over the muddy roads to Ballacraigne, where the competitors were practising. In grease it proved itself to be exceptionally steady,

and, though it carried a rider of about eleven stones weight, it never needed pedal assistance on even really steep gradients. During the day of the race it was kept busily employed first in carrying the writer to St. John's, and for the rest of the day in bearing press telegrams from the start to the G.P.O. at Douglas. Only on one occasion was it possessed with a fit of misfiring, which, curiously enough, could not be located, but this state of affairs eventually righted itself automatically. The machine impressed us most favourably, and of its efficiency, despite its light weight, we cannot speak too highly.

CLUB NEWS.

Great Yarmouth and District M.C.C.

At this club's gymkhana, the last event, "bobbing for apples," was won by Mr. Smith. Dr. Blake was second, and Mr. Barnes third.

Harrogate M.C.

On the 19th inst. a hill-climb took place at Briscoe Rigg, near Stainburn. The club is mainly composed of car owners, but the cyclist section proved to be the interesting item of the afternoon's sport, F. Mackay, on a 3½ h.p. Triumph



Some of the motor cycle section of the Harrogate M.C.

1907), doing fastest time, and winning on formula, figure of merit 63.5; T. Atkinson, on a 3 h.p. Triumph (1906), second fastest time and second on formula, figure of merit 73.9. B. Tindall was third and E. R. Davies fourth.

Worcestershire M.C.C.

A non-stop reliability trial has been fixed for October 11th, from headquarters to Droitwich, Ombersley, Hartlebury, Kidderminster Road as far as Chaddesley, Corbett, Belbroughton, Catshill, and Bromsgrove. Distance twenty-seven miles, to be covered four times. The full number of marks will be 1,000, and deductions will be made as follows: Tyre stop, one mark per minute; mechanical stop, ten marks per minute.

The date of the annual dinner has been fixed for Saturday, October 17th, at the Golden Cross Hotel, Bromsgrove.

Nottingham M.C.C.

A successful hill-climb was held at Bunny Hill on the 19th inst., the road and weather conditions being favourable. The results on the formula will be announced in due course. The times made by the competitors (who were allowed two runs) were:

Rider and machine.	1st run.		2nd run.	
	M.	S.	M.	S.
G. H. Pearson (2¼ h.p. Acme-Bentinck)	3	34	2	49
W. T. Smith (4 h.p. Roc)	2	7	2	5
G. Brough (3½ h.p. Brough)	2	5¼	Nil	
W. J. Jones (5 h.p. Antoine)	2	1½	2	9½
Dr. E. Bigg (3 h.p. Triumph)	2	40	Failed	
P. G. Toplis (3½ h.p. Triumph)	2	7½	2	12½
Hy. Jackson (7 h.p. Champion)	1	58	1	50½
C. R. Smith (3½ h.p. C.C.R.)	2	14	2	12½
W. Reilly (3½ h.p. Triumph)	2	34	Nil	
G. C. Holmes (5 h.p. Roc)	2	15¼	2	14½
A. Walton (5 h.p. Vindec Special)	1	50	1	54½
L. A. Nolan (3½ h.p. Triumph)	2	10	2	6
C. H. Johnson (3¾ h.p. N.S.U.)	2	12¼	2	10½

During the event Mr. Bowden declared the winners of the reliability trial held on September 5th, when the course was to Kettering, via Loughborough, Leicester, Market Harborough, returning via Oakham and Melton. The figures of Mr. Chas. Hardy, the judge, are:

G. H. Pearson (2¼ h.p. Acme-Bentinck), 1 (president's cup and gold medal); Dr. Bigg (8 h.p. Clément car), 2 (gold medal); B. W. Maltby (4½ h.p. Minerva), 3 (silver medal); J. King (10-12 h.p. Swift car), 4; Claude H. Johnson (3½ h.p. Triumph), 5; L. A. Nolan (3½ h.p. Triumph), 6.

Lincolnshire M.C.C.

The Grantham Centre of the Lincolnshire Club held a meet at Frieston Shore, near Boston, on September 20th, a number of members riding over and staying the night at the Marine Hotel. A most enjoyable day was spent on the sea shore and samphire beds, the party breaking up after tea on Sunday afternoon. A suggestion was made for a meet of the entire club next summer at the same place, as there are a great many objects of interest in the neighbourhood.

Middlesbrough and District M.C.C.

The winners in the hill-climb at Yearby Bank were: 1, G. R. Sanderson, .0088; 2, R. W. Day, .0086; 3, W. Danby, .0082.

On the 23rd inst., the last competition of the year was held in the form of a petrol consumption trial over a distance of 22½ miles. The following is the order in which the competitors finished:

	Fig. of merit.	M.P.G.
1. Mr. Bellerby (3½ h.p. Minerva)	... .507	... 132
2. Mr. Danby (2 h.p. Moto-Rève)	... .466	... 184
3. Mr. George (3½ h.p. Rex)	... .465	... 121
4. Mr. Reese (3½ h.p. Rex)	... .404	... 113
5. Mr. Sanderson (3½ h.p. Triumph)	... .374	... 108

Weight

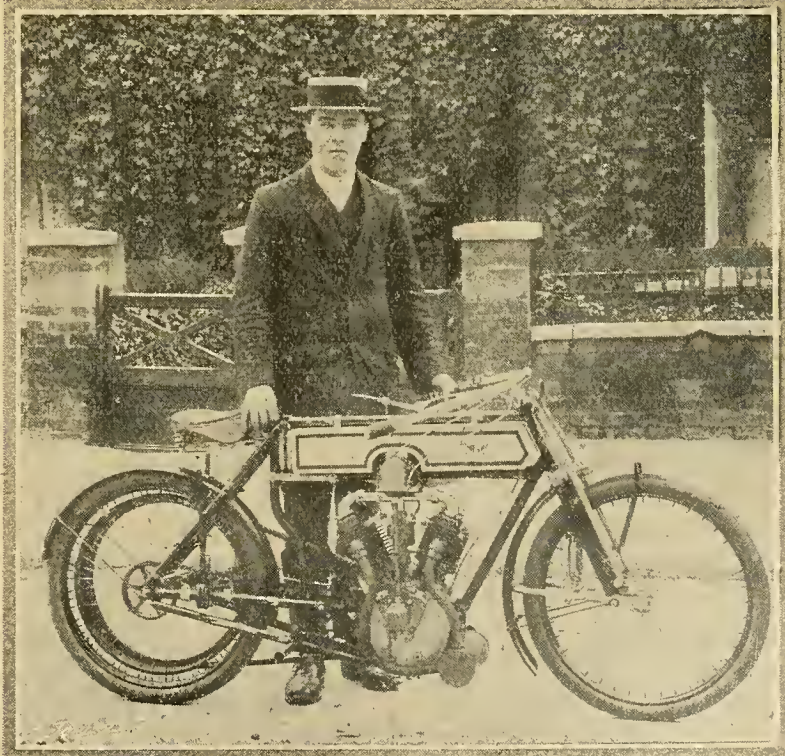
The formula used was: $\frac{\text{Weight}}{\text{Cubic centimetres of petrol}}$

Hull and East Riding A.C.C.

The result of the Scarborough reliability trial as given on page 752 last week is incorrect. The deciding event was a pace-judgment test. Pace to be judged, seventeen and a half miles per hour. The result was: 1, Mr. R. A. Resler (4½ h.p. Rover Tricar), .519 too slow; 2, Mr. T. Straker (3 h.p. Triumph), 1.547 too fast; 3, Mr. R. Pearson (3½ h.p. Minerva), 2.065 too fast; 4, Mr. G. W. Mumby (3½ h.p. Triumph), 1.056 too fast.

The picnic held on Sunday last proved a great success. After a good run, a walk to Spurn and back was greatly enjoyed by a few of the party. On returning home through Patrington, Dr. Coates's house was visited, and the party entertained during the evening.

On Saturday next, October 3rd, a hill-climb in conjunction with the Lincolnshire M.C.C. will be held at Elsham Hill, near Brigg. The Hull party will leave the Corporation Pier at 1.40. Entries can be made on the spot, and machines weighed at Elsham Station at the foot of the hill.



W. H. Bashall and the 6 h.p. Bat-Jap on which he gained second place in the Tourist Trophy Race (Twin-cylinder Class). He rode most consistently, as at half distance he held the same position. Mr. Bashall is an amateur rider and has entered his 3½ h.p. Triumph for the Brooklands Handicap on Saturday.

Club News.—

Walthamstow M.C.

The above club held a reliability and penalty run to Chelmsford on Saturday, September 19th. The winners were as follows: W. H. Applebee (3¼ h.p. Rex tricar), W. S. Low (3½ h.p. Rex), C. W. Lee (3½ h.p. Rex), Dr. Samuel (5 h.p. Vindec Special), R. J. Lises (5½ h.p. tricar), and J. W. Percival (6 h.p. Fafnir tricar).

Southampton and District M.C.

A very successful motor cycle hill-climb took place at Stoney Cross Hill in the New Forest on Wednesday last, the results being as follows:

Rider and machine.	Time.	Figure of merit.
Mr. Stewart (4½ h.p. F.N.) ...	28½s.	35.8
Mr. Prince (4½ h.p. Minerva) ...	24½s.	24.8
Mr. May (5 h.p. F.N.) ...	37s.	22.3
*Mr. Rowe (7-9 h.p. Peugeot) ...	17½s.	20.4
Mr. Hammond (3¾ h.p. Rex) ...	34¾s.	20.3
Mr. Prince (3 h.p. Raleigh) ...	42¾s.	20.1
†Mr. Jones (3½ h.p. Rex) ...	—	—

* Fastest time. † Failed.

Dublin and District M.C.C.

A novel form of competition was held on Saturday last by the Dublin Club, when a non-stop penalty trial was run over a circular course of forty-five miles, starting from Inchicore and finishing at Terenure, the route covered being by Naas, Ballymore-Eustace and Blessington. The idea was that the competitors should maintain a pace of between eighteen and twenty miles per hour, any variation in either direction being penalised, while penalties were also enforced for involuntary stops on the journey. The competitors were not allowed to carry either watches or speed indicators. The weather was fine, but owing to the overnight rain the roads were very heavy, particularly between Naas and Ballymore-Eustace. A minimum time of 2h. 15m. and a maximum time of 2h. 30m. was fixed. Only one of the competitors failed

THE T.T. FUND.

Additions to the Auto Cycle Tourist Trophy Fund are as follows:

Chas. Jarrott	... ..	£2 2 0
S. F. Edge	... ..	1 1 0
The Bosch Magneto Co.	... ..	1 1 0

The following contributions to the Shilling Fund were received during the week ending Saturday, September 26th: Birmingham Motor Cycle Club (21), R. E. S. Spender (5), A. J. Dunnell (2), V. A. Holroyd, E. W. Walford, C. S. Burney, E. W. Harris, A. Riley, A. P. Smith, W. Grew, A. J. Dunnell, T. F. Turner, T. W. B. Durant, F. Dover, H. Dakin, R. Kay, J. W. Arden, S. Sawyer, D. Coutts, J. Farrar, J. Haslam, and J. Watkinson (1 each).

A BALLOON CHASE ON MOTOR CYCLES.

A BALLOON pursuit organised by the Silesian and Posen branch of the German Motor Cycle Association in co-operation with the Silesian Balloon Club resulted in a victory for the road vehicles, although Dr. Van der Borne, who was in charge of the balloon, utilised the air currents with fine aeronautic skill, and led his pursuers a rare dance, eventually landing in an almost inaccessible clearing in the middle of a wood near Luckau. Dr. Borne was supposed to be carrying despatches from "beleaguered" Breslau. Twelve drivers of small cars and seven riders of motor cycles constituted the enemy, and it says much for the pursuers that, notwithstanding the necessity they were under of crossing the River Oder twice and tackling all sorts of roads and by-roads, nine reached the clearing, the first, indeed, within a quarter of an hour after the balloon, thus fulfilling the condition under which the balloon was to be captured. It is satisfactory to know that three cycles were amongst the arrivals, and that Herr Eitner, who drove a 3 h.p. Phänomen,

to get inside these limits, and only one made an absolute non-stop run. The result of the competition was as under:

Name of rider and machine.	Time.
H. M. S.	
F. J. Walker (5 h.p. Rex), non-stop ...	2 17 1
J. Doleman (3½ h.p. Rex), two stops ...	2 19 2
R. H. Taaffe (3½ h.p. Triumph), one stop...	2 32 3
T. Geoghegan (3½ h.p. Triumph), one stop	2 53 4
M. J. Chambers (2¾ h.p. F.N.), three stops	2 50 5

Mr. J. Browne acted as starter and timekeeper.

Newcastle M.C.

This club held a very successful hill-climbing competition on the 20th inst. at Eglington Bank, near Alnwick. The

formula was $\frac{W}{C \times T}$. Results:

SINGLE-CYLINDER (80 × 80 mm. and over).

Name of rider and machine.	Figure of merit.
Isaac Baty (3½ h.p. Dene) ... ..	.000
W. H. Peel (3½ h.p. Frank) ... ..	.278
A. C. S. Broadway (3½ h.p. Rex)	18.793

TWIN-CYLINDERS.

A. G. Robson (4½ h.p. Minerva) ... ..	.000
H. Mason (5 h.p. Berkley)	18.289
A. C. S. Broadway (5 h.p. Rex)	28.727

PASSENGER CLASS.

A. G. Robson (4½ h.p. Minerva and sidecar)...	.000
W. Taplin (6 h.p. Rex Litette)	5.483
R. B. Smith (6 h.p. N.S.U. Tricar)	38.720
W. H. Peel (3½ h.p. Frank tricar), failed.	

The arrangements were successfully carried out by Mr. B. Wilford, the secretary, and Mr. A. E. Brunning, of Lincoln, was judge and timekeeper.

M.C.C. CONSUMPTION TRIAL.

In the report of the M.C.C. consumption trial, published in *The Motor Cycle* of the 16th inst., the mileage per gallon results were given incorrectly. They should read as follows: 1, G. L. Fletcher (2 h.p. Moto-Rève), 160.9 miles per gallon; 2, W. Smith (2 h.p. Moto-Rève), 170.8; 3, H. G. R. Slingo (6 h.p. Griffon), 98.8. The actual distances covered by the competitors in the motor cycle class were as follows: G. L. Fletcher, 24½ miles; W. Smith, 23¾ miles; H. G. R. Slingo, 19¼ miles; S. G. Frost, 19 miles; R. C. Davis, 19 miles; V. Olsson, 18¾ miles; Stanley Webb, 17 miles; A. W. Bentley, 16¾ miles; A. G. Fenn, 16¾ miles; F. White, 16½ miles; W. Pratt, 15¾ miles; H. C. Sayer, 15¾ miles; B. C. Cumberland, 15½ miles; F. Mussell, 14¾ miles; and C. Gibbons, 14 miles.

arrived second, and was but seven minutes behind the driver of a powerful Adler car, who effected the "capture" for the Association. But for the seven minutes the honour would have gone to the cycling contingent, as Herr Eitner was well within the hour of grace granted to the pursuers. The balloon landed at 11.42 a.m., and Herr Eitner appeared on the scene at 12.3 p.m. Herr Hielscher, who drove a 3½ h.p. Magnet, also arrived before the hour had elapsed, but the third cyclist failed by eighteen minutes. The trophy secured for the Association is a very valuable and handsome work of art.

Two or three months back we put a four-volt 20 amp. Ajax accumulator in commission. It has behaved in so satisfactory a manner that we had almost forgotten about it until the makers—the Ajax Electrical Engineering Co., Oaklands Park Avenue, Ilford—sent us a reminder a few days ago. The Ajax accumulator we have had on test has given absolutely no trouble, and holds the charge very well.

TIPS FOR TRIUMPH RIDERS.

AT a time when most riders find their machines in need of a slight overhauling, as the result of a summer's riding, these few remarks may not come amiss. Although referring primarily to triumph motor cycles, they may be adapted to most other makes.

Exhaust and inlet valves often present difficulties to the inexperienced, such difficulties generally resulting in much plain speaking and burnt and bruised knuckles. One method of removing the elusive cotter from underneath the spring is to use one of the valve spring lifting tools as sold by most accessory shops. Another method, both simpler and better, is as follows: Remove the valve cover from the cylinder head, and turn the engine pulley until the valve in question is fully open. Then place a screwdriver or similar implement across the radiating fins at the back of, and just under, the spring cap. A turn of the engine pulley will then allow the spring cup to rest on the screwdriver, and a light tap on the valve head in the cylinder will bring the valve down and place the cotter so that it may be removed with ease. If the valve is to be ground in, the spring need not be removed from its position. This method is extremely useful in the event of the cotter and slot in valve stem being slightly burred, as they generally are, it being quite possible to file them with facility. It is a useful precaution to file the burrs from both cotter and valve stem before a tour or long competition run, when speedy removal of valves, if necessary, is desirable.

For extracting a hot valve a little hand tool is provided to screw into the head of the valve. To facilitate grinding, if the round milled head of this tool be cut away to a square shape, with sides of about $\frac{3}{8}$ in., it may be used in conjunction with an ordinary hand brace with greatly improved results, both in speed and efficiency, whilst its mission as a valve extractor is unimpaired.

After some time it occasionally happens the machine does not entirely cease firing when the exhaust valve lifter is raised, the firing being accompanied by popping in the silencer. This is usually due to stretch in the

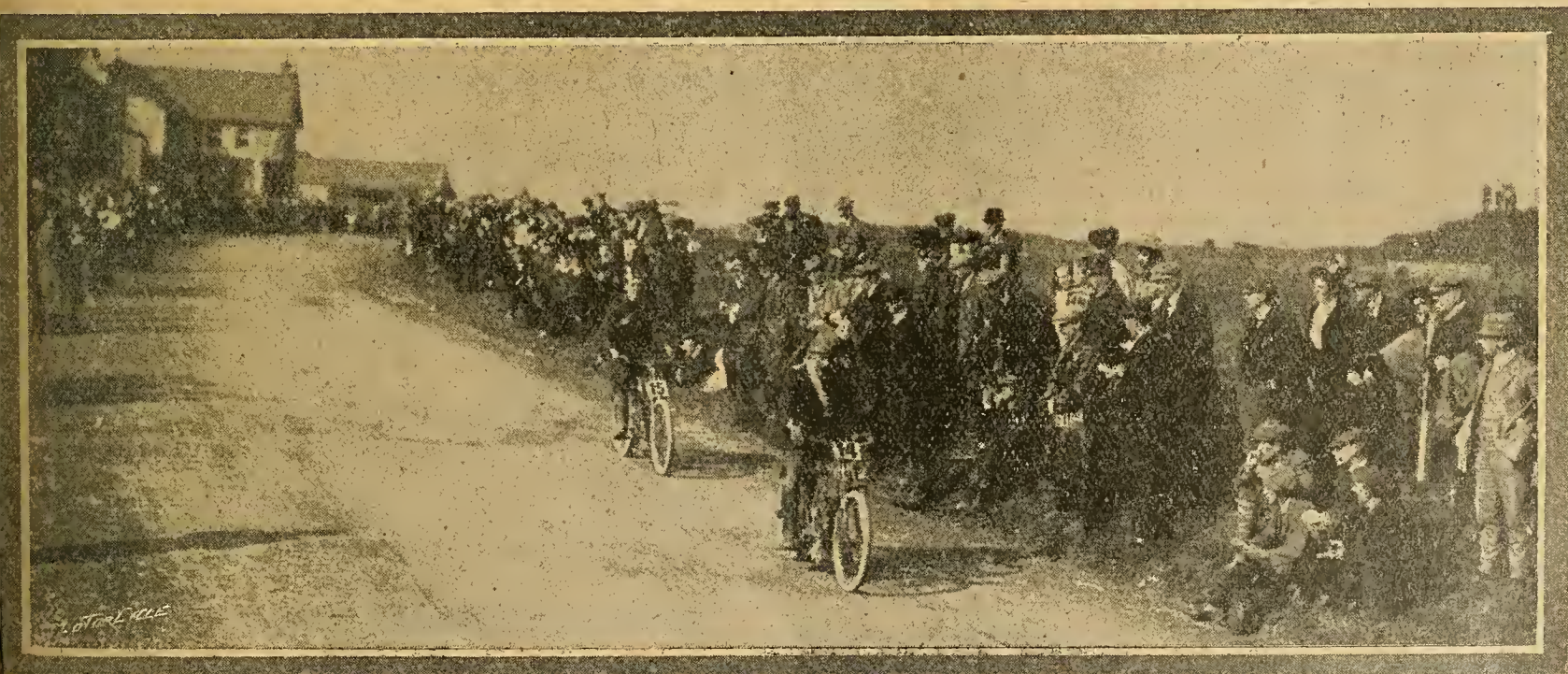
Bowden wire, and it should be remedied. The cure is simple. First remove the wire from the stop on engine, which is done by pulling the black covering of cable towards the silencer pipe, at the same time lifting upwards. Then remove the wire end from the nipple on the little lever on engine, by pushing the wire inwards and downwards. A coil, or perhaps two, of copper wire, about $\frac{1}{16}$ in. diameter, should then be wound round the end of the Bowden wire, and the wire replaced in the nipple and stop. Sufficient copper wire should be added until all slackness has been taken up. When removing the throttle and air pistons from the carburetter, it is advisable to lift the black covering of Bowden cable quite clear of the plated cover. Should there be any tendency for the pistons to stick whilst riding, a few vigorous movements of the levers on the handle-bar will effect a speedy remedy. This last should be done with the exhaust valve lifter raised.

It is a fairly general custom to carry a spare contact breaker complete. Whilst this is a very good idea, care should be taken to see that the timing of the machine is not affected by the change. Two contact breakers I have, make a difference of a quarter of an inch (piston movement) in the timing, which is quite enough to cause bad running on hills, whether the error be on the advance or retard side of normal.

For the experimentally minded, I would suggest that a sparking plug fitted in the hole for the compression tap affords a splendid chance of comparing the efficiencies of the various positions for plugs. (A short plug of the type used on the Moto-Rêve is necessary, and the hole must be enlarged.) Also that very light springs fitted under the valve tappets to hold them up to the valve stems help to reduce noise.

For those whose lot it is to ride on rough roads, an indiarubber buffer threaded on the spring spindle of the front forks is a boon, saving springs and machine. The buffer may be made out of an old pedal rubber, cut a little shorter than the large spring when in use (say $\frac{3}{4}$ in. shorter). A washer, fitting over the spindle and a little larger than the hole in the moving spring plate, is necessary.

W. R.



The Tourist Trophy Race. Noel E. Drury and C. B. Franklin, two private owners from the Green Isle, taking matters easily on the road to Ballacraigne.

Questions & Replies.

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E. C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

Adjustments for Slow Running

? My 7 h.p. twin motor bicycle runs beautifully at high speed, but when reduced to about ten miles an hour the engine stops firing, and there seems no way of regulating it to run slowly. I have a tricar and another motor cycle, but find no difficulty in regulating the speed. I shall be glad if you can suggest a cause.—ENQUIRER.

You have evidently got a carburetter which does not allow the engine to run very slowly, probably owing to it allowing too much air to pass at slow speeds. You might try fitting a smaller choke tube and increasing the size of the extra air inlet, so that you can give less air at slow speeds and more air at high speeds. The gear of the machine may also have something to do with the trouble.

A Loss of Power.

? My 2 h.p. engine will not give any power. It runs fast on stand, but when on the road I have to pedal in order to keep it going. Timing is correct, Jebron points, also inlet and exhaust valve springs correct. It bears weight on pedal for a few seconds. B. and B. latest carburetter, dry battery ignition, new battery. Could wiring be at fault in connection with intensity of spark? Please say what I should do to the new B. and B. carburetter to make it right or alter it for fear it is wrong. I put a light washer on float and it floods. The weights on top do not seem to come down well. The needle appears to balance them. Is this correct? The engine appears to get a bit hot when run on stand for a short time. Exhaust valve has good lift.—A.R.

We do not think that the intensity of the spark is at fault; the trouble is more likely to be due to the adjustment of the carburetter, to weak compression, or too strong a spring on inlet valve. Are you sure that the carburetter is perfectly clean? By weighting the float you raise the level of the petrol. Make quite certain that the petrol is coming through the jet properly and stop the flooding at once by removing the washer. Are you sure that the exhaust valve spring is strong enough? When the machine is at rest the float should allow the weights to lower the needle and shut off the supply of petrol.

Ignition Items and M.O.V. and A.O.V.

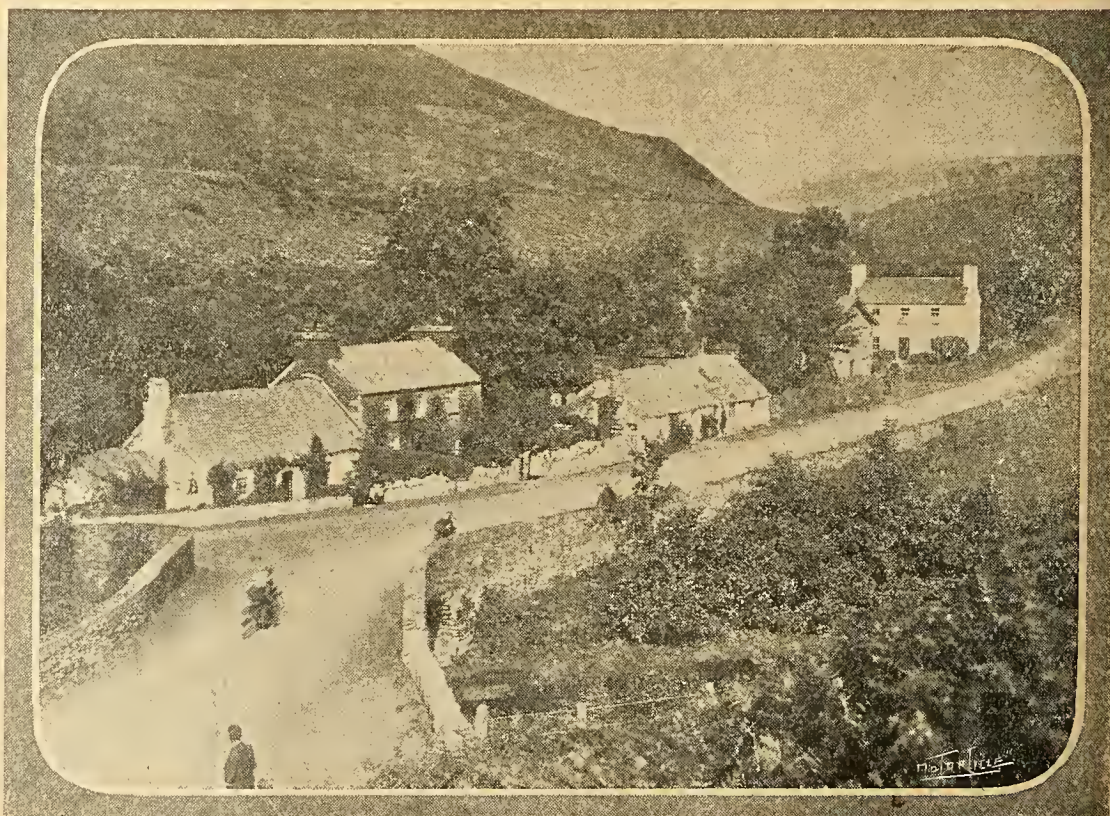
? (1.) My $4\frac{1}{2}$ h.p. J.A.P. misfires occasionally at high speed, yet runs well and climbs hills well up to 16-18 miles per hour. It has accumulator ignition, carburetter B. and B. (2.) What is the most suitable magneto for this engine, and what would be the probable cost of converting from accumulator to magneto? (3.) This engine has an a.o. inlet valve. Will so large an engine run slowly with this kind of valve?—J.S.

(1.) If the accumulator is fully charged, and the carburetter all right, the missing is undoubtedly due to the adjustment of the contact points. Run the engine on the stand and give the contact screw half a turn nearer to the point on the trembler blade. (2.) A high tension magneto would be most suitable, and the conversion would cost from £6 to £8. (3.) An engine with an automatic inlet valve will not run as slowly as one with a mechanical inlet valve, but if properly driven yours can be regulated to about seven miles per hour without switching off.

Insufficient Air Supply, and the Proof.

? I drive a $2\frac{3}{4}$ h.p. De Dion-Bouton motor cycle. It misfires badly at speed unless I hold exhaust lifter slightly up, thus preventing valve from quite closing. Can you tell me the reason of this, and a remedy for it? I have fitted new spring on valve and ground valve in, but it does not cure it. The clearance between valve and tappet is about 1-32in. With the slight pressure on valve lifter it runs beautifully, but on hills I have to let it down to get any power.—E.C.J.

The trouble is caused by insufficient air supply at the carburetter, in consequence slight pressure on the exhaust lifter causes a certain amount of air to enter through the exhaust port on suction stroke, which dilutes the mixture sufficiently to render it explosive at high speeds. The reason you can let the valve lifter alone on hills is because at the slower speed of the engine a richer mixture is required. If the carburetter is altered to allow a greater amount of air to enter at high speeds, the misfiring should cease.



The Tourist Trophy Race. Two competitors at full speed at Ballig Bridge—not the least picturesque spot on the fifteen miles circuit.

Nail Catchers.

?

Some riders of motor cycles adopt a device for "thorn and nail catching." They fix a piece of wire round the chain stays of their machines, believing this will draw out nails and thorns from the back tyre before they have penetrated enough to puncture. Do you approve of this? Is it dangerous? Would the back stays running up to the seat-pillar be as good a place as the chain stays to fix this puncture-preventing device?—A.V.H., Wilts.

We certainly approve of nail extractors, and there is no better way of catching nails than fixing a piece of wire to the chain stays, or, better still, to the mudguard stays if they are strong enough. Of course, it is quite within the range of possibility to get a nail or something in the tyre with the catcher fitted, but from our experience they do prevent a good many punctures. There is no danger in it at all. In fitting the wire do not fit it too close to the tyre, but leave about $\frac{1}{4}$ in. clearance, and see that there is that amount of clearance when wheel is revolved.

Tyres and Sidecar Attachments.

?

(1.) Could you tell me the largest tyre I could fit to my twin Vindec (if I had my wheel re-built) that would pass between the back forks? Also probable cost of building up wheel and cost of tyre (probably voiturette)? Do you recommend Kempshalls for same? (2.) I have Hermetic tubes, and have failed always to get ends inserted. How is this done? (3.) I have a Montgomery sidecar, and the front attachment on cycle only allows about 1-16 in. clearance between it and the spring fork curved support of Vindec. Could I get over this in any way?—J.G.S., N.B.

(1.) You can tell best yourself the largest size of tyre you can use by measuring the space between back forks and allowing half an inch on each side of the tyre for clearance. It would be inadvisable to allow less than this amount of clearance without the risk of the tyre rubbing if the wheel got the least bit out of truth. Having had no experience of the tyres you enquire about we cannot advise you, but you would find practically any good make of voiturette tyre quite suitable for the back wheel of your motor bicycle. With a large tyre, however, sideslip is more pronounced. (2.) We have found no difficulty in inserting one end of the Hermetic tube inside the other. Wet the ends, and fold one end right over, and while holding it in the fingers insert it in the other end of the tube. Both washers should be firmly locked against the corresponding rings or recesses in the opposite end of the tube. (3.) The front attachment for the sidecar apparently is not long enough. We presume the clearance mentioned (1-16 in.) could be increased by lengthening the attachment on the cycle or on the sidecar, and it would be an easy matter to have this lengthened by any local engineer. Make sure that the alteration would not throw the sidecar out of line with the bicycle.

Respecting a Light Tricar.

?

(1.) Please let me know the best way to start my $3\frac{1}{2}$ h.p. tricar engine with starting handle, and where the piston ought to be when the spark takes place? The machine has accumulators and plain coil and Bozier two-speed gear. The engine is geared up from starting handle $2\frac{1}{2}$ to 1. Is it better to lift valve till a good speed is attained or to pull up once over compression? (2.) The Bozier gear is fitted with cone clutch for high gear, and a band brake is applied for low gear. Can I start from standstill with passenger by applying the brake gradually on the low gear drum? (3.) Can you tell me the two best gear ratios for this machine for passengers twenty-two stones, machine 2 cwt.? (4.) Best lubricant for chains?—H.V.

(1.) There is always a certain amount of difficulty experienced in starting a



H. V. Colver, who rode one of the three most powerful machines in the T.T. Race, viz., a 7 h.p. Matchless-Jap. He ran out of petrol near the finish.

small single-cylinder engine by a handle owing to the size of the flywheels. The air should be closed, throttle opened, the spark not quite retarded, and the handle pulled over sharply. When sparking lever is advanced nearly half-way the spark should take place when the piston is at the top of the compression stroke. With engine geared up from starting handle in the proportion of 4 or 5 to 1 it is best to lift valve and turn the engine until a good spark is obtained and then release. It would also apply when geared $2\frac{1}{2}$ to 1, but handle would require to be revolved a little faster. (2.) When starting, accelerate the engine slightly, and simultaneously apply the low gear brake gently. (3.) There is no choice. If a $5\frac{1}{2}$ to 1 top gear is used, the Bozier

will give 11 to 1 when reduced. (4.) Chain lubricant can be obtained from most accessory dealers. It usually consists of graphite mixed with grease.

A Motor Bicycle for West Africa.

?

I should be glad of your advice as to a suitable motor cycle to take out to West Africa. The roads are narrow and bad—very sandy in places, and loose and stony in others. A magneto (or dry battery) is essential. I weigh fifteen stones. A top speed of twenty-two or twenty-three miles an hour is ample. I have no experience with motor cycles, but have owned motor cars for some years, and have bicycled for thirty years. My height is 5ft. 11in., and I ride a 26in. frame push bicycle. How many miles to the gallon of petrol should the machine you recommend average? And what spares are necessary?—S.W.T., Salop.

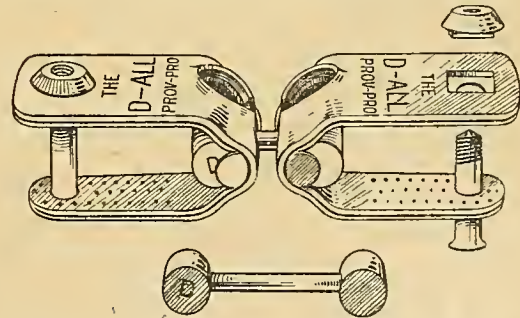
If you will send a numbered list of the machines you contemplate purchasing, and keep a key for reference, we shall be pleased to place them in order of merit. A $3\frac{1}{2}$ h.p. single-cylinder machine should run about ninety miles to a gallon of petrol, and the spares necessary depend on the machine you select, but with an up-to-date one of good manufacture spare valves, plug, belt, fasteners, and possibly, a complete contact breaker for the magneto are all that will be required.

READERS' REPLIES.

Inlet Valve Joints.

Some time ago a rider complained in *The Motor Cycle* that he could not get the automatic inlet valve joints tight on his N.S.U. My twin N.S.U., which has been 9,000 miles, gave trouble in this way, but I have cured it by smearing a little Seccotine round the joint on the outside and then fitting a circle of asbestos string. This when pressed down by the aid of the valve dome makes a perfect joint.—GEO. GRIBBON.

Improvements in belt fasteners are proceeding apace. Lately we received samples of the D-All improved adjustable fastener, which is supplied complete with three connecting links. These links are of different sizes, and it is thus an easy matter to either shorten the belt by replacing a long link with a short one, or alter the gear slightly as necessary when an adjustable



pulley is used. The insides of the fastener are lined with hardened steel to take up the wear of the rollers at the end of the links. The fastening screws have also been improved. The address of the patentee is J. B. Dall, Commercial Road, Ladybank, Fife.

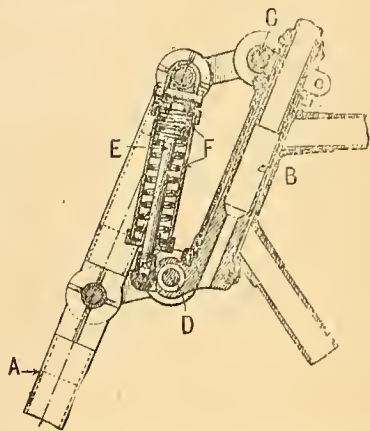
RECENT PATENTS.

By ERIC W. WALFORD, F.C.I.P.A.

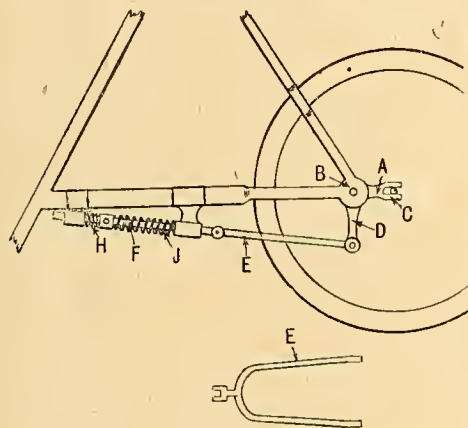
An American Spring Fork.

The fork blades are extended upwardly, and connected to the steering member B by links C and D. Connecting the links C and D is a cylinder and piston device E, within the cylinder of which are contained springs F, which absorb the vibration. The patent specification describes the invention in great detail, and it is pointed out that by making the cylinder and piston device airtight the cushioning effect of the air within is utilised, in addition to the effect of the springs F.—E.

C. R. Marks (Aurora Automatic Machinery Co.), No. 4,263, 1908.



A Rear Wheel Spring Suspension.

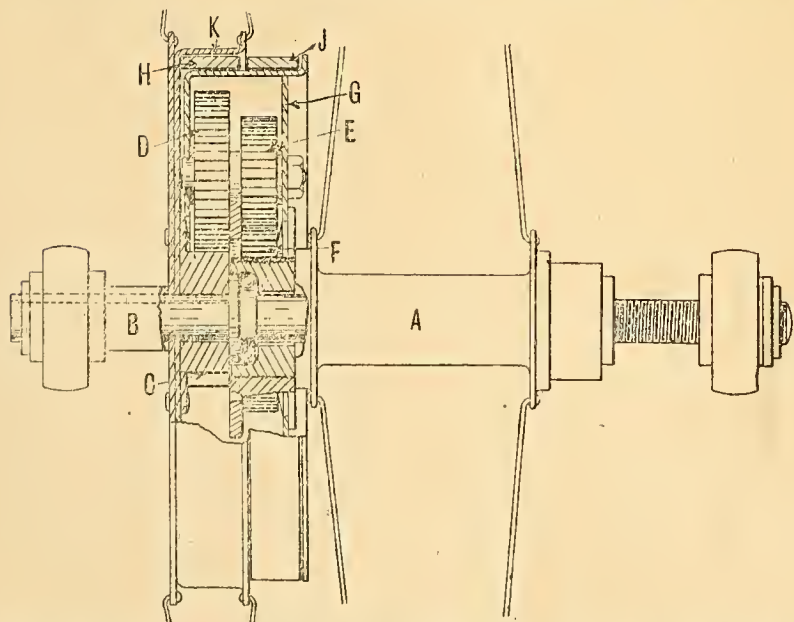


A pair of bell crank levers A are pivotally mounted in the rear fork ends B. One arm C extends horizontally to the rear and carries the back wheel. The other arm D extends vertically downward, and is connected by a fork E to a cross head working in a guide F secured to the chain stays G. The movement of the cross head is restrained in any desired degree by the action of the springs H

and J.—Capt. St. John Hughes, No. 25,016, 1907.

A Live Axle Two-speed Gear.

The wheel A is mounted so as to be free to rotate independently of the live axle B. The pulley K takes the form of a drum secured to the live axle, and is formed with a sun pinion C gearing with the larger pinion D of a compound planet pinion, the smaller member of which (E) gears with a ring of teeth F carried by the hub. The gears are enclosed within a box G. For the high gear the band H, which is

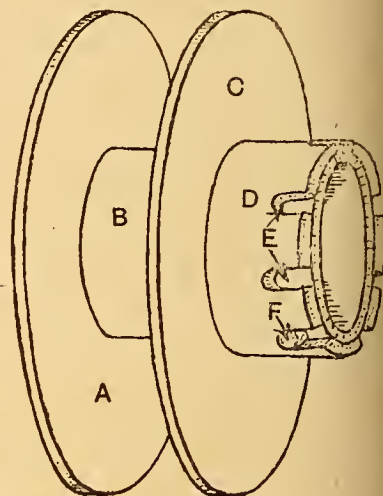


secured to the pulley, is contracted so as to grip the box G, and the drive is direct. To obtain the low gear, the brake band J is contracted to hold the box G stationary, and the

band H now being released, the hub is driven through the sun pinion, planet pinions D and E, and toothed ring F, and a reduced gear is obtained. The specification does not describe the means whereby the bands H and J are to be operated.—A. W. Wall, No. 18,740, 1907.

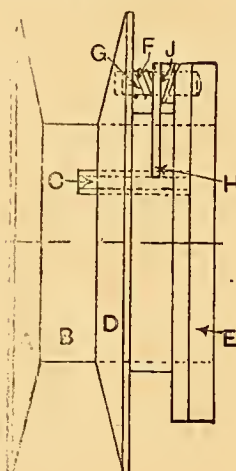
A Simple Variable Pulley.

The inner pulley flange A is formed integral with a sleeve B, which is keyed to the engine-shaft. The outer pulley flange C is free to slide on the sleeve B, and itself carries an outwardly projecting sleeve D. In this sleeve D are cut a number of notches E of different depths, and with either of these is adapted to engage a peg F fixed to the sleeve B of the inner pulley flange A. By engaging the projection F with notches of different depths, the pulley flanges are secured at varying distances apart, and the desired object accomplished.—J. T. Brown, No. 22,055, 1907.



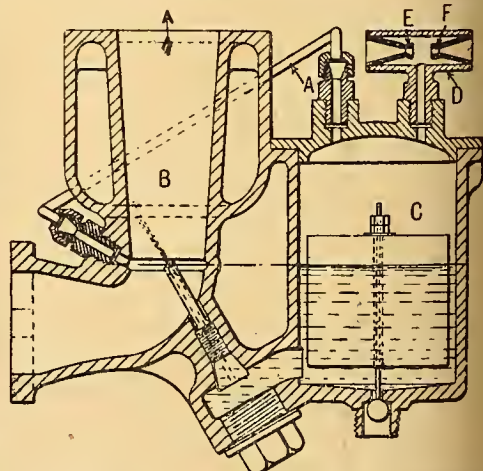
The Advance Adjustable Pulley.

One flange A is carried by a sleeve B, which is keyed to the engine-shaft. Free to slide on a feather C is the outer pulley flange D, which is locked in position by a ring E screwing on to the sleeve B. To prevent accidental movement of the adjustable flange, a pin F carried thereby is adapted to shoot into one of a number of recesses in the ring E under the action of a spring G. When it is desired to adjust the pulley it is necessary to withdraw the pin F from the recess in the ring E, and for this purpose a lever H is used. This is formed with an inclined plane J, which co-operates with a second inclined plane to withdraw the pin from the recess in the ring E when the lever is moved.—F. Smart, D. H. Gainsford, J. C. Power, and J. Power, No. 21,442, 1907.



An Automatic Carburetter.

This carburetter is of the type in which the jet chamber and the float chamber are put into communication by a pipe in order to equalise the air pressures existing therein. The pipe A communicates with the jet chamber B about the level of the jet nozzle, and with the top of the float chamber C. The top of the float chamber also carries a compound air inlet D, having opposed conical inlets E and F. At low speeds the pressures are maintained equal by this device, but as the speed increases an eddy is set up between the inlets E and F, causing an increasing depression or vacuum in the float chamber, and providing, it is claimed, a constant mixture at all engine speeds by allowing less petrol to issue from the jet at high speeds.—P. G. L. Kreutzberger, No. 25,917, 1907.



9 out of every 10

Motor Cyclists would
be inveterate users of

The 'Stratex' Belt

(Berisford's Patent)

if they only knew how good, durable, efficient, and economical it is.



BROOKS Anti-vibratory Seat has patent compound compensating springs and is luxuriously easy with absolute freedom from vibration.

**HERE ARE
SOME OF**

**THE ADVANTAGES OF THE
"STRATEX."**

No belt fastener—therefore no breaking at the fastener, no gap, continuous drive; it grips all the time. No slipping in wet weather. Increased Engine Power through perfect transmission. Worn section easily replaced—ensuring uniformity of size, shape, and driving surface. Great flexibility, durability, and economy. At the Bocardo M.C.C. (Oxford) Hill-Climb, the fastest time was made by Mr. H. G. Hill, who used a "Stratex" Belt, which had already run over 2,000 miles—a good test of Efficiency with Reliability. Ask for the M.C. list

J. B. BROOKS & Co., Ltd., Birmingham.



BROOKS SPRING SEAT.

BOSCH MAGNETOS

were fitted
to the

**FIRST
AND
THIRD**

**machines in the
single-cylinder
class.**

**"Our
success
in the
T.T."**

THE BOSCH MAGNETO CO.,
LIMITED,
23, Store Street, London, W.C.
Telegraphic Address: "Bomag,
London."
Telephone Nos.: Gerrard,
8610 and 8611.

BOSCH MAGNETOS

were fitted
to the

**FIRST,
SECOND,
AND
THIRD**

**machines in the
multi-cylinder
class.**

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London, by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

THE

PREMIER

Agents for TRIUMPH, BAT, N.S.U., REX, ROC, BROWN, VINDEC, MOTOSAGOCHÉ, F.N., and other BEST makes. Delivery of TRIUMPHS in seven days. Most other makes from stock. The best selection of New and Second-hand machines in the kingdom.

Exchanges. Deferred Payments.

SECOND-HAND MACHINES IN STOCK—SINGLE CYLINDERS.

TRIUMPH, magneto, 1907	£28 0
VINDEC SPECIAL, 1907	30 0
REX DE LUXE, 3½ h.p., 1908, two-speed, soiled only	38 0
N.S.U., 3½ h.p., spring forks, Roc clutch, two-speed	28 0
QUADRANT, 3½ h.p., 1906, very good order	18 0
N.S.U., 3 h.p., spring forks	15 0
BIRCHFIELD, 3 h.p. Spray, 1907	11 10
B.S.A. 3½ h.p. M.M.C. engine, Clinchers, Lomax non-skid, Druid fork	11 0
ROYAL ENFIELD, 2½ h.p. F.N. carburetter, girder forks, good appearance and condition	10 0
WHITLEY, 3½ h.p., spray, running well	8 0
MINERVA, 2½ h.p., Longuemare carburetter, fine order	7 0

LIGHTWEIGHTS.

F.N., 1½ h.p., 1907, magneto, spring forks ..	£21 0
F.N., 1½ h.p., 1907, " special silencer ..	21 0
N.S.U., 1½ h.p., 1907, magneto, perfect	18 0
N.S.U., 1½ h.p., 1907, magneto	16 0

TWINS.

G.B. ZEDEL, 5-6 h.p., 1908, two-speed, spring forks, hand starting	£35 0
ROC, 5 h.p., twin Peugeot, magneto, clutch ..	25 0
MINERVA, 7-8 h.p., perfect	26 0
N.S.U., 6 h.p., magneto, two-speed	28 0
N.S.U., 5½ h.p., magneto, good order	18 0
WERNER, 4 h.p., perfect order	11 0
JAP, Chater Lea, 6 h.p., magneto, nearly new	25 0
RILEY TRICAR, 5 h.p., two-speed, spring frame, wheel steering, water cooled, splendid order	52 0
REX 1907 Twin, magneto, twin wheel, two-speed gear, Roc clutch, cantilever, running splendidly	22 10



THE
**Premier
Magneto
Cut-out**
2/-

Or with 6ft. of best
insulated wire,

3/-

Three days' approval.

Post Free.

PREMIER ACCUMULATORS.

British made. 10 amp. 9/6. 20 amp. 12/6.

THE PREMIER SPARE TUBE CASE
for preserving spare tube from damage & perishing 5/6.

WRITE FOR LISTS.

PREMIER MOTOR AGENCY,

Aston Road, BIRMINGHAM.

Telephone: 4310. Telegrams: "Primus," B'ham.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

4 h.p. C.I.E., magneto ignition, spring forks, adjustable pulley; £18.—Holzapfel, 4, Summerhill Grove, Newcastle.

3 h.p. Werner, splendid running order; £10; particulars or trial.—Williams, Low Grange House, Tudhoe Grange, Spenny-moor.

BRADBURY, 3 h.p., new belt, inner, outer, and non-skid (unpunctured), excellent machine, enamel and plating good, Longuemare, Brooks B100; bargain, £13.—Arnett, Corbridge.

2½ h.p. Minerva, new cylinder, belt, and tyre, £14; 2½ h.p. French machine, new piston, accumulator, and back tyre, £9, or exchange both and cash for good open frame tricar.—Clarence House, Appleby.

3½ h.p. Auto Moto Cycle, French grey, copper torpedo tank, price £11; 4 h.p. Kelecom, 26 by 24 Continentals, Brown and Barlow carburetter, in fine condition, price £14 10s.; trailer, coach-built, new Palmers, good condition, £2 5s.; 2½ h.p. De Dion Coventry Eagle, trembler, Longuemare, handle-bar controlled throughout, in new condition, low, light, price £17 10s., or exchanges.—Walton, Nursery House, Berwick Street, Gateshead.

SECTION II.

York and Lancashire.

BARGAIN.—2½ h.p. Singer, magneto, Grose non-skid, handle-bar control; £6.—P. Pownall, Prescott.

TRIUMPH, 2½ h.p. Jap engine, Clincher A1, perfect; £15; bought 3½ h.p.—Austin, Oldfield Lane, Leeds.

3½ h.p. Twin, low, light, copper torpedo tank, good condition; £15.—32, Fairbourne Road, Levenshulme.

F.N., four-cylinder, 4½ h.p., splendid condition, fine goer, Palmers; £27 for quick sale.—70, Manuel Street, Goole.

1908 Motor Cycle, unscratched, perfect, B. and B., Palmers, with sidecar; £23 complete, or separate.—477, Hessle Road, Hull.

3½ h.p. Phelon and Moore and Trailer, Grose non-skid, Riches tubes, very low, climb anything; £30.—54, Otley Road, Bradford.

MOTOR BICYCLES FOR SALE.

EDGET Bicar, 3½ h.p. Fafnir, beautiful low machine, like new; £20.—Wilkins, rkeley, Winchfield.

h.p. Minerva, B.S.A., carrier-stand, tools, lamp, going order; £7.—Frank, Caversham-on-Thames.

AT, De Dion, 3 h.p., good going order; bargain, £6 15s.—10, Wellington Place, mpson, Millbrook, Southampton.

h.p. Peugeot Motor Cycle, good condition and going order; trial; £1.—nk Gale, Caversham-on-Thames.

h.p. Bradbury, vertical, spray, good mill-climber, lamp, spare seat and ey; £10 10s.—Wallin, Adderbury, Oxon.

—Humber, 2 h.p., chain drive, in good condition, less accumulator and coil; bargain.—Kerridge, Market Street, Alton.

LEAP for cash.—3½ h.p. Rex, low built, spray carburetter, trembler.—Thomp-111, Bartholomew Street, Newbury, ts.

h.p. Quadrant, magneto, very good condition; £24, or offer.—Seen, Ful-uk Motor Works, Slough, or London by ointment.

h.p. 1907 Triumph, accumulator igni- tion, two accumulators, in perfect r; £21.—C. McAdams and Co., Ltd., n, on Street, Bristol.

TRIUMPH, 3½ h.p., not a year old, in good condition, date on engine, 27/3, 1907; 10s.; owner bought car.—King, Lynch- Road, Farnborough.

p. Chater-Lea Motor Bicycle, twin-cylin- der, Peugeot engine, complete with ear, first-class order; £25.—Willway and , St. Augustine's, Bristol.

h.p. Rex Motor, girder forks, lamp, horn, stand, carrier, handle-bar con- footboards; £10 10s., or nearest cash ed.—T. Milner, Tewkesbury.

p. Roc, all latest improvements, two- speed gear, free engine, magneto, ile-bar control, etc., new and faultless; -78, Montgomerie Road, Southsea.

h.p. Twin Rex Motor Cycle, cantilever saddle (Brooks), spring forks, Clincher s, aluminium finish, perfect running r.—Breeze, 74, High Street, Aldershot.

h.p. Triumph 1908 Motor Cycle, new last May, complete with all spares, £40; reason of selling, owner going ad.—L. Edwards, 3, Suffolk Place, Chel- am.

R Sale, second-hand 3½ h.p. Auto Fau- teuil motor cycle, water-cooled, free ne, hand starting, two-speed gear, chair , spring fork; cost 60 guineas, complete; er going to sea; inspection or full par- ars from 12, Green Road, Southsea.

TE 1907 3½ h.p. Brown, as new, faultless, not ridden 400 miles, very low frame, y 2½ Clinchers, two accumulators, Match- silencer, two pulleys, Brooks B100, ac- ories, extremely smart, everything of best; total cost over £41, accept £22 10s. tcher, High Street, Windsor.

SECTION VIII.

ttford, Essex, Middlesex, Surrey, Kent, and Sussex.

10s.—2 h.p. Minerva, good running order. —39, Villa Street, Walworth.

h.p. Lightweight, sound; £10, no offers. —27, Trevor Road, Wimbledon.

h.p. Rex, F.N. spray, running order, powerful; £12.—17, St. Leonard's Road, e.

OTOSACOCHE, run 2,000 miles, 1908 en- gine, 1907 frame, with spares: £20.—w.

DHAM, 1908, 3 h.p. F.N., latest handle- bar control, Palmer cords, Voltcoo igni- with spares; £26.—Garaged, Sheen's, 32, algar Road, East Greenwich.

p. Twin Peugeot, new, and accessories; £35.—Martin, 22, High Street, Highgate, lon.

OWN, 3½ h.p., Dunlop tyres, tuned right for a tour; £11.—A., 8, Herndon Road, dsdworth.

END OF SEASON - CLEARANCE SALE

For Four Weeks only.

F.N., four-cylinder, magneto	£11
CLYDE, 2½ h.p., magneto	£10
REX, 5 h.p., 1907 model, blue finish	£18
REX, 3½ h.p., 26in. wheels, very low	£12
MINERVA, 4½ h.p., 2½in. tyres	£22
REX, 1907, like new, with sidecar, 6 h.p.	£25
SAROLEA, 5 h.p., very low, new tyres	£20
WERNER, 3½ h.p., twin good condition	£15
ARIEL, 3 h.p., B. and B.	£12
MINERVA, 3½ h.p., M.O.V.	£12
CLARENDON, 3 h.p., vertical	£10
REX, 3 h.p., 50-guinea model	£10
BAT, 3½ h.p., spring frame	£15
QUADRANT, 3 h.p., spring forks	£12
BAYLISS, 3 h.p., special price	£8
F.N., 2½ h.p., splendid puller	£11
HUMBER, 2½ h.p., very fine mount	£10
GIVAUDAN, 2½ h.p., perfect, non-skid rear	£15

LIGHTWEIGHTS.

£11 LLOYDS, 2 h.p.	£11
£7 QUADRANT, 2 h.p.	£7
£8 MINERVA, 2 h.p.	£8
£7 JAP, 2½ h.p.	£7
£7 HUMBER, 2 h.p.	£7
£8 MINERVA, 2½ h.p.	£8
£10 ARIEL, 2½ h.p.	£10

50/- DOWN AND 5/- PER WEEK SECURES:

3 h.p. EXCELSIOR	£11
2 h.p. SINGER	£9
2½ h.p. JAP	£11
3 h.p. REX	£10
2 h.p. ORMONDE	£8
2 h.p. WERNER	£10
2½ h.p. MINERVA	£10
2½ h.p. CUNARD	£12
2½ h.p. LLOYDS	£11
2½ h.p. HUMBER	£8

TRICARS.

REXETTE, 8-10 h.p., two speeds and reverse. A	
perfect article	£60
GARRARD, 5 h.p., three speeds, water-cooled ..	£32
MINERVA Pattern, 3½ h.p., spray, good tyres ..	£16

CARS.

24 h.p. DARRACQ, perfect order throughout.	
Trial run	£110
14 h.p. GOBRON-BRILLIE, four speeds, two- cylinder, five seater	£80

FORECARS, Etc.

Three very good forecar attachments, new tyres to all and perfect.	only £4 each
MONTGOMERY sidecar, shop-soiled, and made rigid, fits Rex	£5 10s.
BAT rigid sidecar, 26in. wheel	£4 10s.

ACCESSORIES.**PALMER TYRES (Cord)**

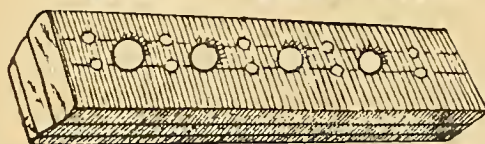
Cover.Tube.	Cover.Tube.	Cover.Tube
26×2 43/8 10/-	26×2½ 59/3 16/3	28×2½ 63/6 11/-
26×2½ 58/9 11/-	28×2 50/3 10/-	28×2½ 64/3 17/6
10/- allowed on old covers, and 2/- on tubes.		

TUBES (fully guaranteed).

26×2in. .. 5/6	26×2½in. .. 7/6	28×2½in. .. 7/-
26×2½in. .. 6/6	28×2in. .. 6/6	28×2½in. .. 7/6

APPROVAL.**TUBES (butt-ended).**

You cannot do better than try one. Money returned in full if not perfectly satisfactory.		
26×2in. .. 7/6	26×2½in. .. 8/3	28×2½in. .. 7/9
26×2½in. .. 7/9	28×2in. .. 7/6	28×2½in. .. 8/3

ALBANY BELTING.

¾in. 7d., ¾in. 8d., ¾in. 9d., 1in. 10d. per foot.
Approval. Immediate delivery.

MAUDE'S MOTOR MART, Powell St., HALIFAX

National Telephone 438.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD for dead snips this week.— 3½ h.p. Minerva, 1906, good condition; £12.

HAMPSTEAD.—3½ h.p. Minerva, late 1907, new condition, with all accessories; £16, guaranteed.

HAMPSTEAD.—1908 lightweight N.S.U., magneto, only shop-soiled; £19, with all accessories.

HAMPSTEAD.—3½ h.p. N.S.U., late model, magneto, 24 wheels, new condition, guaranteed perfect; only £18.

HAMPSTEAD.—3 h.p. Triumph, Fafnir en- gine, good condition; £12, all acces- sories, great bargain.

HAMPSTEAD.—3½ h.p. 1908 Triumph, latest model, handle-bar control, only run 1,000; sacrifice for £35.

HAMPSTEAD.—3½ h.p. 1908 Triumph, almost new, gold medal winner; £37 10s., with all accessories.

HAMPSTEAD.—3½ h.p. Fafnir, late type, good condition; only £12, with all ac- cessories.

HAMPSTEAD.—1½ h.p. F.N. lightweight, 1908 model, new condition; £20, with all spares.

HAMPSTEAD.—F.N., four-cylinder, mag- neto, and spring forks, grand condi- tion, guaranteed, all accessories; £18 only.

HAMPSTEAD.—4½ h.p. F.N., 1907, late model, very powerful and good hill-climber, almost new; £26.

HAMPSTEAD.—F.N., 4½ h.p., 1908 model, as good as new, only wants seeing; bar- gain, price £27.

HAMPSTEAD for new F.N., 6 h.p., latest model, from stock, and 4½ h.p.; ex- changes entertained.

HAMPSTEAD.—5 h.p. twin Peugeot, Chater- Lea No. 6 frame, splendid condition, like new; £24.

HAMPSTEAD.—New Griffons at second- hand price; four pound under price, only shop-soiled; catalogues on application.

HAMPSTEAD.—Sole agents for Griffons, F.N.'s, Minervas, Vindec, Triumphs, etc.; cycle, sidecar, or low powers in part payment; liberal allowances on old ma- chines for new, any make.—Rey, 5, Heath Street Motor Works, Hampstead. Tel. 2678, P.O.

GIVEN Away.—1906 Minerva, 2½ h.p., fault- less; £9; specification, trials.—44, Gop- sall Street, N.

4½ h.p. Twin-cylinder Minerva; £17 10s. — At Wauchope's, 9, Shoe Lane, Fleet Street, London.

FOUR-CYLINDER F.N., late type, magneto, spring forks, grand order; cheap, £19 19s.—Below.

BAT, 3½ h.p., spring frame, genuine De Dion engine, like new; £17 10s.—Whittle, 41, Skelbrook Street, Wandsworth.

3½ h.p. Lloyd, 2½ Quadrant, spray; trial; £7 each.—Ricketts, 150, Cloudeley Road, Islington.

3 h.p. Quadrant, latest, springs, Liberty sidecar; £16, separate.—25, Tamworth Park, Mitcham.

ROVER, 3½ h.p., 1906, M.O.V., beautiful con- dition; sacrifice £13 10s.—17, Algarve Road, Earlsfield.

5 h.p. Twin Rex, with sidecar, in good order; £20.—108, Cobourg Road, Old Kent Road, S.E.

21 h.p. Phoenix, spray, spring seat and handle-bar; £6 6s.—Hill, Freemasons' Arms, Hampstead.

TRIUMPH, 3½ h.p., good condition, Pal- mers; £20.—Redcott, Dacres Road, Forest Hill, London.

£19.—Rex, 5-6 h.p., cantilever, non-skids, spares, perfect; offers.—11, Ormiston Road, Shepherd's Bush.

3½ h.p. Fafnir, No. 6 frame, new condition, with sidecar; 16 guineas.—4, Shelgrove Road, Stoke Newington.

3½ h.p. Ariel, twin, forks, late 1907, not ridden 150 miles, as new; cost £37, cash £26 10s.—389, The Motor Cycle Offices, Cov entry.

MOTOR BICYCLES FOR SALE.

3½ h.p. White-Poppe, 2½ in. Palmer cord, good order, spring forks; £15.—Gould, 10, High Road, Chiswick.

3½ h.p. Rex, going order, long bars, low seat, good condition; £7.—16, Bathurst Gardens, Willesden.

1907 Triumph, thorough condition, good as new; accept £32.—Herring, 49, Manor Road, Stamford Hill.

2½ h.p. Minerva, Chater-Lea, three speeds, Dunlops, nearly new; £16.—Baker, 66, Willesden Lane, Kilburn, N.W.

1½ h.p. Excelsior-Minerva, spray carburetter, running order; £5.—S. Hiller, 19, Fentiman Road, Kennington.

£10.—2½ h.p. Excelsior motor cycle, in thoroughly good order; a bargain.—62, Cale Street, Sydney Street, Chelsea.

HARROW.—Moto-Reve, spring forks, low frame, footrests and numerous spares, fully equipped, better than new; £27 10s.

HARROW.—3½ h.p. Birch, low built, long bars, Rich's tubes, a smart machine, in perfect order; £12 10s.

HARROW.—4½ h.p. twin Minerva, spring forks and full accessories, not had six months' wear; a grand bargain, £25.

HARROW.—2½ h.p. F.N., long bars, low seat, extra large tyres and several improvements, a most reliable mount; £10 10s.

HARROW.—5½ h.p. twin Rex, cantilever seat, just overhauled, and warranted equal to new, will do 50 per hour; bargain, £17.—Bunting, Wealdstone, Harrow.

4 h.p. Twin Alcyon, take a sidecar anywhere, Chater-Lea, perfect condition; £17.—85, Chesterton Road, Plaistow, E.

3 h.p. Olympic, Clincher covers, uncut, Price's stand, handsome machine; £7.—Malden, Windlesham House, Brighton.

2½ h.p. Minerva Engine, Longuemare, torpedo tank, splendid condition; £8.—Garden, Edward Road, Bromley, Kent.

FOUR-CYLINDER F.N., excellent condition, Palmer tyre, all complete; £20.—130, Fellows Road, Hampstead, London, N.W.

1½ h.p. N.S.U. Lightweight, 1908, magneto ignition, spring forks, equal to new; £20.—Eagles and Co., High Street, Acton.

2½ h.p. Minerva, silent, perfect order, splendid climber, new Duco studded back; £10.—30, Elderfield Road, Clapton, N.E.

VINDEC, 5 h.p., Roc two-speed gear, take sidecar anywhere, perfect condition; £43.—E., 4a, Belsize Grove, Hampstead, N.W.

4 h.p. Jap throughout; £16 10s.; round tank, low frame; bargain.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

BARGAIN.—5 h.p. twin, new condition; must sell; cash £12 10s.—Herbert, 62, New City Road, Barking Road, Plaistow, E.

TRIUMPH, 1908, only used few times, Shamrock non-skids, inspection invited.—5, Grove Villas, Nightingale Lane, Wanstead.

3½ h.p. Alldays, magneto, two ignitions, first-class condition; offers.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

2½ h.p. F.N., good condition, Palmer tyres, £10; leather coat, 30s.; pair tricar lamps, £1.—62, Wrentham Avenue, Willesden.

LONDON Rex Agency.—Special exchange, quotation, send particulars of old machine, notify requirements.—Store Street, W.C.

LONDON Rex Agency have for immediate delivery all models; cash, gradual, or exchange terms.—Store Street, W.C.

AUTUMN Exchange Offers.—Write us. We have special concessions, and can give exceptional terms, unapproachable elsewhere.—Horner's, Store Street, W.C.

2½ h.p. F.N., spray, very low, fast, Palmer tyres, nearly new, lamp, horn, stand, carrier; £10 10s.—18, Endsleigh Gardens, Ilford.

IF you want bargains in second-hand motor cycles, you can get them at Wauchope's, 9, Shoe Lane, Fleet Street, London.

3½ h.p. Sarolea, B. and B. carburetter, spares, splendid condition; bargain, £12 10s.; seen any time.—247, Hammersmith Road, W.

3½ h.p. Sarolea, B. and B. carburetter, spares, splendid condition; bargain, £12 10s.; seen any time.—247, Hammersmith Road, W.

3½ h.p. Sarolea, B. and B. carburetter, spares, splendid condition; bargain, £12 10s.; seen any time.—247, Hammersmith Road, W.

OFFERS

for cash will receive every consideration and prompt reply. Room wanted for 1909 Models.

TWINS—Offers Wanted.

6 h.p. Twin Rex, £18 18s., or £4 and '07 Single Rex, or £6 and 3½ Rex, or level exchange with Single Magneto Rex.

SPECIFICATION.—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

1908, magneto, Twin REX, little used	£35 0
5½ h.p. N.S.U., magneto, new, 1908	£52 0
5 h.p. Twin VINDEC, magneto, Truffault ..	£35 0
5½ h.p. REX DE LUXE, 1907, brand new ..	£35 0
5½ h.p. Twin REX, spring forks, black finish ..	£18 18
5½ h.p. REX DE LUXE, magneto, Roc clutch ..	£27 10
Twin REX, blue lines, new tyres	£18 18
6 h.p. Twin REX, non-skids both wheels ..	£18 18
5½ h.p. Twin REX, magneto, 1907	£23 10
4-5 h.p. Twin ALCYON, N.S.U., two-speed ..	£20 0
5 h.p. Twin SAROLEA, long frame	£18 18
6 h.p. Twin ANTOINE, R.O.M. ignition ..	£22 0
Twin CLEMENT, spring forks, smart	£14 0
5 h.p. Twin ONAWAY, very low, spring forks ..	£19 0
6 h.p. Twin ANTOINE, spring forks	£22 0
5½ h.p. REX DE LUXE, two-speed	£32 10

SINGLES—Offers Wanted.

1908 REX, magneto, leatherweight, nearly new ..	£19 19
1908 MOTOSACOCHE, splendid condition ..	£22 10
1908 N.S.U. Lightweight	£22 10
1908 3½ h.p. N.S.U., had trial only	£34 0
1908 3½ h.p. REX DE LUXE, two-speed	£35 0
3 h.p. SINGER, H.T. magneto	£20 0
3 h.p. TRIUMPH, magneto	£24 10
3 h.p. TRIUMPH, spring forks	£21 0
3½ h.p. Magneto REX Racer, a bic	£25 0
3 h.p. 1906 REX, spring forks, long bars ..	£15 0
2½ h.p. Magneto REX, 1908, shop-soiled ..	£22 0
3 h.p. MINERVA, M.O.V., vertical, spray ..	£16 10
3 h.p. GIVAUDAN, nearly new, very low ..	£16 0
3 h.p. QUADRANT, spray, spring forks	£13 0
3 h.p. LLOYD'S, 26 x 2½ in. Palmers	£13 10
4 h.p. ANTOINE, vertical, M.O.V., spray ..	£16 0
2½ h.p. MINERVA, fine condition, M.O.V. ..	£13 10
2½ h.p. CLYDE, magneto, vertical, spray	£15 0
4 h.p. ANTOINE, 26 x 2½ in. tyres	£16 10
3½ h.p. SIMMS, magneto, 2½ in. Palmers	£17 10
3½ h.p. QUADRANT, 1906, spring forks	£18 10
3½ h.p. CENTAUR, free engine, M.O.V.	£13 0
2½ h.p. F.N., special frame, reliable	£12 10
3 h.p. HUMBER, spray, good climber	£10 10
3 h.p. FAFNIR, very low, spray	£13 10
3½ h.p. REX, 22 in. frame, trembler coil	£11 10
2½ h.p. MINERVA, 26 x 2½ in., spray, vertical ..	£11 10
3 h.p. BROWN, spray, guaranteed	£12 10
3 h.p. M.M.C., spray, very low	£10 0
3½ h.p. EXCELSIOR, spray, trembler coil ..	£10 10
2½ h.p. COVENTRY EAGLE, vertical spray ..	£10 0
3½ h.p. Two-speed REX, suit sidecar	£13 10
2½ h.p. F.N., light, low, smart appearance ..	£12 0
2½ h.p. CLEMENT, very low, good order ..	£11 0
2½ h.p. KERRY, spray, low, reliable mount ..	£10 10
2 h.p. RALEIGH, spray, smart	£8 0
2½ h.p. ROYAL, vertical, spray, trembler coil ..	£7 15
2½ h.p. HASKARD, spray, smart	£11 10
1 h.p. MINERVA, spray, suit light rider	£5 10
2 h.p. EXCELSIOR, trembler coil	£8 0
2 h.p. HUMBER, chain drive, trembler coil ..	£6 10
2 h.p. PEUGEOT Lightweight, smart	£9 10
2 h.p. Magneto SIMMS, vertical engine, spray ..	£6 10
4 h.p. CORONET, tyres as new, smart	£14 0
2 h.p. MINERVA, spray, smart, good	£7 0

TRICARS.

4½ h.p. W.C. BRADBURY	£37 10
5½ h.p. QUADRANT Carrette	£35 0
5½ h.p. REXETTE, W.C., two speeds	£35 0
REX, Mills-Fulford	£13 0
Twin REXETTE, W.C., two speeds, 8 h.p.	£47 10
4½ h.p. STEVENS Tricar, very low built	£15 0
5 h.p. HUMBER, open frame	£35 0
2 h.p. REX, Phoenix Two-speed	£12 10

CARS.

18 h.p. REMO	£225 0
10-12 h.p. BRUSH, tonneau, three speeds, reverse	£55 0
6½ h.p. ASTER, three speeds, reverse, two-seater	£30 0
6½ h.p. HUMBERETTE, three speeds, reverse, two-seater	£45 0

High-class Magneto Machines Wanted for spot cash.

The Halifax Motor Exchange,

16, Westgate, Halifax.

Telephone: 766.

Telegrams: "Perfection."

MOTOR BICYCLES FOR SALE

F.N., 1907, four-cylinder, 4½ h.p., magneto, Continentals, spring forks, splendid condition; £25, lowest.—2, Ardgowan Road, Catford.

4 h.p. Stevens (90 by 95), spring frame, foot tank, 2½ in. Palmers; £18.—27, Melbourn Road, Ilford.

MINERVA, 3½ h.p., long handle-bars, low position, good running order, spares; £18.—Davis, dentist, 42, Rye, Peckham, S.E.

1907 Triumph, magneto, 3½ h.p., non-skid back, excellent condition, spares; £32.—St. Gwithian, Southwood Road, New Eltham.

F.N. Lightweight, nearly new, magneto, piece for speed and climbing, spray gold and green enamelled; £10.—O/O Dalston Lane.

FOUR-CYLINDER F.N., splendid running order, luxurious comfortable machine, will take £20.—Cousens, Beatrice Road, Clacton-on-Sea.

3½ h.p. Twin Griffon, Zedel engine, 32 melior coil, very fast on hills, condition; £20, or near offer.—H., 116, London Park, S.E.

3½ h.p. Eclipse Motor Cycle, low saddle, long bars, Palmer tyres, good condition; £13 10s.—A., 65, Marlborough Road, Merton, Surrey.

2½ h.p. Motor Cycle, good condition, running order, Palmer, Clincher; given; £12.—Kew, 160, Manor Park Road, Harlesden, N.W.

5-6 h.p. Twin Kerry, 2½ in. tyres, long bars, low saddle, spare, splendid condition; bargain, £18 10s.—13, Brook Avenue, Barnes.

3½ h.p. Quadrant, 1907, spring forks, in perfect order, numerous spares, good climber; bargain, £20.—Crawford, Brook, Wadhurst.

5 h.p. Twin Rex Motor Cycle, cantilever seat, spring forks; any trial; £20, gain; perfect condition.—Wells, 100, Street, Colchester.

3½ h.p. Rover, low built, long handle-bars, 26 by 2½ Peter-Union tyres, G. belt; £12 10s.; approval.—Eagles and High Street, Acton.

3½ h.p. N.S.U., new condition, Continental spare Richs, Acetyphote, spray guaranteed; trial given; £17.—162, Colshaw Road, W. Ealing.

3½ h.p. Rex, 1906, perfect running order; £17; sidecar, £3 10s., or exchange make, two-speed, cash adjustment.—162, Colshaw Road, Paddington.

3½ h.p. Centaure, M.O.V., low built, Clincher tyres, ½ in. belt, excellent condition; £10 10s.; approval.—Eagles and Co., High Street, Acton.

STAMFORD HILL.—5½ h.p. Twin Rex, Luxe, Roc clutch, two-speed gear, back tyres, property of doctor, as new; —128, High Road, Tottenham.

STAMFORD HILL.—5 h.p. twin Hamill footboards, B. and B. twin carburetter, fast racy machine, splendid order; £15.

STAMFORD HILL.—2½ h.p. Rex, B. and B. carburetter, excellent machine, in perfect condition, lightweight; £7.

STAMFORD HILL.—2½ h.p. Humber, B. machine, Longuemare, grand climber, fine condition; £7 10s.

STAMFORD HILL.—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL.—Colossal sacrifice, 18 h.p. Bradbury, perfect, complete, powerful machine; £10 15s.—128, High Road, South Tottenham.

3½ h.p. Ariel, M.O.V., low, Longuemare, Palmer cords, finished French, excellent condition; 13 guineas; exchange lower power magneto.—Rolfé, contractor, Tring, Herts.

2½ h.p. Motor Cycle, Longuemare carburetter, good tyres, Brooks saddle, splendid order, belt, etc.; accept £7 10s.—Barber, 17, Galena Road, King Street, B. Hammersmith, W.

2½ h.p. Motor Cycle, Longuemare carburetter, good tyres, Brooks saddle, splendid order, belt, etc.; accept £7 10s.—Barber, 17, Galena Road, King Street, B. Hammersmith, W.

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2½ h.p. Motor Cycle, Longuemare carburetter, good tyres, Brooks saddle, splendid order, belt, etc.; accept £7 10s.—Barber, 17, Galena Road, King Street, B. Hammersmith, W.

TRICARS FOR SALE.

1 h.p. Kerry Tricar, in perfect order; £13.—Holmes, 28, Hawstead Road, Catford.

h.p. Riley, comfort and reliability; cash offer, or exchange.—10, Charles Street, Bath.

PEN Frame Tricar Chassis (Chater-Lea), tyres, two-speed gear; £7 10s.—Brockley Cycle Works, S.E.

907 Triette, 5½ h.p. twin, as Runabout, good condition; best cash offer.—Moffatt, Studio, Accrington.

AGONDA, 5½ h.p., clutch, perfect running condition; £28; motor bike part.—11, Meldon Street, Leicester.

TRICAR, Peugeot, 5-7 h.p., twin engine, cane body, upholstered; bargain, £15 s.—12, Bull Ring, Birmingham.

35.—Fafnir, 6 h.p., water-cooled, chain drive seats side by side, two speeds.—17, 7, Wakefield Road, Tottenham.

WHITE and Poppe Tricar, 2½ tyres, chain drive, equal to new, with spares; £18. 32, Eastbourne Road, S. Tottenham, N.

1 h.p. De Dion Tricar, Mills-Fulford fore-and-aft carriage, good condition; trial; £20. Barrett, 332, High Street, Manor Park.

TAMFORD HILL.—6 h.p. twin Antoine, Mabon clutch, R.O.M., footboards, cane body, new tyres, splendid light tricar; £29.

TAMFORD HILL.—5 h.p. twin Kerry, R.O.M., Millford front, wicker body, grand condition; £28.

TAMFORD HILL.—4½ h.p. M.M.C., water-cooled, chain drive, free engine, cane body, powerful and reliable; £20.

TAMFORD HILL.—4½ h.p. Phoenix, Fitall two-speeds, footboards, Palmer cords, grand condition; £25.

TAMFORD HILL.—3½ h.p. Excelsior, two speeds, free engine, very reliable, and excellent condition; £16 10s.

TAMFORD HILL.—4½ h.p. Kelecom, belt drive, fast, light machine, grand condition; £17 10s.

TAMFORD HILL.—Trials any time. Sound machines taken in exchange. Inspection invited.—128, High Road, Tottenham.

OVER 3½ h.p. Tricar, splendid condition, no makeshifts; £18; photo.—While, Hingleside, Fairfield Road, Grove Park, Kent.

1 h.p. Rex, coach-built forecarriage, in first-class order; £16 10s.—Johnson, 1, Cambridge Road, Cambridge Heath, N.E.

1 h.p. Humber Tricar, water-cooled, coach-built, good running order, start like car; £22 10s.—890, The Motor Cycle Offices, Coventry.

1 h.p. Riley Tricar, water-cooled, two speeds, free engine clutch, good condition; £27.—99, Raglan Road, Plumstead, Woolwich.

TAUR, 3½ h.p., free engine, metal clutch, coach body, tyres good, studded back; £25.—Coles, St. Martin's Street, Wallingford, Berks.

6-h.p. Humber, two speeds, water-cooled, coach-built, chain drives, powerful; 30, offers or exchanges.—91, Stanhope Gardens, Harringay.

1 h.p. Stevens Water-cooled Tricar, two-speed gear, in perfect running order; accept 16 guineas, or near offer.—Horner's, Store Street, W.C.

h.p. Quadrant Carrette, latest model, condition like new, with Matchless silencers; £50, or near offer; owner getting car.—Moffatt, Camborne.

h.p. Rex, special engine, coach-built, chain drive, free engine, 28 by 2½ tyres, new, good running order; £22.—Hawley, Weston Road, Tadcaster.

h.p. White and Poppe, two speeds, water-cooled, coach-built, wheel steering, perfect, guarantee 32 m.p.h.; £27 10s.—47, Camden Grove, Peckham.

REX Tricar, 1904 engine, surface carburettor, engine in perfect condition, tyres new; accept £18, or near offer.—Cowper, Royal Avenue, Lowestoft.

h.p. Rexette, car built, water-cooled, two speeds Michelin and two new Clinchers, first-class condition; trial; £40.—Dr. Gaskell, Mount Park Road, Ealing.

SOME SPECIAL HIGH-CLASS CLEARANCE LINES

All guaranteed in first-class running order.

5-6 h.p. TWIN ROC, two speeds, starting handle, Druid spring forks, 1907 model, 2½ in. tyres, magneto ignition, not ridden 300 miles, just as new. Lowest price 30 Guineas. Splendid bargain. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5 h.p. VINDEC SPECIAL, 1907 model, twin engine, magneto ignition, in first-class repair, fitted footrests, Truffault forks, low frame, splendid opportunity. 30 Guineas at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

4 h.p. BAT. J.A.P. engine, sprung back and front, London to Edinburgh machine, 1907 model, in best of condition, very powerful. £25. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3 h.p. 1906 TRIUMPH Motor Cycle, magneto ignition, spring forks, smart little mount. £22 10s. opportunity. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

2½ h.p. FEATHERWEIGHT REX, 1908 model, in condition like new, magneto ignition. £16 10s. lowest cash. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

2½ h.p. F.N., magneto ignition, spring forks, very little used, with full complement of tools and accessories. £19 19s. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5 h.p. TWIN ROC, Peugeot engine, free engine clutch, magneto, starting handle, pink of condition. £26 10s. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½ h.p. 1908 BROWN, non-skid back wheel, not run 500 miles, standard model. £22. Unprecedented opportunity, at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½ h.p. TWIN-CYLINDER PEUGEOT, Chater-Lea frame, low-built, torpedo tank, silent and fast. £18. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5 h.p. 1908 VINDEC SPECIAL, as new. £35. First cash. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½-4 h.p. ALLDAYS Motor Cycles, two ignitions, very powerful, in condition as new, low frame. £19 19s. Bargains at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5 h.p. TWIN-CYLINDER REX, smart, and in perfect running order, spring seat, tools, accessories. £15. Splendid opportunity at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5 h.p. TWIN PEUGEOT, Rex frame, magneto, very fast, lowest possible, £19 19s. Worth inspection. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½ h.p. 1907 TRIUMPH, magneto, spring forks, lowest, £26 10s. At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

Also a large selection of Second-hand Machines of various makes, all guaranteed, from £6 10s.

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TRICARS FOR SALE.

4½ h.p. Aster Tricar, W.C. head, Chater-Lea, chain driven, Bozier two-speed, in perfect order, and most reliable; £25.—62, Cale Street, Sydney Street, Chelsea.

LAGONDA Tricar, 10-12 h.p., water-cooled, three speeds, in excellent order throughout; price £55.—Further particulars, apply, Western Motor Works, Sidcup, S.E.

3 h.p. Phoenix Trimco, Minerva engine, splendid little tricar, everything in excellent condition, belt driven; accept £13.—A.T.S., 86, Colvestone Crescent, Dalston, London.

6 h.p. Rex Litette, two-seater, water-cooled twin engine, Roe clutch, two-speed gear, splendid condition, fast and powerful. £50 cash.—Cousens, Beatrice Road, Clacton-on-Sea.

4½ h.p. Stevens, Chater-Lea tricar, two-speed, free engine, new tyres, fine going order; £22, or take motor cycle in part.—17, Clarence Terrace, Queen's Road, Dalston.

BEESTON Humber Tricar, Phelon-Moore two-speed gear, fan-cooled, large footboards, in splendid condition; nearest to £20—90, Copthall House, Copthall Avenue, London.

TRIETTE, 5 h.p. twin, good order, £20, or near offer; Litette, special heavy tyres, trial machine, water-cooled, two speeds, excellent condition. £55.—Horner's, Store Street, W.C.

3½ h.p. N.S.U. Tricar, magneto, two speeds, absolute new condition, with spare wheel to convert into cycle, with lamps, spares, etc.; £30, a bargain.—Wm. Else, Lea-wood, Matlock.

5-6 h.p. Twin Tricar, Rex engine, Osborne four-speed gear and free, coach-built forecarriage, sprung frame, wing mudguards; photograph; £30, or offer.—Cogan, Duston, Northampton.

EXCELSIOR Tricar, basket forecarriage, belt drive, perfect order throughout, spare wheel and fork to convert; exchange for 6 in. S.S. lathe, or sell.—No. 843, The Motor Cycle Offices, Coventry.

4½ h.p. Tricar, Chater-Lea throughout; would take intending purchaser 50 miles trial run; only wants seeing; £25, or nearest offer.—Stringer, butcher, Silverthorne Road, Clapham, S.W.

4 h.p. Aster Engine Tricar, two-speed, wheel steering, minus wheels, tyres; cash, or exchange for 4, 5, or 6 h.p. engine, and two or three-speed gear box, or belt driven, etc.—50, Balls Pond Road, Dalston.

5 h.p. Humber Tricar, coach-built throughout, water-cooled, two speeds steel non-skid back, spare tyres and inners, perfect condition; £35.—Dawkins, 64, Belgrave Gardens, Martha Road, Wanstead.

4½ h.p. Riley Tricar, 1908 model, Clincher tyres on all wheels, coach-built front seat, overhauled by makers recently, in splendid condition and running order; £27.—881, The Motor Cycle Offices, Coventry.

LAGONDA Tricar, 12 h.p., late 1907, three speeds and reverse, water-cooled, winner Sharpshoe hill-climb, good running order, with many spares; £70; offers invited.—Frampton, Inkerman Barracks, Woking.

4½ h.p. Twin Givaudan, Fuller coil, Longuemare, Stanley belt, Clinchers (unpunctured), upholstered basket, powerful, new Whitsuntide, 1907; a sacrifice, £21; money wanted.—K.C., 10, Harold Road, Leytonstone.

3½-4 h.p. Chater-Lea-Fafnir, water-cooled, two-speed, chain drive, accumulator, trembler, cane forecar, upholstered green, spare tubes and studded cover, splendid order; £30, or near offer.—Paterson, Old Catton, Norwich.

REAL Bargain.—4 h.p. w.c. Coronet Tricar, Chater-Lea open frame, with roomy platforms, cane front seat, upholstered, new tyres, belt, etc., aluminium, thorough going order; £18.—A. Redman, West Hoathly, Sussex.

1907 Practically Brand New 6 h.p. Twin Rex Triette, absolutely perfect condition, flies up all hills fully loaded, every refinement; £25, or motor cycle and cash; owner no room for storage.—Triette, 86, Colvestone Crescent, Dalston, London.

TRICARS FOR SALE.

5 h.p. Riley Tricar, 1908 model, Riley red finish, large tyres all round, Michelin non-skid back, horn, with flexible, special toolbox, luggage carrier, few spares, in very good condition; £55.—879, *The Motor Cycle* Offices, Coventry.

1908 Practically Brand New 10 h.p. Twin-cylinder Rexette, two speeds and reverse, seats two and child in front, twin tyres on back wheel, climbs practically all hills on top gear, only done about 300 miles, everything in absolutely perfect condition; must sell; £60, or near offer (motor cycle part payment). — Rexette, 86, Colvestone Crescent, Dalston, London.

REXETTE, 8-10 h.p., twin cylinders, w.c., two speeds and reverse, specially built, without forecarriage, very fast, twin rear wheel, fitted nearly new Roberts bands, jack, tools, lamps, spare valves, numerous spares, underscreen, good order, only ran 1,500 miles; owner buying car; extra tool box, fitted with drawers; a bargain, £35. — Lensher, 11, Midland Road, Wellingborough.

5 h.p. Riley Tricar, 1908 model, quite new, special wide seats, Riley red finish, 80 Dunlop tyre on back, with Grose steel tudded band fitted, 700 by 80 Dunlops on front wheels, with separate generator, coach painted, special toolbox fitted at side, electric tail lamp, with spare accumulator, pron for front and back seats; cost £106, what offers?—380, *The Motor Cycle* Offices, Coventry.

9 h.p. Riley Tricar, three speeds and reverse, coach-built, open frame, and wheel steering, guaranteed as perfect as new, has several spares, non-skid on the back wheel, lamps, horn, electric tail lamp; any severe trial can be given; it will do forty miles with a gallon of petrol; price £65, will take an up-to-date motor cycle in exchange.—Garaged at Wauchope's, 9, Shoe Lane, Fleet Street, London.

SIDECARS AND FORECARS.

CHATER-LEA Sidecars, latest type; £5 18s. —Silverthorne Motors, 111, Larkhall Lane, Clapham.

MILLS-FULFORD Passenger Forecar, good condition; £5.—Whitfield, 192, High Street, Tooting.

SIDECAR, 26in. wheels, upholstered green, nearly new; £4 10s. — 35, Herongate Road, S. Wanstead.

CHATER-LEA Sidecar, latest £12 12s. model (quite new); £7 18s.; appointment.—J.allows, 50, Vauxhall Bridge Road, S.W.

PHENIX Forecar Attachment, aluminium coach-built body, adjustable stays; bargain, £4 15s.—12, Bull Ring, Birmingham.

PHENIX Spring Forecarriage Attachment, practically new, not driven more than 10 miles; £9.—111, Greencroft Gardens, N.W.

SIDECAR, coach-built, 26 wheel, rigid, new, £6 10s.; complete 26in. wheel, Continental tyres, £2.—Sembill, Church End, Finchley.

RIGID Sidecar, upholstered green, practically new, perfect; £7 10s., or nearest offer. — R.G.B., 54, Florence Road, Stroud Green, N.

MILLS and Fulford, rigid, 26 by 24, fit twin Rex, very easy to steer, good condition; £3 10s.—Smith, St. George's Square, Droitwich.

TAMFORD HILL.—Famous rigid sidecars, instant delivery, none better, fit your machine, £4 18s. 6d.; sound, second-hand decar, £3 5s.—123, High Road, Tottenham.

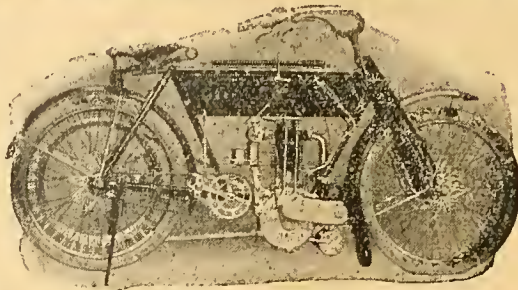
SIDECAR, fit any frame, perfect condition, 26in. Continental tyre, motor tyre; lowest price £4 5s.; also genuine Chater-Lea, price £6 5s.—C. A. Edgar, 123, Holloway Road, London, N.

BOOTH.—Several Montgomery sidecars, cheap, shop-soiled. A few second-hand sidecars very cheap. State requirements. — Booth's Motor Exchange, Wade Street, Halifax.

TANDEMS.

PHENIX Minerva Lady-back Tandem, perfect; photo sent.—1, Lancaster Road, Tooting.

MATCHLESS MOTORS!!



The Tourist Trophy Winners, 1907!

Land's End to John-o'-Groat's, 1908: GOLD MEDAL. 200 Miles World's Record, 1908, also 4, 5, and 6 Hours' World's Record.

Artists' Federation Sports, Hørne Hill—Scratch Race: MATCHLESS FIRST.

5 Mile Open Handicap: MATCHLESS FIRST.

5 Mile Music Hall Handicap: MATCHLESS FIRST.

Auto Cycle Union Race Meeting.

Stadium 1 Hour Race: H. V. Colver on MATCHLESS FIRST, BEATING WORLD'S HOUR RECORD for MACHINES 76x76.

Celtic Park Sports, Glasgow, August 8th, 1908: HARRY MARTIN BEAT SCOTTISH RECORDS.

1 Mile Flying: 86 seconds. 3 Miles: 3 mins. 24½ secs. 5 Miles: 5 mins. 42½ secs.

"Matchless" Motors for Speed and Reliability.

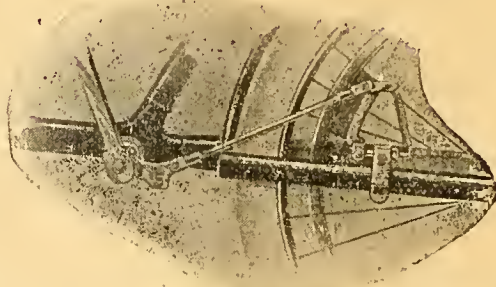
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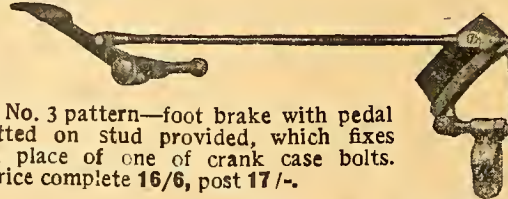
"CHASE" DRIVING RIM BRAKE.



No. 1 pattern—back pedalling brake. Machine can be wheeled backwards. Extremely powerful. Price 16/6, post 17/-.



No. 2 pattern—footrest brake, complete. Price, £1 6s. Footrests only, Price 12/-. With either ½in. or 1¼in. clip, post 12/6.



No. 3 pattern—foot brake with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete 16/6, post 17/-.



MATCHLESS PETROL FILTER.

No choked carburetters. 4/6, p st 4/8.

MATCHLESS SPRING FORK ATTACHMENTS.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction!

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TRAILER, for motor cycle, cane body, upholstered; bargain, £2 2s. — 12, Bull Ring, Birmingham.

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ARIEL Tricycle, 3½ h.p., water-cooled head, spare air-cooled, two speeds, new gear wheels and differential, new driving tyres, tubes, Fuller Syntonic coil, Van Raden accumulator; £9.—No. 886, *The Motor Cycle* Offices, Coventry.

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PHENIX Quadcar, four-cylinder 12-16 h.p. engine, marvellous hill-climber; too fast for owner; any trial.—70, Lower Street, Birmingham.

CARS FOR SALE.

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PALMER.—5½ h.p. Humberette, two speeds, racing design, 25 m.p.h., guaranteed; £29.

PALMER.—6½ h.p. Darracq, two-seater, three speeds, reverse, excellent condition throughout; £35.

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PALMER.—16-24 h.p. De Dietrich, five-seater, four-cylinder, four speeds, magneto, fast, reliable; £145.

PALMER.—16-22 h.p. Gladiator, side entrance, four-cylinder, silent reliable carriage, perfect; £140.

PALMER.—24-30 h.p. Hurst, side entrance, long chassis, four-cylinder, cardan drive; £95.

PALMER.—12-16 h.p. Panhard Chassis, complete, ready to receive four-cylinder engine; £25.—L. N. Palmer, 190, Mellison Road, Tooting. Telephone, 208 Streatham.

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6½ h.p. Wolseley, two-seater, three speeds, in new condition; £50.—Below.

7 h.p. M.M.C., three-seater, very fine order; £30; accept motor bike and cash.—Below.

6 h.p. De Dion Regal, two-seater, three speeds, very smart; £48.—Below.

16-20 h.p. Metallurgique, four-cylinder, M.O.V., side entrance, pressed steel frame, direct drive, fine order; bargain, £95.—Below.

14-16 h.p. Daimler, four-cylinder, tonneau, fast, silent, excellent condition; £85.—Below.

24 h.p. Mutel, four-cylinder, M.O.V., pressed steel frame, new condition; £100.—255, Earlsfield Road, S.W. Phone, 1135, Putney.

10-12 h.p. Gladiator, tonneau, three speeds, reverse, reliable; £45.—891, *The Motor Cycle* Offices, Coventry.

7 h.p. Fafnir, three speeds, reverse, smart car, splendid condition, take good motor bike and £23.—61, Byron Street, Derby.

15-18 h.p. Car, side entrance, 1906, three cylinders, lamp, spares; bargain, £65, or part exchange.—98, Potternewton Lane, Leeds.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

EXCHANGE.

MOTOR Cycles, new or second-hand, taken in part payment for talking machine supplies (wholesale), one of the largest stocks in England to draw from.—No. 873, The Motor Cycle Offices, 20, Tudor Street, E.C.

EXCHANGE for good motor cycle, tricar, or modern small car, new high-class furniture, any description, valued wholesale, direct from works.—Furniture manufacturers, 7-11, French Place, Shoreditch, London.

UNBEAM-MABLEY Car, three-seater, genuine De Dion engine, two speeds, in good order, level exchange for powerful twin cycle, 6-8 h.p. Minerva preferred, or sell.—Apply, Box 888, The Motor Cycle Offices, Coventry.

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EXCHANGE 1908 7-8 twin Minerva, condition as new, Nala two-speed hub, spring works, non-skid back, cost over £60, for 3½ h.p. magneto Triumph; or sell £37; passenger too nervous to use sidecar.—R., c/o Lyne, St. Mary's Street, Shrewsbury.

WATER-LEA Frame, 2½ h.p. engine, two tanks, handle-bar, saddle, pedalling car, etc., all good condition, £3; also Broadwood piano, solid mahogany, good condition, sell or exchange motor bike, trike, or car, cash adjustment if necessary.—Biggs, Woodstock Road, Witney.

WANTED.

WANTED, 2 to 5 h.p. motor cycle, tricar; cheap, approval.—King, Darragh, Ennis.

AFNIR Engine, 6 h.p., water-cooled, two-cylinder.—J.C., 7, Mornington Road, Southampton.

TOTOSACOCHE, magneto, 1908 model.—No. L3,270, The Motor Cycle Offices, 20, Tudor Street, E.C.

GOOD Motor Cycle, in first-class running order; cheap for cash.—Jenner, Tamworth, Rayleigh, Essex.

WANTED, Phelon and Moore, with or without sidecar.—Hillier, Woodley, Wymsey, Hampshire.

WANTED, good sidecar, will give gent's 10-guinea pedal cycle, new.—Farrar, Square Road, Halifax.

WANTED, good lightweight, about 1½ h.p., must be perfect; expert examination.—J. J. Curtis, Blandford.

WANTED, first-class make motor cycle, magneto ignition, handle-bar control.—Bolton Lane, Ipswich.

WANTED, tricar, Thermo-syphon radiators, and three-speed gear box.—27, Cambridge Road, Barking.

TOTOSACOCHE Set wanted, complete; sell or exchange 1½ h.p. engine and cash.—Aines, Bondgate, Helmsley, S.O.

WANTED, 2½ h.p. Clyde or Simms engine, second-hand, low tension magneto.—Box 835, The Motor Cycle Offices, Coventry.

MOTOR Bike and cash wanted in exchange for latest type 6½ h.p. Peugeot car, or £70.—B. Roberts, Park Street, Windsor.

WANTED, Car, about 10 h.p., any condition; cheap for cash; state price, full particulars.—14, Zermatt Street, Chapeltown, Leeds.

IMMS 2½ h.p. Cylinder only, 1906, cheap, low tension magneto, or sell motor cycle, cylinder broken, £9, Clyde.—Bleakley, organ.

h.p. Motor Cycle, good make, on approval; state lowest cash price and particulars; low built.—Williams, Andry, Tan-y-Bwlch, Merionethshire.

WANTED, 2½ h.p. motor cycle; exchange for B.S.A. racer cycle, tricycle, differential gear, complete, 3 h.p. engine, minus rider.—Clarke, Kessingland, Lowestoft.

WANTED, motor bicycle, 5 h.p., free engine, two speeds, handle starting, magneto; will exchange 3½ h.p. Rex motor cycle and cash; trial given and required.—Dacre Road, Plaistow, Essex.

STANLEY DERMATINE,

The Motor Belt of Merit,

HOLDS ALL RECORDS.

London to Edinburgh.

Land's End to John-o'-Groat's.

London to Land's End and back.

London to Plymouth and back.

71 GOLD MEDALS.

British Made. Beware of Imitations.

Read testimonials from End to End riders:

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"STANLEY DERMATINE MOTOR BELT CO.

"Dear Sir,—I write to inform you of the perfect satisfaction I obtained from your belt in the Land's End to John-o'-Groat's Trial. One belt only carried me from End to End, and to all appearance is in as perfect condition as new. Under the dreadful weather conditions experienced on this ride, it proves your belt, in my experience, a perfect production.

"Yours faithfully,

"J. E. TASSELL."

"Birmingham.

"Dear Sir,—The belt behaved splendidly. I only had to take it up once during the trial (End to End), and it is still in grand condition. I had no trouble with it in the wet.

"Yours faithfully,

"F. C. MUSTARD."

"Sheffield, July 24th, 1908.

"To THE STANLEY WEBB CO.

"Gentlemen,—I used the belt you supplied me with in the End to End, and found it most satisfactory. I had no trouble whatever with it, and only had to take it up twice during the three days' heavy rain. I was not troubled in the slightest with it slipping.

"Yours truly, F. DOVER."

"London, W.

"Dear Mr. Webb,—Thanks for sending me one of your new extra hook-fasteners to Warrington. I found it just the thing for Berridale. I simply slipped out the extra hook, and saved about ten minutes. Again thanking you,

"I am, yours sincerely,

"GORDON GIBSON."

Hundreds of Testimonials. British Made

**NOTE THE PRICES.**

½ in.	¾ in.	1 in.	1 1/4 in.
1/2	1/4	1/8	1/11 per ft.

POST FREE.

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32, London Road, BROMLEY, KENT.

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¶ Readers who purchase, or contemplate purchasing, a new machine, should advertise their present mount in these columns. ¶ Experience has shown that "The Motor Cycle" is, in the majority of cases, successful in finding a purchaser. ¶ This applies also to accessories and spares. *

WANTED.

WANTED, Four-cylinder F.N., as new.—Hall, 14, Molineux Street, Derby.

WANTED, Good Sidecar, for cash.—George, 46, Chapel Street, Islington, London, N.

ARIEL Attachment Wanted, exchange leather jacket, or cash.—11, Albion Road, Scarborough.

WANTED, 2½ h.p. Bradbury Cylinder, in good condition.—Medforth, 68, New Elvet, Durham.

SMALL Car, exchange two up-to-date tri-cars, cash adjustment.—1, Montague Avenue, Brockley.

WANTED, two 28 by 2 Covers; sell, new 3½ h.p. carburetter, 10s. 6d.—8, Crieff Road, Wandsworth.

31-5 h.p. Engine, twin preferred; full particulars; lowest cash.—A. Hill, Greatham, Stockton-on-Tees.

WANTED, Small Water-cooled Engine, carburetter, silencer; cheap.—2, Albert Hill, Bishop Auckland.

WANTED, Twin-cylinder, magneto; exchange 2½ h.p. Ariel-Minerva.—Longden, Princes Street, Mansfield.

WANTED, 3½ h.p. Triumph, magneto; cheap for spot cash.—Francis, 20, Claremont Road, Tunbridge Wells.

WANTED, De Dion Tricycle or Quad, also parts for 6 h.p. twin Jap engine.—R. Richmond, 111, Larkhall Lane, S.W.

DE DION Voiturette, 4½ h.p., for experimental purposes; state lowest cash, and if in running order.—2, Elm Grove, Esher.

SIDECAR, left-hand, 26in. wheel, good condition give new gramophone and records to value.—George, Gramophone Depot, Canterbury.

WANTED, Coachhouse, or share of one, for keeping one car, must be very low rent, near address.—Write, Leeds, 41, Berners Street, West.

WANTED, Twin Magneto Cycle, low frame, in exchange for good 3½ h.p. Excelsior and cash adjustment.—J. Hartnell, Burlington Garage, Dover.

WANTED, 2 h.p. Minerva Cylinder for inclined frame, or 1-2½ h.p. engine, complete; deposit; approval.—T. Sandell, The Mill, Amesbury.

CROWN Bevel Wheel (large), pair ball bearing hubs or wheels, 750 by 65, steering wheel, suitable small Renault.—"Plum," Swanley Junction, Kent.

WANTED, Four-cylinder F.N., magneto, modern machine; exchange 3½ h.p. Royal Enfield, good order, and cash.—Garle, Pewley Cottage, South Hill, Guildford.

WANTED, 9 h.p. Riley Tricar, in perfect condition, in exchange for 6 h.p. magneto two-speed spring fork N.S.U., just delivered, cash adjustment.—Particulars, W.R.K., Wyke House, Castle Bar Hill, Ealing.

WANTED, good motor cycle, tricar, or reliable small car; exchange new high-class furniture, any description, valued wholesale, direct from works.—Furniture manufacturers, 7-11, French Place, Shoreditch, London.

WANTED, to purchase, for prompt cash, second-hand motor cycles, as Triumphs, F.N.'s, Vindec Specials, Phelon and Moores, Anglian, Rocs, Rexes, Bats, Peugeotts, etc.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

SIDECARS wanted; give new cycles, three-speed Sturmey-Archer gears, level exchange; wanted also Drummond or other S.C. lathe, gramophone; reasonable cash price given for good motor cycles.—Booth, Wade Street, Halifax.

MISCELLANEOUS.

7 FT. 6in. ¾ in. Watawata Belt, good condition; 8s.—Cosgrove, 15, Broad Street, Leek.

RUSEL Valves, castiron heads, any engine; 3s. 6d.; postage 3d.—Broadhurst, 13, Stafford Street, Leicester.

LUCAS Acetyphote Gas Lamp, new, 8s.; brass De Dion tank and radiators, 10s., bargains.—7, Albany Street, Camberwell.

MISCELLANEOUS.

ENGINES Re-bushed throughout from £1. —Tufnell and Co.

CYLINDERS Re-bored from 5s. — Tufnell and Co.

PISTONS Supplied new from 7s. 6d.—Tufnell and Co.

RINGS from 9d.—Tufnell and Co.

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INLET Valves from 1s. 6d.—Tufnell and Co.

EXHAUST Valves from 2s. 6d.—Tufnell and Co.

PULLEYS for any motor.—Tufnell and Co.

TRIUMPH, Brown, Fafnir, 4s. 9d.—Tufnell and Co.

REX, Antoine, Kelecom, 5s. 9d.—Tufnell and Co.

DE DION, M.M.C., 6s. 9d.—Tufnell and Co.

ABOVE 4½in. Diameter, extra 9d.—Tufnell and Co.

AXLES, cranks, spindles, handle-bars, seat-pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed.—Tufnell and Co., 527, High Road, Leytonstone.

REVOLUTION Motor Cycle Stands, new; 4s. 9d. each.—12, Bull Ring, Birmingham.

WHIPCORDER Breeches, latest cut; 10s. 6d.—J. C. Savage, 119, Donegall Street, Belfast.

QUADRANT Loop Frame, with front forks and 20in. handle-bar; 32s. 6d. each.—Farrar.

LONG Motor Handle-bars, 21in., 4s. 9d.; heavier gauge, 5s. 6d.; well plated, three sizes.—Farrar.

DDOUBLE-TWIST Cow-voiced Horns, 4s. 9d.; large size, 6s.; new Lycett's B toolbag, 6s.—Farrar.

PREMIER Accumulators, Rex size, 12s.; send for price list; pounds saved.—Farrar, Square Road, Halifax.

PUNCTURES Vulcanised, any size, 6d., and guaranteed.—16, Summerland Mansions, Muswell Hill.

SHEDS for Motor Cycles, 45s.; portable.—Stevens, 82a, Leighton Road, Kentish Town, London.

MOTOR Cycles let on hire; repairs of every description.—120a, Cranbrook Road, Chiswick.

OSBORNE Four-speed Gear, 1908, fit twin Rex; accept £3.—Burn, 108, Warstone Lane, Birmingham.

EIGHT Pair Simplex Spring Fork Attachments; 9s. 6d. pair.—Mitchell, 22, Leghorn Road, Plumstead.

WHIPCORDER Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, tailor, Longton, Staffs.

SMART Whipcorder Motor Cycling Breeches; 8s. 6d., post free; patterns.—Meredith's, Wearwell, Northwich.

STANLEY-DERMATINE Two-piece Belts, 6s., 7s., 8s., 11in. 9s.—Whitaker, Green Street Green, Orpington.

LATEST Salter Typewriter, No. 7 Model, not used; a bargain, £14 14s.—Freeman, High Street, Holywell.

NEW Kent Tricar Gear, three speeds, complete, in hands of makers; price £6.—Cloake, Rose in Valley Hotel, Chatham.

MOTOR Handle-bars, long, best plating, 6s. 6d.; dropped seat pillars, 2s. 6d.—Brown's Stores, 12, Bull Ring, Birmingham.

BELT Rim Brakes, flexible cable, hand applied, easily fitted, stop anything; 8s. 6d., usual price 15s.—Slack's Garage, Stockport.

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Takes spare Tube and Belt.
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Both by Amateur Riders.

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SOLE WHOLESALE AGENT.

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KONGO Rubber Belting, grooved; the la word in rubber belts, 9d.

KONGO Rubber Belting, cut to a corre angle, beautiful grip, never slips, 9d.

KONGO Rubber Belting is made of the finest materials procurable; 9d. 1s. 3d.

KONGO Rubber Belting is of the highest class, and price is popular; 11in., 1s. 6d.

KONGO Rubber Belting has a strong canvas core, surrounded by specially vulcanised rubber.

KONGO Rubber Belting.—9in., 9d.; 11in., 1s. 3d.; 13in., 1s. 6d.

KONGO Rubber Belting can be had at Booth's Motor Exchange, Wade Street, Halifax, on approval.

BOOOTH.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

BOOOTH.—Double-twist horns, deep tone, 4s. 9d.; large leather toolbags, 5s. 6d.

BOOOTH.—500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget tremble coils, 17s. 6d.

BOOOTH takes your old coil in part payment; part with troublesome coils.

BOOOTH.—Fuller accumulators, 20 amp, 17s.; Rex type, 16s.; Minerva, 16s. Midget, 16s.

BOOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fuller's.

BOOOTH.—50 pairs XI'all spring forks; immediate delivery; N.A.B. seat-pillars, 3s. 6d.

BOOOTH.—Long motor cycle handle-bars, heavy gauge, best quality plating, 5s. 6d.

BOOOTH.—Silent silencers, for engines to 1 h.p., very efficient, no back pressure, 3s. 3d.

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BOOOTH.—Gas lamps, separate generator, powerful, light, well plated, 5s. 3d. Mica plugs, 1s. 1d.

BOOOTH.—Pocket voltmeters, very handy and reliable, 4s. 1d., usually 10s. 6d.

BOOOTH.—Motor frame, wheels, and tyres suitable for 2 h.p. inclined engine; 40s.

BOOOTH.—200 best quality magneto covers, 2s. 3d. each, usually 5s. 6d.; new L.T. magneto, 20s.

BOOOTH'S Motor Exchange, Coronet Works, Wade Street, Halifax. Telephone, 198Y.

EVERYTHING made in Tanks and Rad atators except a fortune.—Write for prices, A. Phillips, 112, Lynton Road, Belmontsey.

BOWDEN Valve Lifters, 6s. 9d., usual price 10s.; Vim stands (starts like free engine), 6s. 3d., usual price, 17s. 6d.—Slack's Garage, Stockport.

CLEARANCE Sale.—Millennium stands, 7s. 6d., usual price 20s.; Vim flexible cable rim brakes, 5s. 6d., usual price 12s. 6d.—Slack's Garage, Stockport.

DYNAMO, 5 volt 20 amp., by Canning, complete with switchboard, volt and ampere meters, practically new; £7.—Glendower Co., 3, Glendower Place, South Kensington.

NEW Prested Trembler Coil, 17s. 6d.; new Michelin 870 by 90 car tube, 17s. 6d. pair new 26 by 2 motor cycle wheels, 15s. new 28 by 2 Clincher tube, 5s.; all bargain.—Topp, Arcade, Goole.

GRIPWELL Motor Cycle Brakes, to fit any make machine, delivered from stock, price 15s. 6d.; any spare parts supplied.—Sole manufacturer, W. Cocks, The Durham Motor Works, opposite station, South Ealing, W.

5,000 Government Gauntlet Gloves, 2s. 6d. pair; 500 leather belts, 1s. 3d. and 1s. 6d. each; leather leggings, 2s. 6d. and 3s. 6d. pair; Bedford cord riding breeches, 4s. 6d. and 5s. 6d.; Government all-wool military socks, 10d. pair; police capes, 4s. 6d. and 5s. 6d. each.—Anscomb, Government Contractor, 14, London Road, London, S.E.

MISCELLANEOUS.

LAUDE'S.—Genuine Stanley - Dermatine 1in. belts, 8ft. 6in., guaranteed and nine, 12s. 6d. each.

LAUDE'S.—Osborne four-speed, very good order; £2 17s. 6d.

LAUDE'S.—Genuine De Dion Engine, 2½ h.p., perfect order; £3; approval.

LAUDE'S.—Why not try a latest Brown and Barlow carburetter, with handle-bar control; only 30s.

LAUDE'S.—Will allow you 10s. on your present one, no matter what make, in change; immediate delivery.

LAUDE'S.—Longuemare spray carburetter, fits 1907 Rex, 15s.; Brown and Barlow, 15s.; Bowden free engine, 7s. 6d.

LAUDE'S.—High tension wire, best quality, 9d. per yard; low tension, 6d.

LAUDE'S.—Rubber Goggles, latest pattern, sold elsewhere at 4s. 6d., our price 1s. 9d.

LAUDE'S.—Albion Free Engine Pulley, brand new; 30s.

LAUDE'S.—Stratex Belting, ½in., 8ft. 6in. lengths, 10s. 6d.; voltmeters, guaranteed, 3s. 9d.

LAUDE'S.—Middlemore padded Rideasy saddles, your old one and 12s. 6d. repairs, guaranteed, exactly as on Triumphs, splendid value.

LAUDE'S.—Amac latest pattern carburetters, with handle-bar control; our price 22s., complete.

LAUDE'S. the Fair Factors, Powell Street, Halifax. Tyre catalogue ready in a week. Register your name for one.

RICAR Frame, complete, less engine, wheel steering, large basket seat, etc.; cheap.—Hicks, 67a, High Street, Maldon, Essex.

JUST Your Belt instantly without using tools; Instanta fastener, only 1s. 6d.—Instanta Co., 251, Oxhill Road, Handsworth, Birmingham.

TWO Twin Coils for sale, plain and trembler, 7s. 6d. each; also sidecar, £2 5s.; in grand condition.—Foster, Warwick Square, Birtley.

AIR brand new 26 by 2½ Dunlops, cost £4 4s., bargain, £3; B. and B. carburetter, latest pattern, brand new, 18s. 6d.—8, Lodge Road, Tonbridge.

DYNAMO, to charge six accumulators, 25s.; powerful water motor, 10s.; Marconi trembler coil, 15s.; all new.—Matthews, wmbroker, Croydon.

ELECTRIC Inspection Lamps, complete with accumulator and charging battery; 7s. 9d., worth £1.—Pearce, 18, Repton Road, Brislington, Bristol.

LONGUEMARE Carburetter, large size, 11 spray, hardly used, 12s.; pair of accumulators, 16 amps., as new, 15s.; 24s.—Malcolm Nicholson, Highfield, Leek.

SALE or Exchange Boron four-cell battery, as new, cost £2 2s., also 20 a.h. accumulator, £2 lot; wanted, pedal gear for Rex motor bike.—Lee, Broughton, Stokesley, Works.

MOTOR Cycle Head Lamp, complete with separate generator, to fix on forks; cost £1, brand new, unpacked, accept P.O. 18s.; low light 200ft.—Curtis, 252, Essex Road, London, N.

GENUINE No. 6 Chater-Lea frame, with girder forks, mudguards, etc., brand new, £3 12s.; also 2½ h.p. Werner engine, with carburetter, £2.—C. Sullivan, 40, Hubert Road, Stockwell.

Treadle Lathe, back geared, V bed, gap, 14in. throw, complete, Cushman's, tools, only requires seeing; bargain, 10s.—Barber, 17, Galena Road, King Street, Hammersmith, W.

FT. 6in. ¾ Lycett's Belt, nearly new, 10s.; Ideal fan, new, 17s. 6d.; latest pattern Longuemare carburetter, 20s.; pair 26 by wheels, 12s. 6d.—Motorist, 60, Bowyer Road, Hitley, Birmingham.

ONG Handle-bars, 4s.; swan-neck saddle pillars, 2s. 6d.; latest frame, £3; tanks, 5s.; all to your own requirements; repairs and alterations of every description. Green Bros., 14, Avondale Road, Peckham, E. Works, McDermott Road.

The "CELERIO."

A PERFECT BELT HOOK.

Only two pieces.

Wide bearing on hook.

Spring steel.

Oil

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Design reg'd.
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Detaches instantly.

Price 1/- each

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State depth of belt.

South British Trading Co., Ltd.,
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AUTOGENOUS Welding.—Send that broken casting to the Alvaston Motors, Derby, to be welded by patent process; metal reunited.

AUTOGENOUS Welding.—Costly castings saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, and a thousand other things.

AUTOGENOUS Welding.—Wonderful results. Broken nanges, lugs, brackets, etc., all amenable to our process; send part to-day; quotations on sight.

AUTOGENOUS Welding.—Alvaston Motors, Derby. Telephone, 1, Alvaston.

JACKETS, overalls, latest style, double texture, waterproof, wind proof (best value in the trade); overalls 7s.; jackets, double-breasted, 14s.—Manufacturers, 35-37, Chestergate, Stockport.

STILL they Come.—One more triumph for the Advance adjustable pulley. Winner of Tourist Trophy race, H. Reed, with 5 h.p. Dot and Advance adjustable pulley.—Address below.

ENGINES, Engines, Engines.—3 h.p., 6 h.p., and 9 h.p., air or water-cooled. Write for particulars.—Address below.

HERE at Last.—An ideal adjustable belt fastener, for variable pulleys; price 2s. 6d.

PATENT Leather Magneto Covers, 3s. 6d.; Advance generator brackets, as recommended by Ixion, 2s. 6d. each.—Advance Motor Mfg. Co., Northampton.

LOHMANN'S Perfecta Gas Lamp and Bracket, 15s.; chain drive clutch, £1; 4 h.p. Buchet motor cycle and accessories, £9 10s.; offers or exchanges considered.—Albatross, 72, Park Road West, Birkenhead.

THREE-SPEED Free Engine Pulleys, positive, reliable action, most simple to fit, light, neat, durable, no end thrust, guaranteed; patent applied for.—New Nonpareil Motor Fittings, Ashtree Road, Stirchley, Birmingham.

LONGUEMARE Carburetter, Model H., perfect condition, 12s. 6d.; splendid trembler coil, 7s. 6d., cost £1 1s.; Larrad's motor timer, cost £3 3s., accept 25s., never been used; inner tube, 26 by 2, 7s. 6d.—73, Church Street, Camberwell, London.

WIDE Forecar Frame, mudguards, two-speed gear (wants repairs), petrol and oil tanks, 7in. clutch, all Chater-Lea make, Longuemare carburetter, 50ft. ½in. Renold chain, 20 amp. accumulator; £8 10s. the lot.—Davis, 582, Romford Road, Manor Park, E.

IMPROVED Variable Pulley, 10s.; these pulleys are fitted with a simple, neat, and efficient locking device; free engine, metal-to-metal disc clutch, handle-bar control, 50s.; these clutches can be slipped to any extent without injury.—Smith, Peace, and Co., Keighley.

4 h.p. M.M.C., Chater-Lea, 26 by 2½, Longuemare, trembler, foot brake, good running order, £13; Clement and Phoenix carburetters, 10 h.p., 20s.; lady-back motor tandem frame, 25s.; Vim brake, new, 5s. 6d.; 2½ h.p. engine, new, incomplete, 20s.—46, Vardens Road, Wandsworth.

CHATER No. 6 Frame, tank, wheels, all fittings; Minerva new frame, vertical; De Dion tricycle, white and grey, perfect order; Mabon Clutch and control; seen by appointment only; offers or exchange; wanted, good twin engine.—Kennedy, jun., 15, Aldford Street, Mayfair.

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100 Fuller Coils, from 15s.; 150 Fuller accumulators, 16 a.h., from 9s. each; 25 new battery and petrol tanks, from 23s.; Dunlop ribbed outer cover, 870 by 90, £3 10s.; odometer, hub pattern, new, 30s.; many other bargains; write, stating your wants; we can satisfy you.—The Fairy Motor Co., Fairy Works, Westcombe Hill, Blackheath, S.E.

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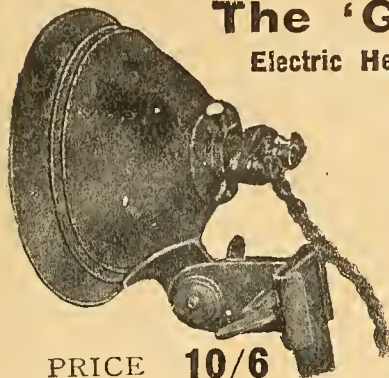
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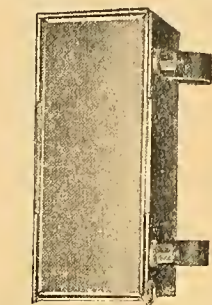
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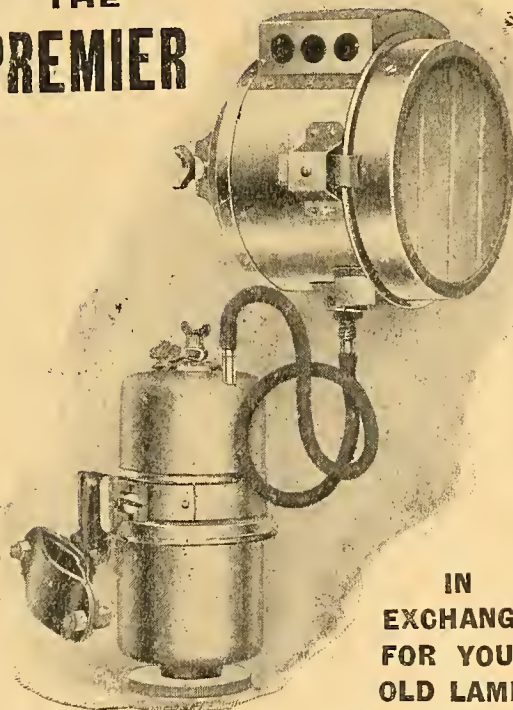
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MISCELLANEOUS.

MAGNETO, new, 1908, Peto-Radford, suit Quadrant carburettor, good second-hand, complete, H. Longuemare, coils, new Watsons trembler, also non-trembler; what cash offers?—Letters, 89, Gillott Road, Birmingham.

PULLEYS for any motor.—De Dion, M.M.C., 6s. 6d.; Antoine, N.S.U., Kelecom, Roc, F.N., 5s. 9d.; Peugeot, Brown, 5s. 6d.; Triumph, Fafnir, Sarolea, Minerva, 4s. 9d.; plated, guaranteed, carriage paid.—J. Perkins, High Road, Leyton, London.

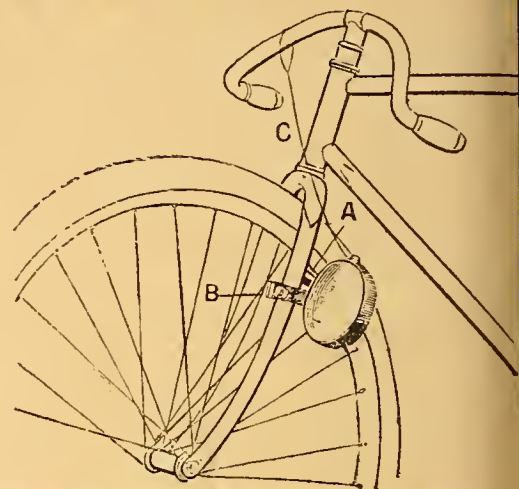
TWO New Brass Car Headlights, listed £4 each, to clear £2 10s. each; electric tail lamps, 7s. 6d. each; 26 by 2½ Palmer cord cover, brand new, £2 10s.; 2½ h.p. F.N. engine, perfect condition, £3 10s.; Basse-Michel square plain coil, 10s., cost 15s.; ditto, round plain, 16s., cost 24s.; wanted, good 3½ h.p. single or 4 to 6 h.p. twin air-cooled engine.—Sheen, 32, Trafalgar Road, East Greenwich.

TRADE Direct and Save a Profit.—The Albany waterproof jackets for motor cycling, in double texture fawn paramatta, wind and rainproof, stock lengths, 38in. and 40in., chest measures 36, 38, 40, and 42in., with or without storm cuffs, all have new collar and flap. We guarantee every jacket, price 15s.; extra heavy at 18s. 6d.; send lengths desired and chest measure. Overalls to match at 7s. 6d. and 8s. 6d. We pay carriage.—G. Raws and Sons, Indiarubber Manufacturers, The Albany, Oldhall Street, Liverpool.

CASH Bargains.—Clincher A Won motor cycle covers, B.E., 26 by 2½, 18s.; 28 by 2½, 21s.; Clincher tricar covers, 700 by 75, fit 650 by 65, 28s. 6d.; motor cycle covers, wired edge, 26 by 2, 2½, and 2½, 11s. 6d.; 28 by 2, 2½, 2½, 12s. 6d.; beaded edge 2s. extra; Clincher motor cycle tubes, 26 by 2½, 6s. 9d. each; Macintosh tubes, 26 by 2½ and 28 by 2, 6s. 9d. each; ratchet control levers, plated, single, 1s. 6d.; double, with clip, 5s. 6d.; belting, best quality leather, V, ¾in., ¾in., ¾in., at 8d., 10d., and 1s. per foot; belt punches, 1s. 3d.; belt fasteners, 8d.; large double-twist horns, 5s. 6d.; searchlight lamps, with separate generator, splendid value, 22s.; self-contained gas lamps, 9s.; volt or amp. meters, 4s. 6d.; goods sent on approval against P.O.—Bastone, 215 and 217, Pentonville Road, King's Cross London, N.

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Owing to placing a large order, I am enabled to supply you with exactly the same "Searchlight" Lamp and Generator (Plated) with bracket as sold by other firms at 30/- for 22/6.

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THE MOTOR CYCLE



Vol. 6. No. 289. CONTENTS.

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Agents for the Colonies: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

Subscription Rates: Home, 6s. 6d.; Foreign, 10s. 10d.; Canada, 8s. 8d. per annum.

ADDRESS—20, TUDOR STREET, LONDON, E.C.

My Ideal Carburetter.

By "IXION."

IN the spring of 1908 a firm of lamp makers set the motor cycle industry a valuable example by inviting riders to suggest points to be incorporated in the design of a new lamp. This precedent was valuable, since the technical knowledge required to design an article which shall be scientifically sound is very seldom combined in one and the same person with an all-round road experience; and thus a man who could not for his very life make out the drawings for an efficient lamp may, nevertheless, be able to suggest a dozen real improvements on a design evolved by a technical expert. I am therefore neither foolish nor conceited when I proclaim my discontent with almost every standard carburetter, and suggest to others who like myself are technically duffers, but use their wits on the road, that we should clamour until we obtain a carburetter that fits our notions.

I made a few remarks on this subject some while ago, but only one maker claimed to have produced a carburetter approaching my requirements, and that was the Amac, which I am now testing, and find to come exceedingly near what I demanded. There are thirteen points, at least, which I should like to find embodied in my ideal carburetter, over and above technical efficiency.

No Small Screws.

Some carburetters of to-day contain three or four tiny screws, acting as plugs or stops, which have shallow beds, and so easily fall out; often, too, these screws are of soft stuff, so that both slot and thread will not survive frequent removals. The Amac has only two miniature

screws, and both are large and strong enough to forbid these troubles.

Simple Caps to Both Chambers.

Some carburetters have their chamber caps secured by four tiny grub-screws, others have large nuts; in some cases the large caps are insufficiently milled to be removable by the fingers, and too soft to take gas pliers safely; on others the removal of the caps disturbs the petrol level, or interferes with the setting of the choke tube. The Amac has a $1\frac{1}{4}$ in. nut for the spray chamber, which can be tackled by a motor cycle spanner comfortably, and does not require a special key. while its removal affects no adjustments; the float chamber cap is milled on the edge $\frac{5}{16}$ in. deep, and its removal does not affect the petrol level. These are good points.

Instantly Detachable Jet.

On certain carburetters you must take off feed pipe, inlet pipe, and several screws to get at your jet, and when exposed, a special key is still required; on others the jet is a driving fit in a stumpy tube, instead of being screwed. Both these systems are radically bad. The Amac, like most of the latest carburetters, falls far short of my ideal in this respect. It requires the removal of the top of the mixing chamber, and finally calls for a special box spanner, while in certain positions the whole carburetter would have to come down. I prefer that the jet should be mounted in a holder, which can at once be unscrewed from the base of the mixing chamber, as on the B. and B. A further refinement is fitted to the Griffon, on which not only is the jet detachable in this

My Ideal Carburetter.—

fashion, but in addition a cleaning broach is incorporated in the carburetter, so that in the event of choking, one has only to lean down and press the broach upwards.

Reversible Floats.

Many carburetters have floats designed only to work when set the right way up. On some the hollow side must be on top, on others it must be underneath. Here the Amac suits me, as it is reversible, and when the duffer or the thoughtless rider has taken it swiftly out, he cannot be in doubt about which side up to replace it.

Damper for Float Needle.

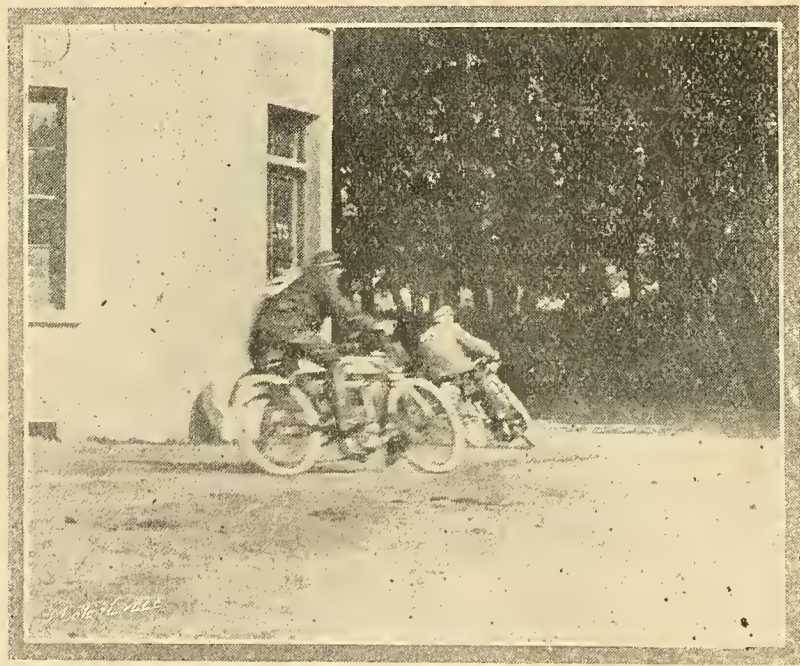
One has only to watch the top of the float chamber on motor cycles possessing a free engine to see that with most carburetters the spirit wells out freely at the top of the float chamber when the engine is running free. What is needed is a damper cap over the top of the float needle to prevent it from jumping up too far under the influence of vibration. The Amac possesses no such device, but like most new carburetters, the Amac has so far not developed this particular fault. Lack of a damper is often the cause of heavy consumption, and on many carburetters there is no real cure for it.

Substantial Needle Point.

The ordinary needle valve suffers from having too small a seat, so that wear has pronounced and immediate effects, and too often the needle is of cheap composition, *e.g.*, I have two carburetters with soft brass needles. The Amac has a very big seat and needle end, and both are of hard German silver—about as suitable a material as could be devised. I shall see later on how they wear, but from tests up to date no wear will occur in less than 2,000 miles.

Throttle Valves, Pistons, or Slides?

Makers are divided on the question whether the gas and air supplies are best controlled by pistons, sliding barrels, or mushroom valves. I am only certain that I loathe hinged discs and leaky sliding collars. Whatever the design, the workmanship of these parts must be beyond reproach. The Amac people use a brace of mushroom-headed valves. These cannot possibly stick up, as pistons may and do, but,

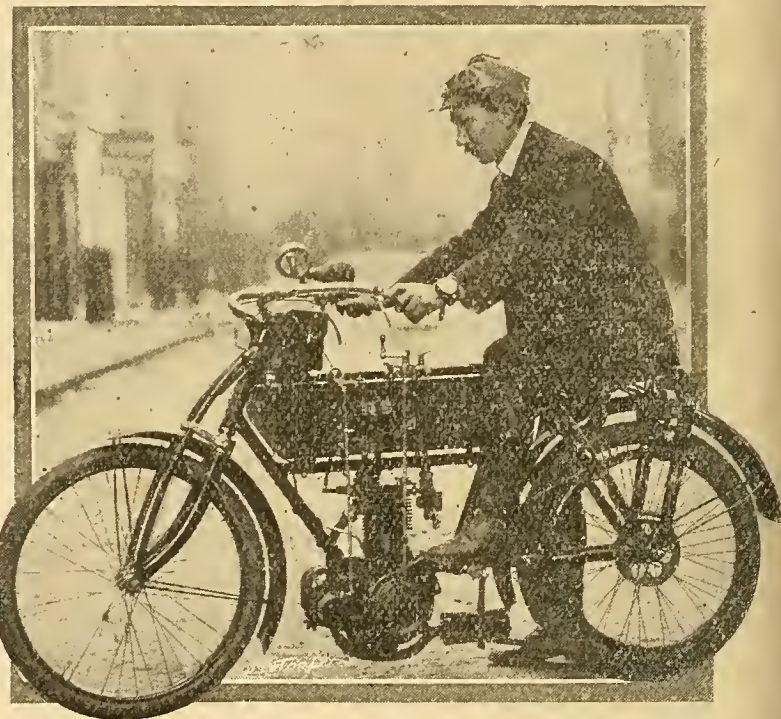


An incident of the T.T. Race. Two competitors, very close together, rounding the corner at Ballacraigne.

on the other hand, dirt on the seats may prevent them closing. I am simultaneously testing a double piston carburetter, and I find the valves distinctly easier to clean than pistons, all that is necessary being to take off one nut, and use a bit of rag, whereas with piston slides the whole device must be dismantled to ensure permanent cleanliness. I find that other makers either have their slides a loose fit originally or else mount them on a spring spindle, so that grit cannot enter and cause leakage. I think the Amac plan is therefore the best I have tried, though I am willing to believe a better may yet be evolved.

Easily Centred Unions.

With most carburetting devices it is difficult to replace the various unions, as the spring of the pipes



R. J. Bell (3½ h.p. N.S.U.), one of the competitors in the Tourist Trophy Race.

sets them out of accurate register when detached. The Amac people have here taken a tip from me, and have cured this trouble in the simplest way. They have merely taken the first thread off each union, and I find this precaution makes it a simple matter to enter the nuts on their threads immediately. Other manufacturers should do likewise, as the expense is nil and the blessing inestimable.

Sturdy Choke Tube.

It might seem ridiculous to mention this, but I had three broken choke tubes in six weeks last year.

Single Aperture Jet.

I have seen tests made to ascertain whether a single jet gave less power than one in which the same area of aperture was split into ten tiny orifices. The power developed was identical with both jets, though it might easily be otherwise if the impinging cone and suction passages were not suitably arranged. This being so, we must demand single aperture jets. They are easier to clean and much less likely to get stopped up than the rose pattern.

Simple Flooding.

We have all known what it was to grope with a gloved hand in cold weather for about $\frac{1}{16}$ in. of projecting float needle. Few carburetters are now so difficult to flood. The Longuemare spring button suffers from the fact

My Ideal Carburetter.—

That in time it wears the float and causes leakage in the top of it. The Amac is sound here, as you press down the tip of the needle instead of pulling it up.

Plenty of Extra Air.

I do not know one single carburetter which supplies enough extra air to feed a well tuned twin when on the road in hot weather, and few afford enough air to suit a fast running single. I always have to enlarge the air holes in summer, and then, of course, they want plugging up again in October. I think the extra air orifices should be much larger, and that both top and bottom air should be adjustable.

Handle-bar Control.

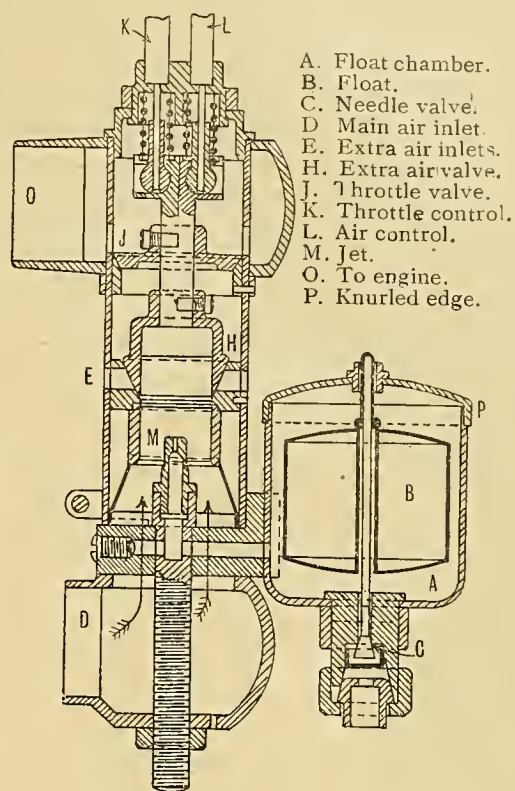
Of course, a delicate setting procured by twisting grips is better than projecting levers, if only the action can be made both quick and delicate.

Minor Refinements.

Why not a variable jet? Why not a petrol filter? Why not a shunt pipe feeding pure air to the engine when the throttle is shut and the machine is coasting? Why not very fine external gauzes to all air intakes, preventing about twenty per cent. of cylinder deposit? Why, on the other hand, have inaccessible interior gauzes, which collect grit, and form a convenient

screen for ice and snow to form upon amid the coldness of condensation?

I shall not actually call the Amac my ideal carburetter until I know whether or not there is another to be had which deletes all the other weaknesses of normal design, and, in addition, possesses a jet detachable with an ordinary adjustable spanner from the outside; but it obviously comes very close to being my ideal, and I shall be interested to hear if there is another device on the market with so many practical advantages.



- A. Float chamber.
- B. Float.
- C. Needle valve.
- D. Main air inlet.
- E. Extra air inlets.
- H. Extra air valve.
- J. Throttle valve.
- K. Throttle control.
- L. Air control.
- M. Jet.
- O. To engine.
- P. Knurled edge.

The A.C.U. Meeting at Leamington.

THE meeting of the Auto Cycle Union Council is to be held at the Regent Hotel, Leamington, on Saturday next, the 10th inst., at 3 p.m.

Agenda.

1.—To receive and pass the minutes of council meeting held on March 21st.

2.—To receive report of the committee.

3.—To consider the following proposition by Mr. E. M. P. Boileau :

That a new class of membership be instituted whereby individual members may be admitted at an annual subscription of 5s.

4.—To consider the following propositions by Mr. S. W. Carty (Newcastle and District M.C.C.) :

(a) That the secretary enter into communication with, or entertain applications from, clubs or individuals who would be willing to undertake the work of organising the centres in the respective districts, as set out below, and further that these centres be in operation on or before January 1st, 1909.

(b) That the centres be appointed into eleven districts, as follows : 1, Northumberland, Durham, Cumberland, and Westmoreland; 2, Yorkshire; 3, Lancashire and Cheshire; 4, Wales; 5, Warwickshire, Hereford, Shropshire, Staffordshire, Derbyshire, Nottingham, and Worcester; 6, Lincoln, Nottingham, Leicester, Norfolk, Huntingdon, Suffolk, Cambridge, and Rutlandshire; 7, Cornwall, Devon, Somerset, Dorset, Berks, Hants, and Wiltshire, and the Channel Islands; 8, Sussex, Kent, Surrey, Middlesex, and Essex; 9, Oxford, Buckingham, Hertford, and Bedford; 10, Scotland; 11, Ireland and Isle of Man.

(c) That the Auto Cycle Union enter upon a scheme for uniting the motor cyclists throughout the United Kingdom to obtain an amelioration and mitigation of the conditions under which motor cyclists now labour.

(d) That the third-class return railway and boat fares of all councillors attending council meetings be paid out of the Union funds.

(e) That the councillors and members of the committee representing the private members be elected by postal ballot of all the private members.

(7) That the members of the committee representing the affiliated clubs be elected by the councillors of affiliated clubs, voting either personally or by proxy at the general meeting of the Union.

5.—Any other business.

The council of the Club shall consist of :

(1.) Delegates of private members in the proportion of one delegate for every ten members or portion thereof.

(2.) Delegates of the members who are also members of the Royal Automobile Club in the proportion of one delegate for every ten members or portion thereof.

(3.) Delegates of affiliated clubs in the proportion of one delegate for every twenty-five members or portion thereof.

NOTE.—Under Rules 38 and 39 a councillor has the right to delegate his power to any other councillor, but written notice of such delegation must be received, in the proper form, by the secretary before 5 p.m. on Friday, October 9th.

18, Down Street, Piccadilly. F. STRAIGHT, secretary.

The council meeting will be followed by a dinner at 6.30 for 7 p.m., for which tickets can be obtained at 4s. 6d. each. A smoking concert has also been arranged, and it is to be hoped that secretaries of affiliated clubs will endeavour to make this fixture a success. On Sunday a party will be made up to make a tour of inspection of Leamington.

Of those machines which successfully completed the course in the T.T. Race, in the single-cylinder class Mr. Gordon Gibson's Triumph, and in the multi-cylinder class Mr. Wells's Vindec and Mr. R. O. Clark's F.N. were fitted with Michelin tyres.

Motor cyclists who are contemplating the addition of a non-skid tread to their existing tyres or a change of cover for the winter season should make a note of the Continental Motor Co.'s enterprise, and write for a copy of that firm's latest catalogue of tyres to 32, Rosebery Avenue, E.C.

OCCASIONAL COMMENTS.

By "IXION."

Specification for a 3½ h.p. Twin-cylinder

So many readers have written me respecting the 120 lbs. 3½ h.p. twin-cylinder motor bicycle which I mentioned in the issue of September 23rd that I cannot reply to them all individually. It was not, unfortunately, of any known make, nor do I know of any machine regularly advertised which approaches its specification; but any reader ardently desiring a duplicate of it can easily persuade any good cycle mechanic, experienced in the assembling of motor bicycles, to build him up such a mount. The main points of the specification were as follows: 3½ h.p. twin-cylinder Peugeot engine (a very smooth little power-producer, with a ratio of compression just about correct for real touring purposes), light Chater-Lea frame, Ruthardt magneto, Druid spring forks, 48in. wheelbase, 26in. wheels, 26in. x 2in. ribbed Palmer Cord tyres, Amac carburetter with handle-bar control, adjustable pulley and belt fastener.

This machine may well be worth developing as a separate type by a large maker. Its special advantages over a 3½ h.p. single are that it runs more smoothly, especially at low speeds; there is no thumping when starting or slowed down, owing to there being two cylinders instead of one, and owing to the torque being more even than it is on a single-cylinder engine; the weight can with care be kept down to 120 lbs., as a lighter frame and fittings are possible with this engine than with a big single-cylinder which jerks at low speeds; and, finally, it is remarkably easy to start; accurately adjusted it will fire at a walking pace, and even if parts are slightly out of tune, it is necessarily always easier to start than one big cylinder. I would add the reminder that machines only bearing the transfer of a local assembler often fail to fetch good prices second-hand, whatever their intrinsic excellences.

The Value of Racing.

The other day I was trying to get several keen riders to send their shillings to the T.T. prize fund, and they asked what was the good of racing? Anent which I was able to tell them a true yarn. A certain firm coveted the End-to-end motor bicycle record. They picked a good machine out of stock, chose a good man to ride it, and saw that he practically lived on the roads until June—the record breaker's best month—approached. During this time he found little that called for improvement in the machine, so he was duly timed away from Land's End, and as the weather happened to be perfect both North and South, his employers confidently awaited a wire informing them that five or six hours had been pared off this already attenuated record. Instead, they received per passenger train a machine that was more than half a wreck; and, as the result of that one test at sustained speed, they made radical alterations in their distribution gear, ignition, carburation, and many detail fittings. This, although

the aspirant failed to cover a distance equal to the length of the T.T. course. Nothing in the world brings weak points of design and construction into relief so quickly and so surely as sustained speed. Hence the T.T. race.

A Sweating Petrol Tank.

A Dorset rider desires to know why manufacturers sometimes construct petrol tanks with "butted" joints, in lieu of capped or lapped joints. He says a mysterious case of excessive petrol consumption came under his notice, and after all other causes had been eliminated, it was found that the tank was sweating minute beads of petrol along the entire length of a "butted" joint.



The third arrival in the Tourist Trophy Race (Multi-cylinder Class) was R. O. Clark, who is depicted above on his four-cylinder 5 h.p. F.N. His average speed was 37.7 miles per hour, and petrol consumption 90.8 miles per gallon.

The same rider says he has increased the gallon mileage of his 1¾ h.p. F.N. from 120 to 160; chiefly by fitting a needle controller, which limits the movement of the needle. Something of the sort is fitted to the latest Phoenix cars. Mr. Hooydonk once published a make-shift device for Longuemare carburettors in our columns, the sole defect of which was that there was no lock for the adjustable needle cap. He now drills the cap centrally, taps the hole, and uses a set screw and lock nut to control the needle. In this connection I may remind readers that whenever a leak in a float has been soldered up, the petrol level may require re-setting, as the weight of the float will possibly have been increased. Generally speaking, it is a mistake to attempt the soldering of a float one's self. Only those accustomed to delicate soldering operations, such as a first-class tinman or silversmith, should be entrusted with so fine a job.

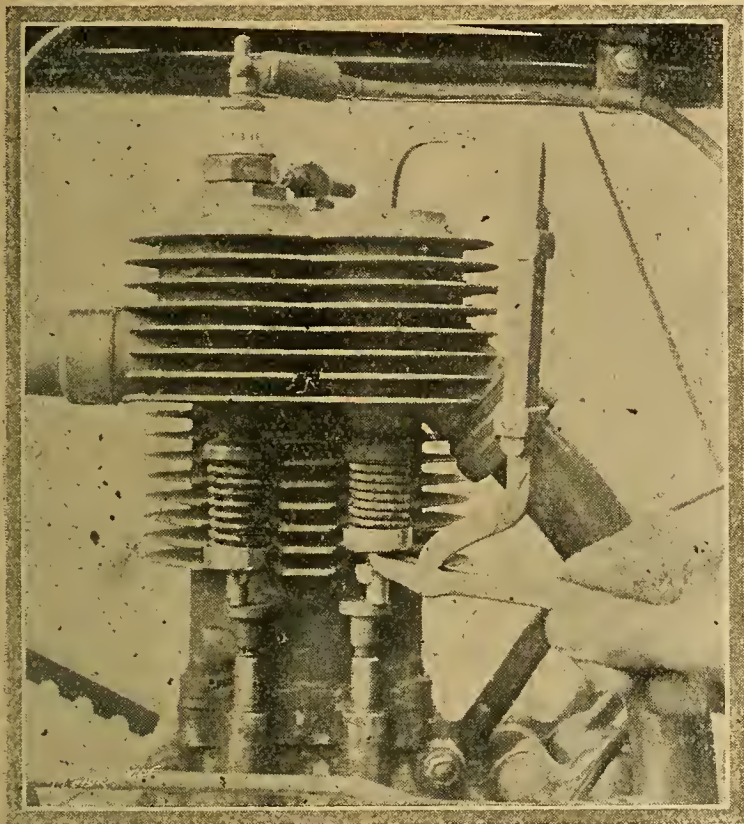
With regard to our recent article, "Is the Tricar Dead?" we have read an interesting letter from a medical gentleman who has been using a Phoenix Cob converted to a tricycle in his practice. The machine is employed almost every day as a runabout, and has given every satisfaction.



Waiting for the Silencer Test. To test the silencers of the Tourist Trophy machines, before the race, the competitors were instructed to drive past the judges at St. John's one by one at full speed with open throttle.

THE STEVENSON VALVE SPRING LIFTER.

RAPID and easy removal of an exhaust or inlet valve is a great convenience, and although there are many tools on the market specially made for the purpose, few of them fulfil the requirements of such an instrument, viz., interchangeability, rapidity of action, and smallness. The latest

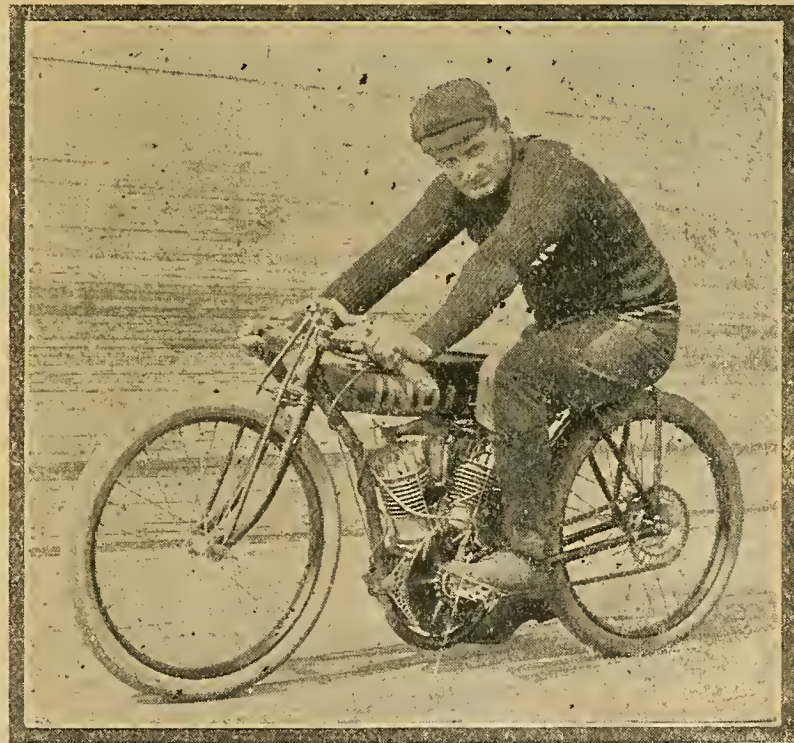


A new valve spring lifter, patented by Mr. Stevenson, of Coventry.

description of valve spring lifter submitted to us is the Stevenson, patented by a Coventry motor cyclist of that name. The illustration of the device is fairly explanatory, but we may enumerate its various advantages, and also point out that it has been purposely made wide to allow it to be used on practically every standard motor cycle engine on the market. It is also adjustable vertically, holes being drilled in one of the bars to take a set pin seen in the lower lug or strap surrounding the two bars. Its chief advantage lies in the fact that the cylinder or crank case is not relied upon for support, the fulcrum resting on the top of the valve itself, so holding the valve down. The short lever is prong-shaped at the end, and pivots on a hook at the base of the fulcrum. The size is $6\frac{1}{4}$ in. long when telescoped to shortest length, and it will lie flat in an ordinary tool roll.

HIGH SPEED ON A SIX-LAP TRACK.

OUR illustration shows Jake De Rosier, taken on the Stadium track at Clifton, N.J., where he has been making some remarkable exhibitions of riding. The Stadium is located in the State of New Jersey, about fifteen miles from New York. It is a six-lap board track, banked at the turns to about 50° . Although the curves are carefully planned, at anything like a mile a minute gait the riders experience a severe shock on the turns, and this makes sustained speed practically impossible for distances over five miles, the physical strain being too great. In a five miles event De Rosier's time for a quarter of a mile was $13\frac{1}{5}$ s., half a mile $27\frac{3}{5}$ s., one mile 56 s., three miles 3 m. 1 s., and five miles 4 m. $52\frac{1}{5}$ s. These times are certainly wonderful in view of the conditions under which they were accom-



Jake de Rosier, who covered five miles in 4 m. $52\frac{1}{5}$ s. on a six-lap track.

plished. The machine shown is an Indian racer of 7 h.p. It is driven almost entirely on the spark, which is controlled by the right handle grip, while the throttle is directly on top of the carburetter, and is thrown wide open after the machine is well started. The chain drive is direct from the engine to the rear wheel, but the rear sprocket is made with a species of automatic friction clutch, which overcomes all sudden shocks.

Questions & Replies.

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E. C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

Engine Firing After Switching Off.

?

Can you explain why the engine of my motor cycle continues to fire irregularly for a few explosions, even after I have switched off the ignition?

I have carefully gone over the wiring, and the low tension wire to switch has been renewed. I may say this has only occurred lately.—B.K.

If the connections are good, clean, and sound the trouble is probably not due to the switch, but owing to the fact that the engine is slightly over-heated when you stop, and consequently fires automatically. Probably the cylinder requires to be removed, and the combustion head and piston cleaned of carbon deposit. Some engines have a habit of firing after switching off, but if you close the throttle, further explosions cannot occur.

Using a Telephone Magneto.

?

I have tried to fix to my motor cycle a magneto out of a telephone box, which I have altered in several places. I have tried different ways with it, and in each case have got a very good spark. I am working on the old contact breaker which I use with the accumulator, and drive from the engine pulley by a chain to the cog-wheel on the front of it, and so to the magneto. Could you inform me the reason of not being able to get a slow speed by altering the spark lever? Where I have the spark lever for slow speed when using accumulator, in the same position with magneto the engine goes at a very fast speed. When I try to advance the lever the engine slows down and then stops. After the engine has been working a little time I find explosion chamber has a lot of lubricating oil in it, and after a time it comes out of the silencer. I have tried driving the magneto at the same speed as the contact breaker, but that seems too slow. What is wrong?—C. HAWKINS.

In the first place, the magneto is absolutely unsuitable for ignition purposes. The fact that an engine runs faster with a magneto is due to the absence of lag. Owing to its design the spark advance of a magneto has only a very short range, so that it practically prevents the spark advance being used. What surprises us most is that you got any results at all.

A Mysterious Knock in Engine.

?

My 3½ h.p. Brown engine has just been cleaned out and rebushed throughout. The compression is very good, and the machine goes well. After I have been running half a mile or so a mysterious knocking takes place. A knock occurs every few seconds, but not regularly, and is very bad if I attempt any rise at all. I have taken off the Longuemare carburetter originally fitted to the engine, and have replaced it by a B. and B., but I don't think that the carburation has anything to do with the trouble.—G.C.

Your trouble sounds like pre-ignition, due to excessive carbon deposits. Have you tried a change of sparking plugs, and are you sure that the magneto is set right? Carefully check the timing. When the contact breaker is retarded the points should begin to separate when the piston has reached the highest

point of the compression stroke. When new bushes have been fitted it is advisable to be liberal with the oil supply for a time.

Unequal Lubrication.

?

My 4½ h.p. twin Minerva engine appears to me to suffer from want of lubrication in front cylinder. My reasons for thinking such is the case are: (1.) Front plug is scarcely soiled, whereas back one is like plug was on single-cylinder machine. (2.) I find front cylinder does not fire until machine has run a little distance, even after changing about connections to coils, and also the plugs. Machine has run over 1,000 miles.—

IN DOUBT.

It is always difficult to lubricate a V-twin-cylinder engine equally in both cylinders. It is, therefore, best to effect a compromise, and to oil so that one cylinder gets a little too much and the other sufficient.



A scene of activity before the start of the T.T. Race. The competing machines are at their allotted stations, and the petrol for the first half of the journey is being doled out, the tanks afterwards being officially sealed.

How to Adjust a Coil.

? Kindly let me know what is likely to be wrong with my motor cycle? I have a Bassée-Michel trembler coil, and the engine misfires badly, especially at high speeds. On taking the plug out I get a good spark if I lay it on or near the cylinder, but on putting it in the air away from the cylinder I get a practically invisible one. I suppose the plug ought to give a bright spark away from the engine. The wiring, accumulator, and plug seem to be all right. I have tried two plugs with the same result. Do you think the coil is at fault?—D.W., Stockport.

Misfiring at high speeds is likely to be due to either the trembler of the coil not vibrating fast enough or to the carburetter not receiving sufficient air at high speeds. The coil should be adjusted as follows: Take out the screw and trembler blade, and using a fine jeweller's file make the contact points quite flat and clean. If the platina have worn away you can have the points replaced. Adjust the trembler with the engine running, and make the adjustment as light as possible. Unless you place the plug on the cylinder or some metallic part of the machine, you will get no spark, as you must have an earth return through the lower metal portion of the plug.

Restoring Power to an Engine.

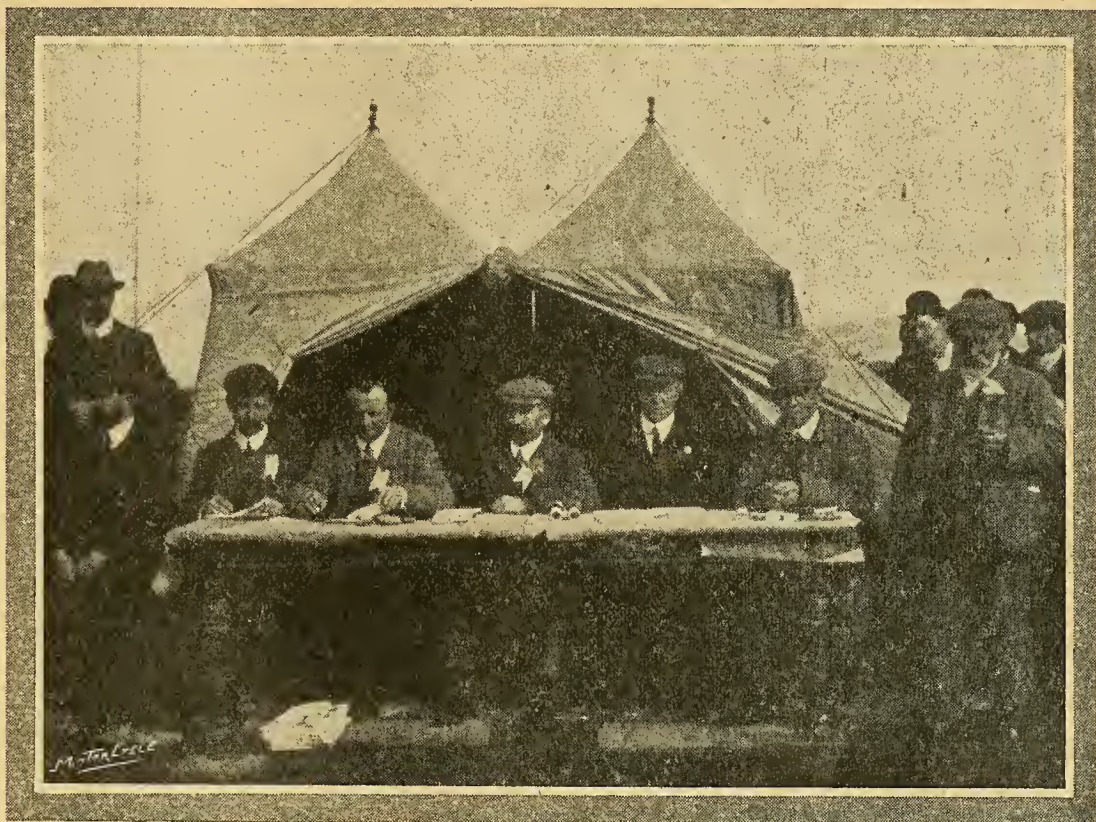
? My 3½ h.p. Triumph has in several months' running lost some of its power, and there seems to be an absence of "kick" in the engine, even when running on the stand. I have had the exhaust valve ground in, thinking the compression was getting weak, but there is little or no improvement. Although it climbs hills well it does not go at the pace it used to do. I am a novice and shall be glad to know if I can do anything to restore its utmost power, or whether I must get a repairer to tune it up for me?—S.H.

You can improve the running of your machine by first of all cleaning the carburetter and petrol pipe. Then take off the brass cover of the magneto, and examine the platinum points, and if they show traces of pitting, clean them with a jeweller's file, making sure you leave them both perfectly flat. If there is oil on the contact breaker and also behind it, undo the centre screw by the special spanner provided, and the contact breaker complete can then be prized off. Clean away all traces of oil and replace. Now notice how much the contact points separate. The correct distance is .5 mm. If they hardly separate at all it is a sign the fibre ring is worn and requires replacing. A temporary cure can be made by filing the ring to cause the contacts to break more suddenly. The high tension terminal should be taken out and the end of the carbon cleaned with sandpaper. Give the engine crankcase a good swilling out with paraffin, and the power should return. Remember that the cylinder should be removed about every 1,000 miles to scrape away the carbon deposits, which cause overheating.

Various Queries from a Novice.

? (1.) What speed should a 2½ h.p. motor bicycle in fair condition, geared 5 to 1, attain on the level, and what gradient should it be capable of mounting unassisted? Would it be capable of drawing trailer with eight stone passenger on fairly level roads? (2.) Is 100 a good mileage to get out of one gallon of petrol, and what amount of lubricating oil should be used in the engine for the same distance? (3.) How many miles should a fully charged accumulator run? (4.) Are there any legal restrictions with regard to the use of cut-outs?—C.W.

oil (obtainable from A. W. Gamage, Ltd.), putting the dressing on over night and not just before starting a run. Any kind of oil is better than allowing the clutch to get dry and fierce. Castor oil is a good substitute for Collan oil. (2.) Say every 1,000 miles or so, and more often in winter if it has been covered with mud from wet roads and allowed to get rusty. After removing the chain allow it to soak in paraffin in order to thoroughly clean it. Then heat the chain in an oven, and afterwards immerse it bodily in melted tallow. The noise is most probably due to both wear and want of lubrication.



Tourist Trophy Race officials at the starting and finishing line. Reading from left to right: Messrs. F. Stralght (secretary), C. P. Glazebrook, A. V. Ebbelwhite, J. S. Malliam, F.C.A., R. A. Tyler, A.C.A., and Robert Todd (chairman). Photograph kindly sent by Frederic Coleman.

(1.) A machine such as you describe should attain about thirty miles an hour on the level, and would draw a trailer on level roads. (2.) One hundred miles to the gallon is very good. We cannot tell you how much lubricating oil would be required. This depends upon the individuality of the engine, some engines requiring more than others. (3.) It depends upon the size of the accumulator, a 20 a.h. should last 600 miles. (4.) Unfortunately there are no legal restrictions as regards the use of a cut-out.

Fierce Clutch and Attention to Chains.

? (1.) The leather to metal cone clutch on my tricar is very fierce, and I am afraid of breaking the chain in starting.

Kindly tell me how to make the leather softer and the best dressing to use? (2.) How often should the driving chain be taken off for lubricating purposes, and what is the best oil to use? The hissing noise from the chain seems to have got worse lately. Is this due to wear or want of lubrication?—J.H.B.

(1.) First swill the clutch leather with paraffin and then dress it with Collan

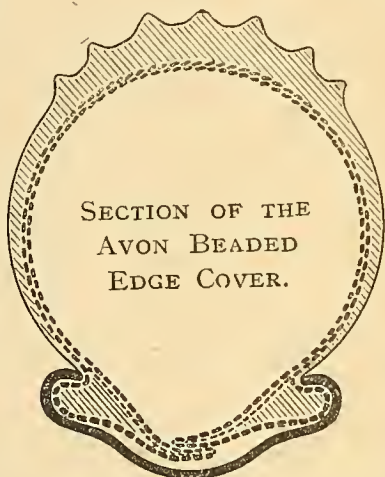
READERS' REPLIES.**Pre-ignition with 3½ h.p. Minerva.**

Referring to query by "N.B.," Westfield, in a recent issue, I should like to state that I have had exactly the same trouble as that referred to with my 1907 3½ h.p. Minerva, and you have given the correct solution to the trouble by advising him to slightly lower the compression ratio. When dismantling cylinder to remove carbon deposit I took out the packing between cylinder and crankcase fitted by the makers, thus rendering the compression ratio slightly higher. It is wonderful what a great difference a washer, say 1-16in. thick, makes. I got three pieces of stout cardboard, soaked them in boiled oil, and now I have fitted these I can do forty miles with three-quarter gas, and afterwards sail up a very steep hill without the slightest sign of pre-ignition, even when the carbon deposit is thick on both piston and cylinder head. I suggest a gear ratio of 5½ to 1, even for flat country. A 10 spray jet with 22 mm. air adapter I find the best combination.—W. R. DAVIS.

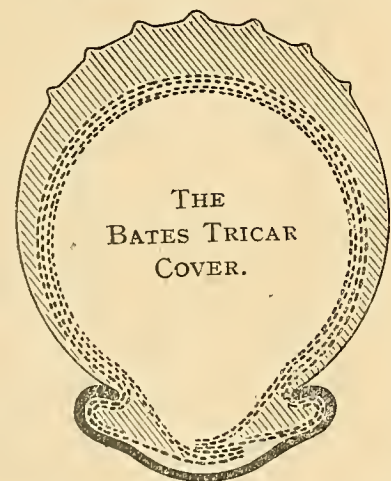
MOTOR CYCLE TYRES.

Tyres form a most important part of the equipment of any motor cycle, and the strength and quality should always be proportionate to the weight to be carried. The larger the tyre in proportion to the weight, the greater immunity from punctures, is a well-worn axiom. A common fault with makers is the under-tyring of motor cycles. This practice is not only the reverse of economical, —since large tyres protect the mechanism from vibration and road shocks, and of course wear longer than small tyres—but is a source of discomfort to the rider, and may, in the case of a sudden burst through fitting too thin a cover, be fraught with danger. The following illustrated article has been prepared with the idea of providing our readers with some definite data to go upon when purchasing a new machine, or making any change in the style or size of tyres with which their mounts are shod. Practically all the best makes of motor cycle tyres are dealt with in the article, but if there are any omitted it is because we are unacquainted with the names of the manufacturers, or they have failed to respond to our application for sample sections and particulars.

THE AVON INDIARUBBER CO., LTD., Melksham, Wilts., who have made such good use of their proximity to Stonehenge in their advertisements of late by depicting various motoring scenes at the time of the stone age, supply motor cycle tyres in all standard sizes, viz., 24in., 26in., and 28in. by 2in., 2¼in., and 2½in., either wired or beaded edge. The air tubes can be supplied either endless or butt-ended. Our illustration is that of a section of the heavy, extra strong beaded edge cover; with this is supplied a standard red quality inner tube. A pair of these tyres are at present undergoing a test at our hands on the front wheels of a light passenger three-wheeler. Among other goods of interest to motor cyclists, manufactured by the same firm, are motor cycle plasters for effecting temporary repairs to a damaged cover; also motor cycle patches.

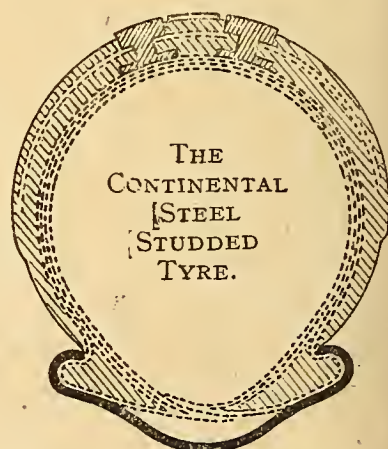
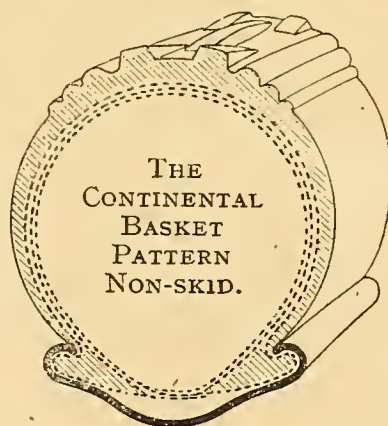


W. AND A. BATES, LTD., St. Mary's Mills, Leicester, make motor cycle covers in two weights, namely, ordinary and heavy, and also make a tricar tyre. They do a large trade in these tyres, and as they are made of a special hard rubber suitable for motor cycle work, they give every satisfaction. With regard to sizes for different weights of machines and riders, the firm say that they usually leave this to the user.



For single-cylinder machines of 3 h.p. THE CONTINENTAL TYRE AND RUBBER CO., LTD., 102-108, Clerkenwell Road, E.C., recommend the standard pattern motor cycle tyre, which is supplied in all sizes for 24in., 26in., and 28in. wheels; the 26in. and 28in. sizes can also be supplied with wired edge if required. For twin-cylinder machines of high horse-

power, such as 5-6 h.p., the Modèle de Course pattern is advised; this cover has an extra heavy tread fitted, and as canvas is used as a foundation for this tyre, it makes it very strong and durable. In addition to the two patterns above mentioned, a rubber non-skid is made; this tyre has only been put on the market lately, and those who have used it, including competitors in the End-to-end, have expressed their entire satisfaction with its behaviour. Out of twelve



riders who used these tyres ten obtained medals—eight bronze and two gold medals—whilst two were not fortunate enough to finish. The firm is also in a position to supply, if required, a steel-studded tyre in 24in. and 26in. sizes, and a steel-studded cover with leather tread. For tricars a 26in. by 3in. is recommended, and has been found very suitable, or if the tricar is very heavy a car tyre, Pattern III. is best.

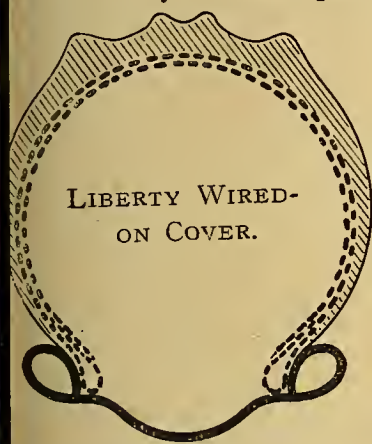
CAPON HEATON AND CO., LTD., Stirchley, near Birmingham, make two types of motor cycle covers. The one with beaded edge has three stout ridges on each side of the tread, which greatly prevent side-slip; the wired edge has a fluted tread. They are made in 26in. and 28in. by 2in., 2¼in., and 2½in. This firm also make a speciality of supplying motor cycle non-slipping shields with specially roughened backs to take solution, and also vulcanise plain treads to existing covers.



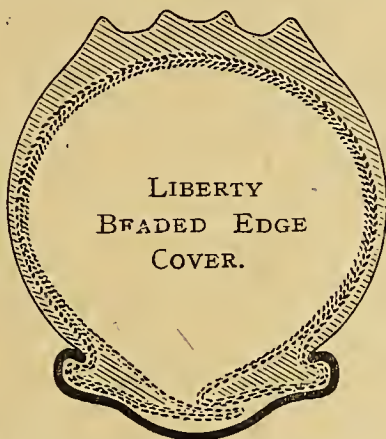
Motor Cycle Tyres.—

THE COVENTRY RUBBER Co.'s speciality is a non-skidding tread which retains its anti-slipping advantages until the centre portion is worn down right to the canvas. These tyres are produced in 26in. by 2in. and 2¼in. sizes, and deliveries of the new pattern cover, which we illustrate, can be made in a few days. It is interesting to note that, although the company have sold the ordinary pattern tyre since the early part of last February, they have only had two covers returned to them for repairs.

THE LIBERTY motor cycle tyre made by Components, Ltd., Bournbrook, Birmingham, is noted for strength and durability, whilst its section shows that it possesses the desirable quality of non-liability to skid. Only the purest Para rubber (Cauchou) is used in the manufacture of this tyre, and the quantity is not stinted. The necessity of best quality in rubber for motor tyre



LIBERTY WIRED-ON COVER.



LIBERTY BEADED EDGE COVER.

manufacture is one that has long been recognised by Components, Ltd., and anyone who has seen the difference between the solid meat-like slabs of rubber imported from the Amazon and the rag-like appearance of some of the inferior kinds of rubber coming from the West Coast of Africa and other districts will understand how it is that Liberty tyres have achieved such a reputation for durability. Liberty motor cycle tyres are made in both wired and beaded edge varieties and of 2in. and 2¼in. sections.

THE B.F. GOODRICH Co., 7, Snow Hill, E.C., are the pioneers of the rubber studded tyres and the holders of the patents for this type

non-slipping cover, which is made in one size only—26in. × 2¼in. They will, however, fit all rims, which is an advantage to those riders who have machines so fixed and desire to try the non-skidding properties of the rubber-studded tyres during the coming winter. We have personally used them for several hundred miles, and were unable to detect any slowing effect due to the



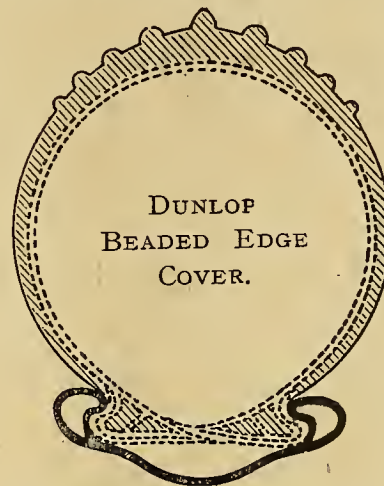
GOODRICH RUBBER STUDDED COVER.



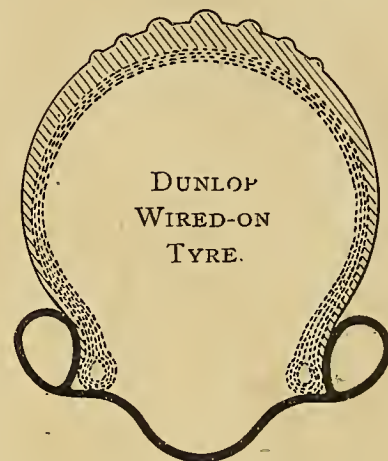
THREE SPIRES NON-SKID.

rubber studs, although it is claimed by some that rubber studded tyres slow a motor cycle both in speed and in hill-climbing. The inner flap of the cover is very useful and necessary, for it prevents the tube being nipped.

THE DUNLOP PNEUMATIC TYRE Co., LTD., 14, Regent Street, S.W., and Aston Cross, Birmingham. Readers in search of speedy tyres should not forget



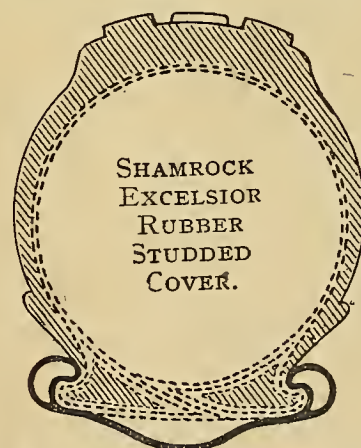
DUNLOP BEADED EDGE COVER.



DUNLOP WIRED-ON TYRE.

that Dunlop tyres were fitted to the winning machines in the T.T. Race, both single and twin-cylinder classes. In addition to being speedy, Dunlops are both well made and reliable. For the driving wheel of the heavier and more powerful motor bicycles, tricars, and quads a small motor car tyre is recommended. Dunlop tyres are made in both wired and beaded edge, the former is favoured for path-racing purposes and the latter for touring and ordinary road riding. The wired-on type, although more difficult to remove from the rim than the beaded-edge, is safer when a sudden burst occurs, as the endless wires which are fitted in the canvas pockets at the sides of the cover cannot leave the rim without the application of a tyre lever. These tyres are supplied in the following sizes: 26in. and 28in. × 2in., 26in. and 28in. × 2¼in., and 26in. and 28in. × 2½in. The Dunlop Pneumatic Tyre Co. quite wisely wish to impress upon motor cyclists the importance of fitting the largest possible tyres in proportion to the weight and power of their machines.

The 1908 Shamrock-Excelsior rubber studded tyres made by THE HANOVER RUBBER COMPANY have met with such universal approval that practically no alterations will be made for 1909. These tyres are made to fit almost all existing rims, especially the Clincher rim, in all 26in. sizes. The sizes are 24in. by 2¼in. and 2½in., 26in. by 2in., 2¼in., and 2½in., and 26in. by 1¾in. lightweight; 28in. are not made. This firm favours a wide rim as used by most Continental manufacturers, and asks us to point out that the narrowness of some rims prevents the adoption of an extra strong casing, which is absolutely necessary for high powered machines. It recommends all motor cyclists when ordering a new mount for 1909 with S.E. tyres to specify these rims. For tricars a studded light car tyre is recommended, which is made in sizes 2½in., 3in., and 3½in. by 26in.



SHAMROCK EXCELSIOR RUBBER STUDDED COVER.

Motor Cycle Tyres.—

We have pleasure in testifying to the excellence of these tyres, which have given us entire satisfaction during this year. A cheaper tyre made by the same firm is the Auto (corrugated). This is made in the same sizes as the S.E. studded tyre with the exception of the 20in. by 1½in. lightweight. In addition to the usual jointed inner tubes, the Hanover Rubber Co. supply butt-ended inner tubes. Shamrock-Excelsior tyres have been uniformly successful in 1908, being particularly well represented in all the important road competitions.

THE MICHELIN TYRE CO., LTD., 49, Sussex Place, W. Known all over the world as makers of high class motor tyres, the Michelin motor cycle tyre can be relied upon as a suitable article for motor cyclist's use. Concerning the interchangeability of motor cycle outer covers, it is interesting to

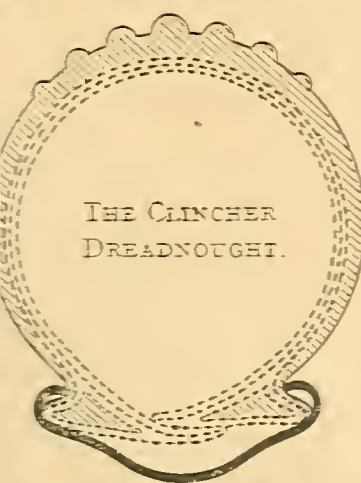


THE MICHELIN
SEMELLE
STEEL STUDDED
COVER.

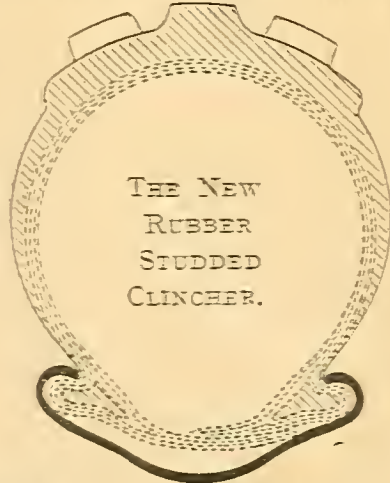
note that the Michelin is interchangeable to the following extent: The 15½in. wired-on cover will fit a 15½in. rim; the 15½in. beaded cover will do likewise; 23½in. and 2½in. wired on covers will fit 2in. rims, and 2½in. beaded covers will fit 2in. rims. The 23½in. and 2½in. beaded-edge covers require special rims. The motor cycle Michelin-

semelle non-skid tyre is a reduced facsimile of the firm's non-skid car tyre, used with such success in many competitions. The studs, which are of hardened steel, project through a substantial leather tread vulcanised on to the cover, while behind the studs there is a thick leather strip, which effectually prevents the studs from penetrating to the cover. These non-skids are made with wired-on and beaded edges, and in the case of the latter a flap is fitted to prevent the tube from being nipped.

THE NORTH BRITISH RUBBER CO., LTD., Castle Mills, Edinburgh, are the makers of the famous Clincher tyres. These tyres are made in several qualities—the A Won is the ordinary motor cycle tyre, the Dreadnought is a thicker cover for powerful machines and light passenger work, while the new introduction is a rubber studded tyre which is illustrated herewith. The A Won is made in 26in. and 28in. × 2in., 2½in.



THE CLINCHER
DREADNOUGHT.

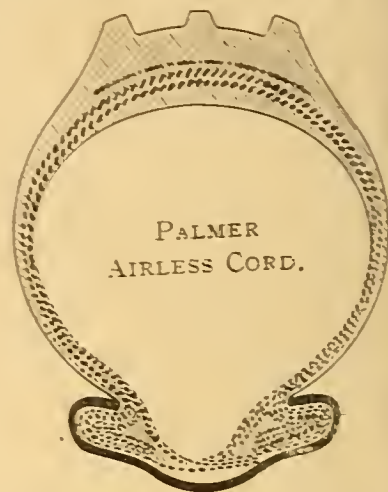


THE NEW
RUBBER
STUDDED
CLINCHER.

and 2½in. The Dreadnought in 24in. and 26in. × 2½in., and the rubber-studded in 26in. × 2½in. only. The last named tyre was used by Mr. Arthur W.

Bentley on his Triumph when he broke the End to-end record last June. For heavy passenger work, such as tricar back wheels, a light voiturette tyre is recommended. This is made in sizes 650 × 65 mm. and 700 × 75 mm. = 26in. × 2½in. and 28in. × 3in. Both these fit the same Clincher rim.

THE PALMER TYRE, LTD., 119-123, Shaftesbury Avenue, W.C., who are one of the most popular makers of motor cycle tyres, pay special attention to supplying the wants of their motor cycling customers. The chief qualities of Palmer tyres are their extremely heavy tread, fitted with long and substantial ribs which are most effective against side-slip, and their patent Airless Cord, which takes the place of fabric, and gives enormous strength to the tyre. Palmer's have lately introduced an internal flap which prevents the tyre from being nipped, while a special 2½in. tyre is now made to fit a



PALMER
AIRLESS CORD.

Palmer 2in. rim. Motor cycle tyres are made in the following sizes: 26in. and 28in. × 2in.; a special tyre, 26in. and 28in. × 2½in. for the 2in. rim; a standard 26in. and 28in. × 2½in. for 2½in. rims; and tyres of 24in., 26in., and 28in. × 2½in. It will thus be seen that all weights, powers, and types of motor cycles are adequately provided for. The fabric tyre is still made, but the Palmer Tyre, Ltd., strongly recommend their Cord motor cycle tyres for the more powerful machines, and particularly for passenger work with a sidecar. For heavyweight tricars, small car tyres are recommended.

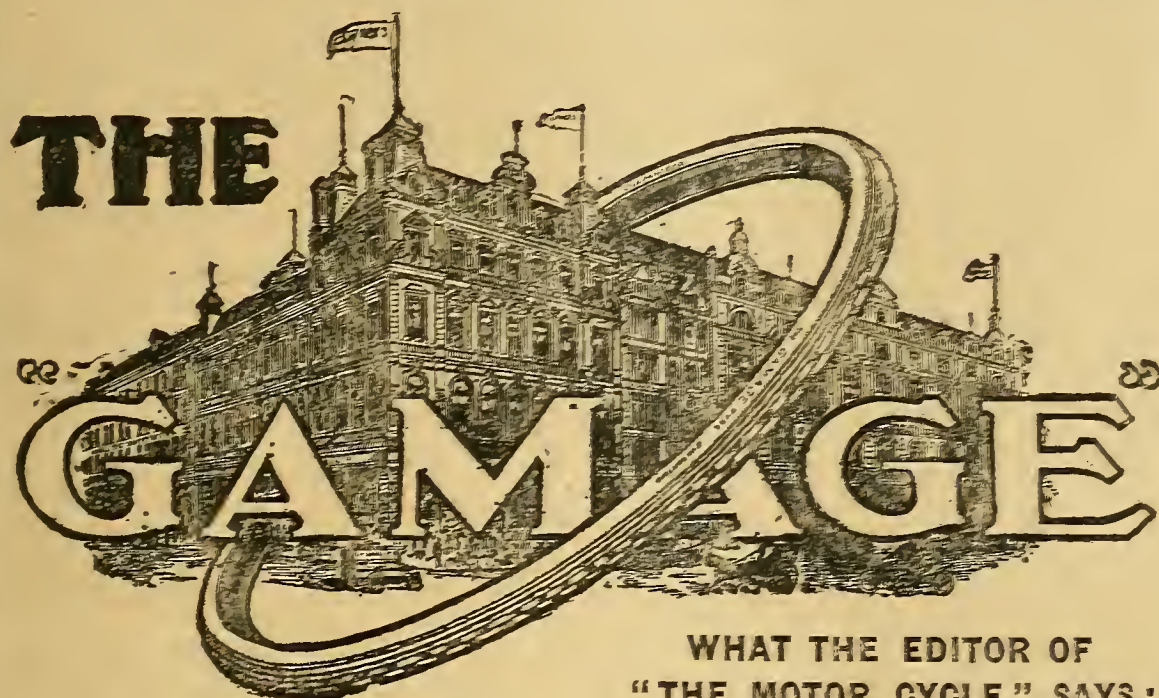
THE PETER UNION TYRE CO., 6, Upper St. Martin's Lane, W.C., have long made a speciality of motor cycle tyres, being one of the first Continental makers to establish a London office and warehouse. All P.U. tyres are of the beaded-edge type, and are supplied in 24in., 26in., and 28in. × 2in., 2½in., and 2½in. The covers are made with ordinary ribbed, basket-pattern non-skid, and steel studded non-skid treads. The latter are now made by inserting the steel studs into a leather band, which is attached to the cover by a special process. The reinforced cover is a very strong and reliable article, and there is a big demand for it, particularly for the driving wheels of high powered twin-cylinder motor bicycles and tricars. The Peter Union puncture-proof band is a band of specially hard rubber with finely bevelled edges. This band fits between the cover and air tube, and protects the latter against



THE PETER
UNION
REINFORCED
COVER.

outward influences in the shape of nails, pieces of glass, etc. It also prevents the heating of the air tube, by insulating it from the heat usually communicated to the tube by the cover, and caused by the frictional contact of the cover with the road during a fast ride.

TAKE THE EDITOR'S ADVICE !



**"FOR
ALL
THAT
IS
GOOD
IN
TYRES"**

WHAT THE EDITOR OF
"THE MOTOR CYCLE" SAYS :

"Gamages have built up an enormous postal business by means of rapid despatch of orders by return mail."—*The Motor Cycle*.

"A huge stock of motor cycle and tricar tyres, doubtless the largest of any retail store in the kingdom.

With such a turnover in tyres one can rely on the goods being fresh.

Prices too are in many cases at a discount of manufacturers' lists, and in other cases a very liberal allowance is made for old covers.

Readers would be well advised to get into touch with Gamages when needing anything in the way of tyres."—*The Motor Cycle*, Sept. 9th, 1908.

GENUINE RICH'S DETACHABLE TUBES.

Latest Pattern, with protecting sleeve. Perfect condition and quite fresh

NOTE OUR PRICES :

		Our Price.		Usual Price.			Our Price.		Usual Price.
26	x 2	11/6	.. ..	14/-	28	x 2	11/9	.. ..	14/6
	x 2½	11/9	.. ..	14/6		x 2½	12/9	.. ..	15/6
	x 2½	12/9	.. ..	15/6		x 2½	13/3	.. ..	16/6

FOR NON-SKIDS, COVERS, TUBES, OR BANDS,
TAKE THE EDITOR'S ADVICE.

**A. W. GAMAGE, Ltd.,
HOLBORN,
LONDON, E.C.**

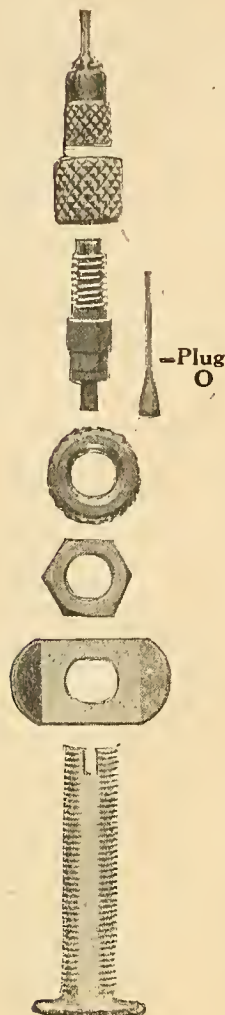
30 Years' Reputation.

64 Years' Reputation.

**BENETFINK & CO., LTD.,
CHEAPSIDE,
LONDON, E.C.**

In answering this advertisement it is desirable that you mention "The Motor Cycle."

The *MICHELIN* Cycle Valve



is composed of nine parts. The plug O in the photograph has been invented to supersede the ordinary valve, the rubber of which—as every motor cyclist knows—has a nasty habit of splitting when least expected.

Like The Famous

red rubber tubes, the Michelin valve is thoroughly reliable.

Specify them when ordering your new tyres.

Send for new illustrated price list.

Telephone—
Kensington
210 (4 lines).

49, 50, SUSSEX PLACE,
KENSINGTON,
LONDON, S.W.

Telegrams—
"Pneun iclin,"
London.

.. THE ... RUBBER WATAWATA

shares most of the qualities of the Leather WATAWATA, and is well in advance of all other composition belts.



LONDON:

W. B. BROOK, 318, KING STREET,
HAMMERSMITH, W.

.. THE ... LEATHER WATAWATA

is the greatest of power economisers, and possesses most wonderful tenacity and durability.

WHICH WATAWATA ?

Whether you be in favour of a composition belt or a leather one, you cannot do better than choose a Watawata. Durability, strength of grip, and wastage prevention, are features of both belts owing to the scientific lines on which they are constructed. Another point about the modern Watawata, is the hook fastener which permits of quick and easy shortening.

Write for List, Dept. B,

O. & W. ORMEROD, LD., ROCHDALE.

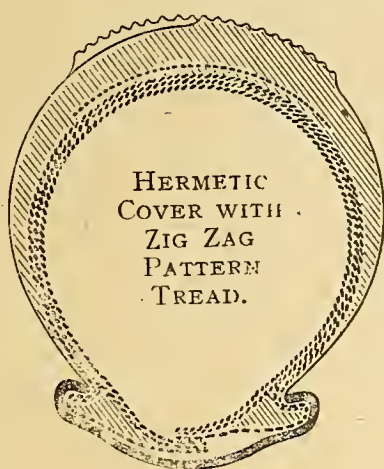
Watawata

Belts in Rubber or Leather are the most efficient made.

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

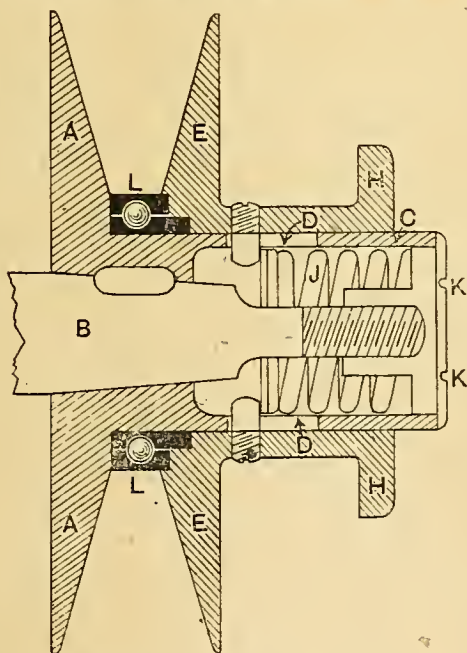
Motor Cycle Tyres.—

THE SELF-SEALING RUBBER CO., LTD., Hermetic Works, Ryland Street, Birmingham, as their title implies, supply a special air tube with self-sealing properties; also a detachable air tube with the Hermetic joint. In addition, they market a complete tyre called the Hermetic extra heavy motor cycle tyre. This is made in 24in. \times 2¼in., 26in. and 28in. \times 2in., 2¼in., and 2½in. The tread is a registered zig-zag non-slipping pattern, which forms the subject of our illustration; a fluted tread can also be supplied. For tricycles the company recommend the use of a car tyre for the driving wheel, and the zig-zag or fluted type for the steering wheels. For light motor cycles the same tyres as are above described are made with wired and beaded edges in the following sizes: 26in. and 28in. \times 1¾in., 2in., and 2¼in. These light tyres are frequently specified for the front wheels of motor bicycles, with extra heavy tyres for the driving wheels, and the combination gives most satisfactory results.

**An Automatically Variable Pulley.**

ONE day last week we had an opportunity of testing a new automatically variable pulley, which has been patented by Mr. Lloyd, of the Lloyd Motor and Engineering Co., 132, Monument Road, Birmingham.

The device consists of a fixed pulley flange A, which is keyed to the shaft B. Turned solid with the fixed flange is a sleeve C in which are slots D D. There are three of these slots situated at equal distances around the circumference of the sleeve C. In the sectional illustration two have been shown for the sake of simplicity. The loose flange E also carries an extension or sleeve H in which a fork will be placed to operate the sliding flange when a free engine is required. In the sleeve H are tapped holes in which studs are fixed. These studs take the pressure of the coil spring J, the spring being kept in constant compression by the cap nut K, which screws on a thread formed on the end of the spindle B. Mounted on the sleeve C of the fixed flange A is a ball bearing L, which receives the belt when the pulley flange is opened wide enough to allow it to drop to the top of the ball bearing. In this manner a free engine is obtained after the engine has been started by means



Section of the Lloyd pulley.

of the pedals. The machine we tried was not fitted with a free engine device, and the pulleys will be supplied with or without it as desired.

At first sight one naturally asks what becomes of the slack of the belt when the pulley flange opens and the gear is lowered? It is only natural to expect that under such circumstances the belt would commence to slip, but from actual riding experience we are in a position to prove that it does not slip to any appreciable extent, if at all. The reason why the belt does not slip when slack is because the coil spring is always exerting an even pressure on the loose flange.

Mr. Lloyd handed a machine to us with a top gear of about 3½ to 1, and so adjusted that the pulley flange would open sufficiently to give a gear of 5½ to 1. On starting the machine by running alongside and mounting by the pedal the first two or three explosions occurred with the high gear in action, but the moment the engine felt the weight in the saddle and had extra work to do, the pulley flange automatically opened and lowered the gear, closing again gradually as the machine gathered way.

Arrived at the foot of Mucklow Hill, on the road between Birmingham and Halesowen, the machine took the rise in excellent style. Now we know from previous experience that a 3½ h.p. motor bicycle has not taken the writer, who weighs about 13 stones, up this hill with a gear of 3½ to 1 without some pedal assistance or rushing the hill, which on this particular occasion was impracticable owing to traffic. At the commencement of the rise the pulley opened but slightly. On the steepest gradients it was distinctly noticeable that the gear was reduced to about 4¾ or 5 to 1, and on reaching a more level portion about midway the gear again rose to about 4 to 1, automatically lowering itself on the steepest gradient at the finish and again rising as it came over the brow of the incline.

The machine was an ordinary 3½ h.p. L.M.C. motor bicycle, which has been in use for more than twelve months, and has probably been ridden over 15,000 miles, as it is the firm's test machine and was the first one built by Mr. Lloyd before the Stanley Show of 1907. The belt was a 7/8in. Lyso, which, as our readers know, is made of canvas and rubber. Mr. Lloyd, however, assured us that leather belts, if sufficiently flexible, such as the Watawata or Stratex, would grip equally well.

Unless a free engine is desired in conjunction with it there is absolutely nothing for the rider to do in the way of operating the flange, which opens and closes according to the power exerted by the engine and the resistance met by the machine on varying inclines. In addition to trying the machine ourselves we saw it ridden up a hill near Halesowen, which is situated on a bye-lane, the gradient of which cannot be less than 1 in 5. Even with a rush it is generally impossible to climb such a hill with a gear of 3½ to 1, so that the pulley must act perfectly and without undue slipping or the rider could not have surmounted it. We also understand that a prominent Birmingham motor cyclist has made better time on Rose Hill with this pulley than he could do with a fixed gear of 4½ to 1.

We must say that the results of the short trial left us with a most favourable impression of the simplicity and automatic action of the pulley, and readers can confidently expect to hear more of it in subsequent issues.

CURRENT CHAT.

SPECIAL FEATURES.

MOTOR CYCLE TYRES.

BROOKLANDS MOTOR CYCLE HANDICAP.

A.C.U. PENALTY RUN.

TIME TO LIGHT LAMPS.—Oct. 7th, 6.26 p.m.; Oct. 10th, 6.19 p.m.; Oct. 14th, 6.10 p.m.

A Seasonable Topic.

Next week's issue will contain a special illustrated article on lamps for motor cycles.

A Correction.

We have been asked to point out that H. V. Colver did not run out of petrol in the T.T. Race as was stated last week. His consumption was at the rate of 85.1 miles per gallon, his sole trouble being due to a burst tyre.

A Tourist Trophy Note.

C. R. Collier, who finished second in the T.T. Race (single-cylinder class), employed a Brown and Barlow handle-bar-controlled carburetter on his $3\frac{1}{2}$ h.p. Matchless J.A.P.; in fact, both the Colliers used this new model carburetter, and were well pleased with the results obtained.

Yorkshire Police Traps.

A 220 yards trap is working on Roundhay Road, Leeds, between Harehills Lane and Kitson's Rest; another same distance at Moortown, Leeds, between Chained Bull Hotel and cross-roads; one on Leeds and York Road, *via* Tadcaster, at cross-roads. Another 220 yards trap on York and Leeds Road, three miles from Wetherby, and yet another on the same road commencing at seven miles stone from York, which also includes cross-roads.

Audible Warning.

The case against the Rickmansworth motor cyclist for not giving audible warning, although he was riding a twin-cylinder motor cycle *with the cut-out open*, was dismissed at Wareham, Dorset, on payment of costs. Another rider was less fortunate. He was fined for crossing the crown of Wareham Bridge without blowing the horn. The bridge at this point is alleged to be dangerous, although at the time of the incident there was no traffic upon it. It would appear that the police are not particular about noise, as long as they can secure a conviction for not giving audible warning. This is no inducement to motor cycle makers to make their engines less noisy, and is a distinctly farcical proceeding. We are positively certain that the public do not wish to hear constant horn blowing. There is also considerable doubt about the legality of such a conviction. The Act says "whenever necessary." If it is constantly necessary, according to some magistrates, a perpetually blowing horn or whistle appears to be the only remedy.

The Next A.C.U. Quarterly Trial.

The quarterly trial to be held on Saturday week, the 17th inst., will bring the competition season of 1903 to a close. The usual course from Uxbridge to Banbury and back will be followed, and the competitors will be timed on Dashwood and Amersham Hills. Entry forms can be obtained from the A.C.U. secretary at 18, Down Street, Piccadilly, W.

Another Motor Bicycle Stolen.

On the 26th ult. a "fair" man with a foreign accent (evidently a German or Russian), slight moustache, age about 25, height 5ft. 7in., well dressed, called in answer to an advertisement of Mr. W. Bloomfield, 186, South Lambeth Road, S.W., of a 1907 twin Rex de Luxe. He asked to try the machine, turned a corner, and has not been seen or heard of since. Any reader giving information to Mr. Bloomfield leading to the recovery of the machine will be well rewarded. The motor cycle is a standard '07 twin Rex with Roc clutch, aluminium finish.

Tourist Trophy Race.

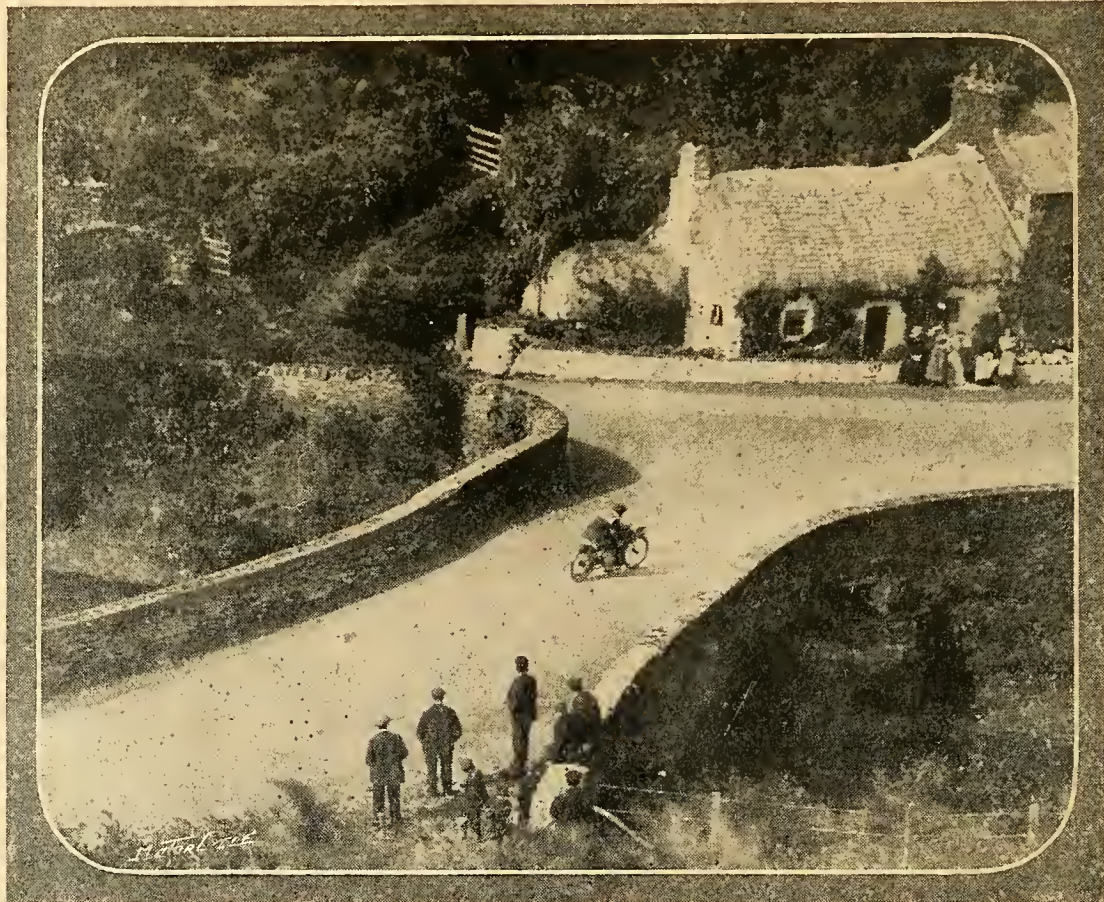
Mr. William Heaton has asked us to mention that the reason of his retirement in the fifth circuit of the above race between the Devil's Elbow and St. Germain after covering seventy-four miles was because of a broken connecting rod and piston. He did not ride his own machine in the race.

Ran Out of Petrol.

The gold medal presented by the Rex Motor Mfg. Co., Ltd., for the best performance of a private entrant on a Rex machine was won by A. J. Moorhouse, who ran out of petrol a few miles from the finish.

The Marathon Race on Saturday.

One of the earliest motor cyclists in the London district, and one of the first members of the Motor Cycling Club, Mr. W. G. Weekes, is officiating as chief judge in the great Marathon race (first prize £100) from Windsor to the Stadium—a distance of twenty-six miles—on Saturday, the 10th inst. On this occasion he will naturally act in the above capacity on a pedal cycle.



The T.T. Race. A Rex rider crossing Baillig Bridge at full speed.

Police Traps.

There is a measured quarter-mile on the main road between Bolton and Horwich

A Hill-climb Abandoned.

The open hill-climb of the Bradford M.C.C., which was on Saturday's programme of motor cycle events, was abandoned at the last moment owing to lack of entries. Next year, at a more favourable time, a similar event will be held. We much regret that the conditions and particulars of the classes were not received in time to be published in these columns, which probably accounts to some extent for the scarcity of entries.

Petrol Gauges.

With regard to the recent reference to petrol gauges in our leaderette in last week's issue on the Motor Cycle T.T. Race, Mr. A. C. Davidson, the well-known inventor and constructor of these devices, recently called at these offices and pointed out that had the users of his gauges in the race fitted them according to his advice they could be easily seen from the saddle. In the Davidson gauge catalogues there are two models which are easily visible, namely, types 1a and 2. In the first-named the gauges are set in the tank at an angle, and if the rider inclines his head to the slightest extent he can easily see the quantity of petrol he has left, while type 2 is especially suitable for such a race as the T.T., as it shows the level of the fuel down to the last drop, and if the glass is turned towards the rider he can see how his consumption is going on at a glance.

In writing the leaderette above referred to we failed to remember these two models of gauges, and now that their good points have been emphasised, motor cyclists will be glad to know that what we wrote of as being a benefit as yet unattained is one which is actually within the reach of all.

The Brooklands Winner.

Gordon Gibson, who won the Brooklands 5½ miles handicap race on Saturday, retained the mudguards on his T.T. Triumph, although, according to the regulations, they were not necessary, and, in fact, were removed by the majority of the competitors. The winner's engine has a higher compression than the standard 1908 engine. Biberdum used his influence in the race, for both first and second were on Michelin tyres.

Fined for Excessive Speed.

For driving a motor bicycle at an excessive speed at Shooters Hill Road, S. H. Turner, of Charlton, was fined £5 and 2s. costs at Greenwich last week. On being informed that the offence was committed at night, and that the speed was upwards of twenty-eight miles per hour, the magistrate said: "It is monstrous. What will happen if you people go on as you are doing is that there will be some reactionary legislation which will ruin the industry."

Motor Union Annual Dinner.

It is proposed to hold the annual dinner of the M.U. on Wednesday, November 18th, at the Hotel Great Central, London. This event is the occasion of the yearly re-union of motorists from all parts of the kingdom, and members are asked to reserve the date.

Germany's Foreign Trade in Motor Cycles.

Compared with the first eight months of 1907, German foreign trade in motor cycles for a like period during the current year shows a decline in both sales and purchases. She imported 251 machines valued at £7,530, as against 292 worth £8,760. Some sixty-five per cent. came from Belgium and Austro-Hungary. Half of the tonnage was admitted under a duty of £1 18s. 2d. a

diminished over fifty per cent., Denmark taking 212 cwts. compared with 450 cwts. in 1907.

Dry Batteries in the T.T. Race.

R. M. Brice was the only rider in the T.T. Race to use dry battery ignition on his machine. Last week we stated that he used accumulator ignition, but such was not the case, as he employed two Hellenes dry batteries in connection with a two-way switch, a plain coil, and make and break contact breaker. How well this ignition served him is proved by his average speed of 33½ miles per hour throughout the race.

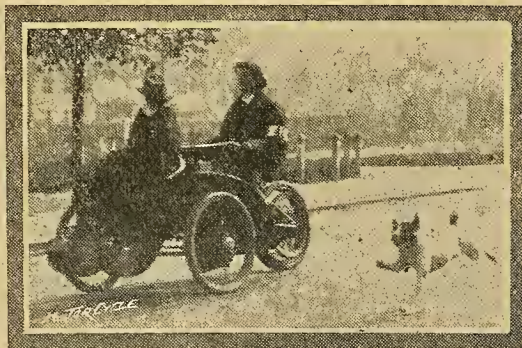
A Pioneer Motor Cyclist.

Motor cyclists who remember Ernest Arnott as a former captain and one of the founders of the M.C.C. will be interested to learn that he is now a prosperous business man in British Columbia in the lumber trade. Arnott did an immense amount of pioneering work in the early days, being, we believe, the second motor cyclist to set up an End-to-end record under almost insuperable difficulties, the machine he rode being a very different specimen from the almost perfect models of to-day, and, but for his happy disposition, it is doubtful if he would have got through, his machine jibbing at most of the tussles up the steep hills on the End-to-end route. Arnott was also a noted track rider, and competed in a number of Continental road races. After being engaged in the motor car trade for some years he decided to go abroad, and has settled down in the far North-west of Canada.

FUTURE EVENTS.

- Oct. 10—Auto Cycle Union Council Meeting at Leamington Spa.
- " 17—AUTO CYCLE UNION QUARTERLY TRIAL of Motor Cycles, Uxbridge to Banbury and back.
- " 21—Motor Union General Committee Meeting.
- Nov. 13 21—Olympia Automobile Exhibition.
- " 18—Motor Union General Committee Meeting.
- " 20-28—THIRTY-SECOND ANNUAL STANLEY SHOW, at the Agricultural Hall, Islington.
- " 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.
- Dec. 16—Motor Union General Committee Meeting.

cwt., one-seventh under a rate of £1 15s. 7d., and the rest under one of £2 10s. 10d. During August the number of imported machines was twenty-one. Exports show a much larger drop, viz., 1,279 against 1,950, or a difference of 671. As this means a difference of 508 double cwts., the fall in value, based on 750 marks per double cwt., was 381,000 marks, or £19,500. Great Britain heads the list of pur-



One of the competitors in the A.C.U. Penalty Run on a Rex Liffette on Saturday last being chased by the inevitable dog.

chasers with 668 cwts. From January to August, 1907, her purchases reached 674 cwts., so that Germany has practically lost no ground in the British market. The falling off of sales in Holland is striking—66 cwts. against 656 cwts. The Danish sales, too,

A Mysterious Incident.

In the table of results of the T.T. Race we stated that J. Marshall's machine had the seal wire broken. This was found to be the case a little time after the race was concluded, but we understand that Mr. Cove, to whom the machine was handed on the winner finishing, said that the seal was intact when he took the machine over.

Irish Hill-climb.

Cecil A. Rea (3½ h.p. Triumph) won the private owners' class in the M.C.U.I. (Ulster centre) hill-climb at Central Avenue, Bangor, Co. Down, on Saturday last, A. F. Craig (2¾ h.p. X) winning the event open to all members. There were eleven competitors in the first class and twelve in the second, and the competition was witnessed by a large crowd of interested spectators.

Reliability Run for the Academic Prize.

The Berlin branch of the Motor Cyclists' Association organised on September 27th a reliability run of 210 kilometres, including a speed trial over 16.8 kilometres (10½ miles) for the Academic Prize (presented by Dr. Ernst Andreas), together with a gold medal. Out of some thirty entrants on light cars, tricars, and motor bicycles, Von Grabla's twin Phänomen bicycle showed the best results, both as regards reliability according to a given formula and the speed test.

The Brooklands Motor Cycle Handicap.

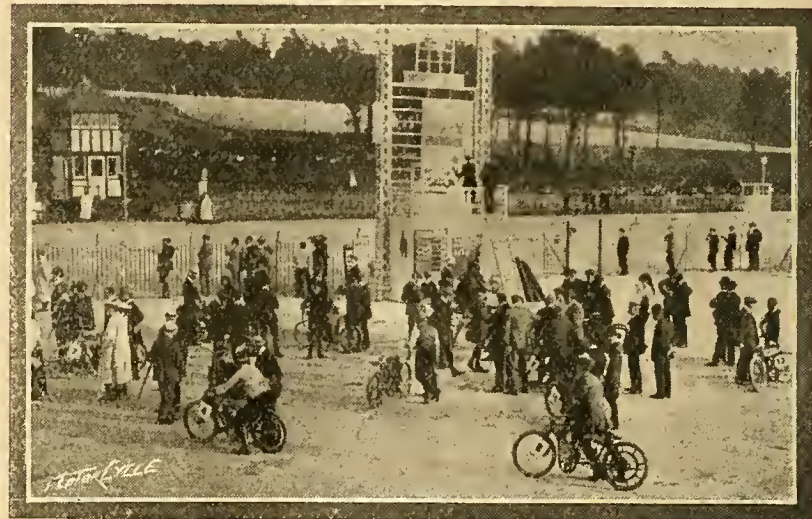
GREAT were the rejoicings at Brooklands on Saturday at the revival of the motor cycle races. The spectators really enjoyed them, and showed the greatest possible enthusiasm. Out of twenty-eight entries every one turned up at the start. Unfortunately, the start took place at the end of the finishing straight almost completely out of view; at least so far off was it from the paddock that the men were practically indistinguishable. Once under way it was merely a matter of conjecture as to who was who, and thanks to the design of the track, which only allows the competitors to pass the grand stand at the finish, the progress of the race could not be followed. Despite this disadvantage, there is no doubt that Brooklands, on



Gordon Gibson (3½ h.p. Triumph), winner of the Brooklands Motor Cycle Handicap Plate on Saturday last. Distance about 5½ miles. Handicap start 2 mins. 20 secs. Speed 53 miles per hour.

account of its absolute safety, is the place for motor cycle racing, and there is talk of a meeting being held in the very near future at which motor cycle races only will figure on the programme, and we sincerely hope that there is a strong foundation for this very pleasant rumour. At 4.10 p.m. on Saturday the Motor Cycle Handicap Plate of twenty-five sovereigns was run (the entrant of the winner received fifteen sovereigns, the entrant of the second seven sovereigns, and the entrant of the third three sovereigns); distance about five and a half miles. The winner of the event was Gordon Gibson (3½ h.p. Triumph, 84 × 86 mm.), handicap 2m. 20s., time 6m. 0½s., speed 53 miles an hour; second came R. O. Clark (5 h.p. four-cylinder F.N., 50 × 57 mm.), handicap 2m. 20s.; third, R. J. Bell (2¾ h.p. N.S.U., 75 × 75 mm.), handicap 2m. 15s., time 6m. 5½s.; fourth, W. Genn (5 h.p. twin Minerva, 70 × 75 mm.),

handicap 1m. 40s. The first four finished fairly close together. Then came in their order of finishing H. G. Partridge (6 h.p. twin N.S.U., 75 × 90 mm.), 1m. 30s. start; C. E. Bennett (5 h.p. Vindec twin, 75 × 76 mm.), 1m. 35s. start; W. H. Bashall (3½ h.p. Triumph, 84 × 86 mm.), 1m. 35s. start; H. V. Colver (3½ h.p. Matchless, 85 × 76 mm.), 1m. 40s. start. The following big machines started from scratch and had no chance at all of being placed: W. E. Cook (7 h.p. twin N.L.G., 80 × 98 mm.), M. Geiger (8 h.p. twin N.S.U., 80 × 100 mm.), W. B. R. Moorhouse (7 h.p. J.A.P. twin, 85 × 90 mm.), and C. R. Collier (7 h.p. twin Matchless, 85 × 85 mm.) Much discontent was expressed at the handicap, and as an example of this we may point out that Bell's 2¾ h.p. N.S.U. had 5s. less start than Gibson's 3½ h.p. Triumph. While it was distinctly pleasing to see three medium powered touring motor bicycles take the first three



The Brooklands Motor Cycle Handicap Plate. Scene in the paddock on Saturday last. The greatest interest was displayed in this event, 28 entries were received.

places, we should have liked to have seen the more powerful machines have at least a sporting chance. The betting was 3 to 1 against Clark and Shanks (2¾ h.p. Chater-Lea), 4 to 1 against Gibson, and 5 to 1 against the others. The complete list of starters was given in our last issue.

In our table of results of the T.T. Race, H. Reed, the winner of the twin class, was said to have 2½ ozs. of petrol left. This should have read 23½ ozs.



A group of competitors who took part in the Liverpool M.C. Petrol Consumption Trial on Saturday last, photographed outside the Abbey Hotel, Broad Green. The first motor cycle competitor was Mr. Thompson, 7-9 Waverley-Jap and side-car.

The Auto Cycle Union Penalty Run.

THIS event, always one of the most interesting features of the Auto Cycle Union's programme, was held on Saturday last over the same route as previous years, starting from the Castle Hotel, Woodford, Essex, to the 44th milestone on the Newmarket Road, *via* Epping, Harlow, Sawbridge-worth, and Newport, and back again to Woodford—a total distance of seventy-two miles, the minimum time allowed being 1h. 52m. 30s. for the half distance and 3h. 45m. for the full distance, the maximum being 4h. The conditions of the run were that any competitor making a stop of any kind was fined 1s. for each stoppage, the maximum fines incurred by any one competitor being limited to 5s., whilst any competitor failing to finish within maximum time was



The A.C.U. Penalty Run on Saturday last. Competitors preparing for the ride in the hotel yard at Woodford.

fined 1s., those failing to finish within 4½h., 2s. 6d. Pedalling, except for traffic, counted as a stop, and had to be paid for as such. Those competitors who accomplished a non-stop performance and adhered strictly to schedule times were entitled to a medal. In addition to these awards the committee of the Union offered a special prize of two guineas to the club whose representatives as a team accomplished the best non-stop performances and adhered most strictly to the minimum schedule times. For this prize the following clubs sent teams: Walthamstow, Essex, North West London, and West Essex.

Owing to the necessity for lighting up earlier at this time of the year, the start was fixed for two o'clock to enable competitors to get back before dark. Long before the time for starting the scene outside the Castle Hotel was an animated one, the competitors and their machines being watched with great interest by the large number of people who had assembled to see the start. Promptly at two o'clock the first batch of six riders were sent off, other batches following at intervals of one minute, forty-seven out of the fifty-three entrants being despatched.

The outward journey was without special interest, except for the fact that several of the competitors had to pay a shilling because they had punctured. At the turning point some of the riders showed a tendency to loiter about, but, as this was against the rules, and they were threatened with a fine of 1s., they promptly resumed their journey. The return journey was much

more irksome than the outward half, particularly between Epping and Woodford, the road between these points being crowded with outward bound cyclists. The first batch of riders were due back at 5.45 p.m., but long before this a crowd of people had assembled and were watching intently down the road for a sign of the first arrivals. Presently a group of motor cyclists was seen coming from the direction of Epping, and, although very dusty, it was soon evident that they were competitors, and a cheer was given them. Others followed at varying intervals. The following is a record of the performances:

WALTHAMSTOW M.C.—J. D. Lacey (2¾ h.p. Laurin and Klement), 3h. 56m. (one stop); *W. S. Lowe (3½ h.p. Rex), 3h. 49m. 31½s. (non-stop); H. C. Samuel (5 h.p. Vindec Special), 3h. 49m. 19s. (one stop); *O. C. Godfrey (3½ h.p. Rex), 3h. 48m. 31s. (one stop); *F. Applebee, jun. (5 h.p. Rex), 3h. 46m. 51½s. (non-stop); *W. H. Applebee (3½ h.p. Rex), 3h. 47m. 22½s. (one stop); *J. W. Percival (6 h.p. Royal tricar), 3h. 48m. 22½s. (non-stop); *R. J. Lises (5½ h.p. Humber tricar), 3h. 48m. 22½s. (non-stop); C. W. Lee (3½ h.p. Rex forecar), 3h. 47m. 22½s. (non-stop); L. Beckess (5 h.p. Kerry tricar), outside time; A. Harris (5½ h.p. Zedel tricar), 3h. 47m. 48s. (non-stop).

ESSEX M.C.—A. G. Peppercorn (2¾ h.p. A.G.P.), 3h. 47m. 55s. (one stop); B. Siffken (3½ h.p. Rex and sidecar), outside time; *A. G. Reynolds (5 h.p. Vindec Special), 3h. 46m. 47½s. (non-stop); E. C. Reynolds (3½ h.p. Quadrant), 3h. 44m. 56s. (non-stop); T. M. Tyson (3½ h.p. Rex), 3h. 48m. 22½s. (one stop); *F. W. Applebee (3½ h.p. Rex), 3h. 48m. 33½s. (one stop); *H. C. Surridge (3½ h.p. Rex), 3h. 46m. 40s. (one stop); *R. M. White (2½ h.p. Buchet), 3h. 47m. (one stop); W. H. Bishop (3½ h.p. Vindec Special), 3h. 49m. 43s. (one stop); *G. L. Fletcher (2 h.p. Moto-Rêve), 3h. 47m. 8½s. (non-stop); A. P. Howard (6 h.p. Singer tricar), 3h. 59m. 54s. (one stop).

WEST ESSEX A.C.—*V. Baldwin (3½ h.p. Brown), 3h. 51m. 11½s. (non-stop); *W. M. Gunnett (3 h.p. Triumph), 3h. 48m. 49½s. (non-stop); *W. E. Gunnett (3½ h.p. Triumph), 3h. 48m. 18½s. (non-stop); *R. C. Dendy (3½ h.p. Brown), 3h. 49m. 42s. (non-stop); *A. E. Dendy (3 h.p. Centaur), 3h. 49m. 32s. (non-stop); G. Holland (3½ h.p. Brown), 3h. 50m. 36s. (non-stop); F. A. Hardy (2 h.p. Moto-Rêve), 3h. 49m. 43s. (non-stop).

NORTH-WEST LONDON M.C.C.—*A. W. Hunt (2¾ h.p. Chater Lea), 3h. 50m. 40s. (non-stop); *H. V. Davidson, jun. (3½ h.p. Zenette), 3h. 50m. 39s. (non-stop); *C. H. Crole Rees (6 h.p. Advance), 3h. 48m. 11½s. (non-stop); *G. J. Davis (5 h.p. Vindec Special), 3h. 48m. 45s. (non-stop); *G. Rowden (3½ h.p. Bat), 3h. 44m. 10s. (two stops); *W. A. Jacobs (3½ h.p. Rex), 3h. 48m. 11½s. (non-stop); R. Scott (5 h.p. Vindec Special), 3h. 49m. 10s. (non-stop).

AUTO CYCLE UNION.—A. D. E. Craig (5 h.p. F.N.), 3h. 50m. 31½s. (non-stop); W. F. Merritt (3½ h.p. Triumph), 3h. 50m. 45s. (non-stop); H. O. Hagan (5 h.p. Vindec Special and sidecar), outside time; R. H. Ratcliffe (3½ h.p. Triumph), outside time.

MOTOR CYCLING CLUB.—C. H. Barfield (5 h.p. Vindec Special), 3h. 51m. 11½s. (non-stop); W. Smith (2 h.p. Moto-Rêve), 3h. 49m. 31½s. (non-stop); C. C. Cook (3½ h.p. Triumph), 3h. 49m. 33½s. (non-stop).

GREAT YARMOUTH AND DISTRICT M.C.C.—F. W. Barnes (3½ h.p. Zenette), 3h. 50m. 31½s. (non-stop); F. G. Galley (2¾ h.p. Anglian), 3h. 45m. 33½s. (non-stop).

BOCARDO M.C.C. (Oxford).—H. G. Hill (5 h.p. Vindec Special), 3h. 48m. 51s. (non-stop).

*Riders nominated to compete for the team prize.

The West Essex A.C. proved winners of the team prize, all six riders making a complete non-stop performance. The following were the officials: Judges, Messrs. B. Chatterton and H. G. Cove; timekeepers, Messrs. Burley, Straight, and Wakefield; marshals, Messrs. M. W. Randle, H. B. Renner, C. Glenny, and O. L. Summers. Mr. Glenny kindly conveyed the timekeeper to the turning point on his car.

CLUB NEWS.

Lincolnshire M.C.C.

The last meet of the year is at Skegness, at the Pier Hotel, on Saturday, at 3 p.m. Tea at 5. The team trial is next Wednesday, and the London run on the 24th.

Western District M.C. (London).

The above club will hold a petrol consumption test on the 11th inst. at Gerrard's Cross. Meet at the Milford Hotel 9.30 a.m. Entrance fee, 2s. 6d.

The hill-climb held last month has been declared void owing to some inaccuracies in the weighing of competitors' machines, and will be held at a future date to be announced shortly.

Coventry M.C.

The above club held a speed judging contest on Saturday last in the Warwickshire lanes. No competitor was aware of the course, and no watches or speed recorders were permitted. A six-cylinder Humber car, driven by Mr. S. Wright, and kindly lent by Humber, Ltd., laid an ingenious paper trail over a devious route which included Finham Green, Baginton, Stoneleigh Hill, Ashow, Cubbington, Weston, Princethorpe, Marton, and Long Itchington. Twenty-five miles were recorded on the distance indicator when the Humber car was brought to a standstill at Long Itchington. Thirteen motor cycles and cars took part, and were allotted various speeds ranging between fifteen and twenty miles per hour. The prize for best performance on a motor cycle was awarded to Mr. E. J. Hardy (Hardy tricar), 18 m.p.h., who was only 40s. too fast. Other motor cyclists were T. W. Drayton, $3\frac{1}{2}$ h.p. Triumph, error 18m. fast; H. M. Carter, $3\frac{1}{2}$ h.p. W. and P., 12m. 55s. fast; A. Startin, 5 h.p. Riley tricar, 5m. 8s. slow; E. W. Harris, 3 h.p. Triumph, 5m. 35s. slow; and C. T. Lloyd, 5 h.p. Rexette tricar, 7m. 35s. fast.

Liverpool M.C.

On Saturday last, October 3rd, the above club held its annual petrol consumption trial, starting at Broad Green (outside Liverpool). The weather for once being very favourable a very fair number of entries were received. All competitors were weighed on the spot, tanks and carburettors emptied, and petrol given out equivalent to one gallon for every 300 lbs. total weight. The course was ten miles long. All tanks were officially sealed. Competitors, if they had completed the course and had any petrol left, continued until the petrol gave out, when they remained at the same spot till picked up by the official car, when the distance travelled was checked and the tank seals examined. Speed was not to exceed twenty miles per hour, and no pushing or pedalling was allowed. Two prizes were given first value £1 and all entrance fees; second value £1. Results:

No.	Rider and machine.	Miles.	Miles per gallon.
1.	Mr. Philpott (6 h.p. Wolseley) ...	27	= 44 $\frac{1}{2}$
2.	Mr. Thompson (7-9 h.p. Waverley-J.A.P. and sidecar) ...	24 $\frac{1}{2}$	= 109 $\frac{1}{2}$
3.	Mr. Lee (6 h.p. Waverley-J.A.P. and sidecar) ...	23 $\frac{1}{2}$	= 112 $\frac{1}{4}$
4.	Mr. Lake (10-12 h.p. Humber car) ...	23	= 24 $\frac{1}{2}$
5.	Mr. Jones ($3\frac{1}{2}$ h.p. Rex and sidecar) ...	22 $\frac{3}{4}$	= 112

Nine motor bicycles, one tricycle, nine motor bicycles and sidecars, and three cars took part in the contest.

Manchester M.C.

To mark the closing run and the last competition of the year the above club held its second petrol consumption competition over a circular course of about twenty-five miles on Saturday last. It was open to both motor cycle and car members, and there were two prizes offered in each class eliciting an entry of twenty-six. Petrol was served out by the club (Shell spirit), according to weight and horsepower, none of the motor cycles receiving a quantity much exceeding a pint, yet several competitors almost completed the entire circuit of twenty-five miles on that amount. Some of the cars did marvellous performances by doing about a circuit and a half. The results on handicap of the motor cycle class were as follows: 1, J. L. Rose, $4\frac{1}{2}$ h.p. four-cylinder F.N., equal to 132 miles per gallon; 2, J. E. Tytler, $3\frac{1}{2}$ h.p. Triumph, 192 miles per gallon (a club record); 3, Otto Gross, $4\frac{1}{2}$ h.p. Eagle Rurabout, 80 miles per gallon; 4, A. J. Moorhouse (hon. sec.), 5 h.p. twin Rex, 131 miles per gallon. The others were out of it owing to various faults and minor

mishaps. It was quite dark by the time the official car had checked the results, which were announced at the Nags Head, Bucklow Hill, ten miles from Manchester. Special auxiliary tanks capable of being emptied to the last drop were supplied by the club.

Birmingham M.C.C.

A "flexibility" hill-climbing competition was held on Saturday on Weatheroak Hill, near Alvechurch. There were thirteen entries, and everything passed off successfully, a goodly concourse of the members being present as spectators. The competition consisted of a fast and a slow climb up the hill, which is about a quarter of a mile long and has an average gradient of about 1 in 6. A prize was awarded for fastest time, another for slowest time, and a third prize for the competitor having the greatest difference between his fast and slow times. All three prizes were carried off by H. Rem Fowler on his T.T. twin Norton. Results as follows:

Competitor and Machine.	Time in seconds.	
	Fast.	Slow.
1. Rem Fowler (5 h.p. Norton) ...	27s.	63s.
2. R. Pritchard (6 h.p. N.S.U.) ...	27 $\frac{2}{5}$ s.	62 $\frac{3}{5}$ s.
3. R. W. Duke ($3\frac{1}{2}$ h.p. Triumph) ...	32 $\frac{2}{5}$ s.	53 $\frac{3}{5}$ s.
4. L. J. Walker ($3\frac{1}{2}$ h.p. Triumph) ...	37 $\frac{4}{5}$ s.	55 $\frac{3}{5}$ s.
5. E. C. F. Evans (6 h.p. Rex) ...	35s.	50 $\frac{1}{5}$ s.
6. H. C. Rapier (5 h.p. N.S.U.) ...	37 $\frac{1}{5}$ s.	52 $\frac{1}{5}$ s.
7. Seymour Smith (5 h.p. Norton) ...	31 $\frac{2}{5}$ s.	43 $\frac{1}{5}$ s.
8. J. Troman ($3\frac{1}{2}$ h.p. Triumph) ...	33 $\frac{2}{5}$ s.	44 $\frac{2}{5}$ s.
9. F. G. Sandison ($3\frac{1}{2}$ h.p. Triumph) ...	32 $\frac{2}{5}$ s.	43 $\frac{3}{5}$ s.
H. J. Heaven ($3\frac{1}{2}$ h.p. Quadrant) ...	39 $\frac{2}{5}$ s.	Failed
J. C. Norton ($3\frac{1}{2}$ h.p. Norton) ...	36 $\frac{1}{5}$ s.	Failed
H. Oswald ($3\frac{1}{2}$ h.p. Quadrant) ...	Failed.	
R. Samson ($3\frac{1}{2}$ h.p. L.M.C.) ...	42 $\frac{2}{5}$ s.	Failed

The result of the petrol consumption trials held on September 5th has been withheld in order to check the figures obtained. As these appeared so remarkable in one or two



Start of some of the competitors in the Brooklands Motor Cycle Handicap Plate, as seen from the banking, looking up the finishing straight.

instances the leading figures were rechecked to ensure accuracy. The results were almost identical with those previously obtained with one exception, and are given herewith. The course was a circular one of twenty-six miles, and was covered twice. A speed of twenty miles per hour was fixed, to which all competitors conformed:

Name and machine.	Petrol consumption. Pints.	Miles per gallon.	Order on formula.
R. Samson ($3\frac{1}{2}$ h.p. L.M.C.) ...	2.5	160	1
F. G. Sandison ($3\frac{1}{2}$ h.p. Triumph) ...	3.56	112	5
R. H. Edwards ($3\frac{1}{2}$ h.p. Triumph) ...	3.87	103	7
R. W. Duke ($3\frac{1}{2}$ h.p. Triumph) ...	3.18	126	3
H. Oswald ($3\frac{1}{2}$ h.p. Quadrant) ...	3.56	112	6
Rem Fowler (5 h.p. Norton) ...	4.31	92.6	8
H. Heaven ($3\frac{1}{2}$ h.p. Quadrant) ...	6.5	61.5	10
H. C. Rapier (5 h.p. N.S.U.) ...	4.5	88.5	9
J. Troman ($3\frac{1}{2}$ h.p. Triumph) ...	3.25	123	4
A. M. Lomax ($3\frac{1}{2}$ h.p. Triumph) ...	2.75	145.5	2
J. Whitworth ($1\frac{1}{2}$ h.p. Werner) ...	6	66.5	11

ab News.—

Bocardo M.C.C. (Oxford).

At the end of last month a hill-climb and speed-judging contest took place, with the following results:

Hill-climb (Prof. Callendar's formula).
—1, R. G. T. Gillman ($3\frac{1}{2}$ h.p. Fafnir), figure of merit 56.17. H. Braithwaite made a good second on a $3\frac{1}{2}$ h.p. Triumph, figure of merit 56.62.

Speed-judging.—The object was to ride one-fourth of a mile at an average rate of 15 m.p.h. This event was won by Mr. Pilcher, his time being 1m. 2s.

Birmingham M.C.C.

On the 10th inst. the run is to Leamington, starting at 2.30 p.m. On the Monday following, members will join in a run to Stratford, starting from College Road at 6.30 p.m. October 17th, run to King's Bromley; 24th inst., Atherstone; and 31st inst., Harvington Hall.

Pembrokeshire A.C. (Motor Cycle Section).

On the 25th ult. a very successful hill-climbing competition was held for club members. The club gave three medals in the motor cycle class—(1) best performance single-cylinder machines on formula, (2) fastest motor cycle, and (3) best performance multi-cylinder machine on formula. The results were:

SINGLE-CYLINDERS.

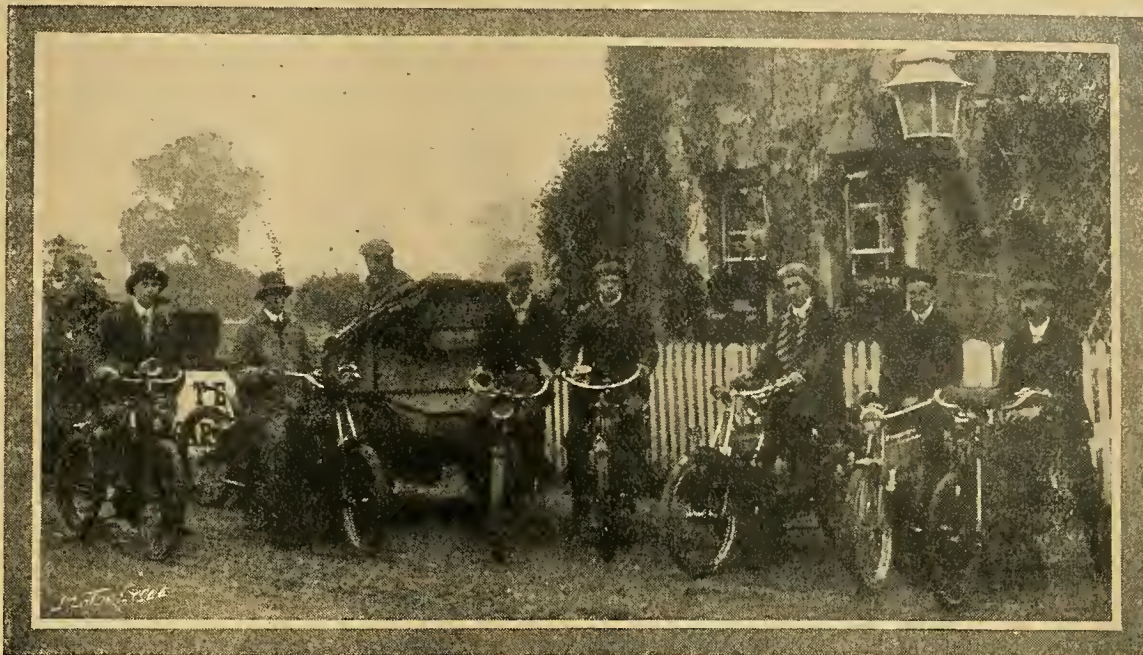
Order on Time. Order on Formula.

E. Allen, $3\frac{1}{2}$ h.p. T.T. Triumph	... 1 ...	1
G. F. Owen, $3\frac{1}{2}$ h.p. Triumph	... 2 ...	2
Eric Green, $3\frac{1}{2}$ h.p. Triumph	... 3 ...	3
L. H. Higgon, $3\frac{1}{2}$ h.p. Triumph	... 5 ...	4
A. J. Gwilliam, $3\frac{1}{2}$ h.p. Rex	... 4 ...	5
G. A. Hill, 3 h.p. Triumph	... 8 ...	6
Hugh James, $3\frac{1}{2}$ h.p. Triumph	... 6 ...	7
George Carrow, $3\frac{1}{2}$ h.p. Minerva	... 9 ...	8
E. Lipscombe, $3\frac{1}{2}$ h.p. Triumph	... 7 ...	9
S. D. Pugh, $3\frac{1}{2}$ h.p. Vindec	... 11 ...	10
D. Evans, $3\frac{1}{2}$ h.p. Vindec	... 10 ...	11

TWIN-CYLINDERS.

Ralph Green, 5 h.p. Vindec	... 1 ...	1
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The prize for the fastest time of the day was won by Mr. E. Allen. The committee also subscribed for a special medal to be awarded to Mr. G. F. Owen for best performance of a private owner on his own machine.



Meet of the Oxford Bocardo M.C.C., on the occasion of the last competition during 1908.

The hon. sec., Mr. J. B. Gaskell, Clyst House, Milford, Haven, will be pleased to enrol new members.

Bradford M.C.C.

The following are the donors to the "Subscription Trophy" for the open hill-climb, and the Bradford club wishes to express its sincerest thanks to the subscribers: The Michelin Tyre Co., pair of tyres value £6; the Jowett Motor Co., £1 1s.; Mr. J. A. Prestwich, £1 1s.; the Triumph Cycle Co., Ltd., £1 1s.; the Rex Motor Mfg. Co., Ltd., £1 1s.; E. M. Bowden's Patent Syndicate, Ltd., £1 1s.; Mr. E. S. Myers, 10s. 6d.; J. Lucas, Ltd., an Acetylene lamp value 17s. 6d.; the Hanover Rubber Co., 10s. 6d.; Brown Bros., Ltd., 10s.; J. B. Brooks, Ltd., 10s. 6d. As announced in another part of this issue, the open hill-climb arranged for the 3rd inst. has been abandoned, but a similar event will probably be held next year.



Capt. Sir R. K. Arbuthnot, Bart., R.N., after finishing third in the Tourist Trophy Race in the Isle of Man. His average speed was 38.2 miles per hour and consumption 107.2 miles per gallon. The third prize was £10, and Capt. Arbuthnot also wins Mr. M. J. Schulte's silver cup for the fastest time by a private owner on a single-cylinder machine.

"THE AUTOCAR" LECTURES.

Arrangements have now been completed for a series of eight lectures (referred to in previous issues), to be given at the following centres: Newcastle-on-Tyne—Armstrong College, Monday evenings at 7.30, commencing October 26th. London—Queen's Hall, Langham Place, Tuesday afternoons at 3.30 and evenings at 8.30, commencing October 13th. Birmingham—The University, Edmund Street, Wednesday evenings at 7.30, commencing October 21st. Leeds—The University, Thursday evenings at 7.30, commencing October 22nd. Manchester—Geographical Institute, Parsonage, Deansgate, Friday afternoons at 4 and evenings at 7.30, commencing October 23rd. The lecturers are Dr. W. R. Ormandy (Tate Research and Bishop Berkeley Fellow of the Owens College, Manchester) and Mr. J. H. Lester, M.Sc. (of the Manchester Chamber of Commerce Testing House). These lectures will be quite as interesting to motor cyclists as to motor car owners; we therefore advise our readers in the districts above mentioned to write for further particulars to the Secretary, Lecture Department, *The Autocar*, 20, Tudor Street, E.C. The fee for the course is £1 1s.

Letters to the Editor



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

The Standardisation of Motor Cycle Rims.

[3581].—I have noticed of late several letters upon the above subject, and, as a manufacturer of motor cycle tyre rims, I beg to state that all English 26in. x 2in. tyres will fit one standard rim, but the 26in. x 2½in. and 26in. x 2½in. vary in different makes. I think the best thing to do when ordering rims is to state what size and make of tyre they are required to fit.

J. T. JAMES.

A Puncture Curing Material.

[3582].—I don't think many of your readers know of Allustite, a liquid preparation for putting inside air tubes to repair punctures. I put some inside mine nearly four months ago, and have never had to blow them up since. The front tyre was punctured when I put it in, and I have pulled out one nail from the back tyre and have not touched it since. I think if End-to-end riders were to use it they would not have any punctures to mend, and so save time and marks. I know I would not be without it now. It was introduced to me by Mr. Michael Bruce, 60, Clerk Street, Edinburgh, when I was getting a belt for my motor cycle. I had only met Mr. Bruce twice before, so this is not a case of a free advertisement, but I believe in "honour where honour is due."

S 1116.

Footrests v. Pedals and Stands.

[3583].—In reply to "A. Hodgson" [3556], I am the proud owner of a 5-7 h.p. twin Roc which I have christened "the no trouble machine." I bought the machine second-hand, and since it has been in my possession have been several hundreds of miles on it with passenger (ten stones)—myself eleven stones—through six or seven different counties, but have never had the least suspicion of a slipping clutch. During this time I have never cleaned or rinsed the clutch with petrol or anything else. I ride my machine in all weathers, and if Mr. Hodgson happens to be passing this way (Farnham, Surrey), he will meet one very satisfied rider of the Roc.

S. A. PARSONS.

[3584].—We think that your correspondent "Medico" cannot have seen your report of our traffic ride through the city (observed by yourselves) in your issue of September 2nd.

Our Gradua gear overcomes all the difficulties which he finds with his present mount. The engine can be started with a handle direct on to the engine, with the machine lying over on its footrests. There is no need to hold up either the machine or the exhaust valve whilst doing this.

The gear being infinitely variable, the engine is never raced in traffic, and that the engine can be kept cool in traffic is amply proved by our demonstration as referred to above.

ZENITH MOTORS, LTD.

[3585].—I am much interested in the discussion of Roc clutch and two-speed gear. I have a 1908 Roc machine, and find that on level roads the high gear band grips fairly well, even when splashed with oil. The low gear band will not grip properly on steep hills. The machine comes to a standstill, and the engine continues to race.

My weight is over seventeen stones, and that may have something to do with it. I met an enthusiastic rider at

Abington, Lanarkshire, this summer who had the same difficulty, and found a perfect cure by drilling a hole somewhere in the lever near the clutch and giving it more power that way. Unfortunately, I forget the exact position. If this should meet his eye, or if any other rider could suggest a cure, they would lay myself and other users of the Roc under a deep obligation. Meantime, it is a case of pushing when the hill is at all steep. The high gear is 4½ to 1.

ENQUIRER (Glasgow).

[3586].—At the risk of repetition, may I again state that should the Roc clutch slip the remedy lies in the adjustment provided for the purpose? I am afraid some of your correspondents have resorted to an unwarrantable attack upon the Roc clutch and hand-starting device instead of keeping to the subject, viz., the safety and convenience of footrests *versus* pedals and stands, therefore the subject should be confined to the question as to which system the motor cycle is better equipped with from a safe, comfortable, and general utility standpoint. As the Roc clutch plays a very important part in the footrest system, and its utility has been attacked, in order to allay any misgiving on this point, I am prepared to invite your correspondents to consign their machines at my expense to any hill in the Midland district. I will then and there examine the machine; should it be in reasonable running order, and provided the gear and clutch has not met with any undue wear and tear, neglect, or misuse, I will demonstrate the absence of any slipping, including the facility for stopping and starting on any portion of the hill, and to do anything it is reasonably expected of a modern motor bicycle appertaining to the clutch and two-speed gear with hand-starting device.

Most of your readers will agree this would be a fair and searching test, and I make this suggestion solely to be enabled to successfully repudiate any misrepresentations which, if left unchallenged, might do serious harm to a system where comfort and safety are the first consideration.

ARTHUR W. WALL.

[3587].—Your correspondent Mr. Hodgson evidently seems to have a grievance about his clutch slipping on hills; of course it will if he oils it injudiciously. Does anyone ever hear of a car owner oiling his metal to metal brakes? [Yes.—Ed.] I am the proud owner of a 5 h.p. Rex de Luxe with a clutch only. I never oil it (perhaps I am wrong), and I have slipped it purposely on Edge Hill (when I was trying to get up with a sidecar with a 4 to 1 gear) till the enamel was burnt off the hub, and it did not injure the clutch in the least. The clutch was the much-abused Roc clutch. I have only had it slip on one occasion, that was when the expanding arms got past the dead centre, and then it was only a few minutes' work to put a washer under the joint which holds the fixed end of the arm, and the clutch was as good as new. Starting up is extremely easy if plenty of petrol is injected and the plug points are quite close together. A good clutch is invaluable with a sidecar. Talking of clutches that slip when they ought not to reminds me of a tricar which came to the works, where I am, to be overhauled. It had—a clutch (?) We put it on the stand and started it up and pushed the lever out which actuated the clutch, and then applied the Bowden brake on the back wheel, but it did not stop it, so we got a file and fairly levered up that shoe. It stopped the wheel, but the engine

was labouring horribly and sparks were flying from the pulley (where the clutch was), so this was evidently only an "emergency" clutch. I may say that my machine will beat a lot of machines round here (Coventry) of higher horsepower, both for speed and reliability. I may add that I have no interest in the welfare of either the Rex or the Roc clutch, and that when I see a letter like Mr. Hodgson's I feel it my duty to write.

JOHN F. CRAGG.

[The original Roc clutch with expanding arms is referred to in this letter.—Ed.]

Cylinder Deposits.

[3588.]—I have made analysis of two "cylinder deposits" as follows:

	1906	1908
	3 h.p. N.S.U.	Triumph.
Carbonaceous matter	59.0%	53.0%
Road dust	19.5%	37.0%
Metallic iron	21.0%	10.0%
Metallic copper	.5%	Not examined for
	100.0%	100.0%

Colour of deposit as received ... Dull black Oily black
Colour of deposit after calcination ... Dark red Light red

The N.S.U. machine had run several thousand miles. The copper in the deposit, I think, could only be accounted for by the lubricating oil containing free acid, either originally, or by becoming rancid. The oil used is a well-known brand.

The Triumph had only run about 1,000 miles. It is very interesting the large amount of dust found in the deposit. The percentages of iron given in the analyses are other than those found in the road dust.

BB 245.

Sidecars, Tyres, and Belts.

[3589.]—Replying to "H4220" in *The Motor Cycle*, re sidecar, tyres, and belt. I ride the same make of machine as mentioned, viz., a Vindec, but fitted with two-speed gear and 2½ in. Palmer cord tyres. I use Montgomery sidecar, with flexible joints, and I have already done over 1,000 miles on the machine, and the rear tyre is good yet for many hundreds of miles. Re the belt, I had much the same trouble until I got a Whittle link belt, and my trouble ceased with this. Re flexible joints on sidecar, I find it a little difficult steering in thick traffic owing to the swinging of the joint, but once out on open roads it is quite comfortable. I think that if "H4220" will obtain this combination his trouble will end also, as he will certainly not have to carry any spare tyres or belts, and with the machine he rides I know from experience he need fear no trouble, as my whole combination throughout is perfection.

G. E. TENNANT.

Abnormal Petrol Consumption.

[3590.]—I have read with interest "End-to-end Impressions," by Mr. B. H. Davies, in *The Motor Cycle* of July 29th, and was particularly interested with the account of Mr. Dixon's troubles with his 3½ h.p. Vindec.

I also have a similar machine, and it suffers from the same trouble. The petrol used (not solely by the engine, but ejected through air holes of jet chamber) is very excessive. The carburetter is an F.N.

I have tried altering the amount of lift of a.o.i.v., also different strength of springs on same, but have met with no better success. I have written to the agents with reference to abnormal consumption, but up to the present have not had a satisfactory explanation. Judging by the appearance of the throttle, etc., there appears to be back-pressure, as the one side of the throttle is quite discoloured. By the way the petrol is ejected there is every indication of back-pressure, as when the spark is cut out and engine running with exhaust valve working as usual—the engine running, of course, by momentum—the petrol is not expelled.

I have seen the same thing as I have stated occur with another 3½ h.p. Vindec fitted with F.N. carburetter, but this has been partly overcome by fitting an extra adjustable air-sleeve on induction pipe.

As my petrol consumption is so excessive I intend fitting a B. and B. carburetter, and hope that this will reduce my petrol bill.

I should be greatly obliged if any of your readers could give me a satisfactory explanation of the matter, as I have now, after numerous experiments, to admit myself beaten.

East London, S.A.

SNOMYSIGH.

Two-stroke Engines and Formulæ in Hill-climbs.

[3591.]—In regard to the propositions in Prof. Callendar's letter, it will be obvious to all motor cyclists that a proper basis of efficiency must take account of the mechanical as well as the thermal losses in the engine.

It is evident that Prof. Callendar, in making the statement that "judged merely on a basis of efficiency the two-stroke cycle is undoubtedly inferior to the four-stroke," shows a complete disregard of the mechanical inefficiency of the Otto cycle as compared with the two-stroke cycle. Quite apart from the power lost in lifting valves against strong springs, and cylinder pressure, the amount of power absorbed at high speeds, by the piston ring friction during the exhaust and suction strokes of the four-cycle engine, is more than sufficient to set off against the reduced thermal efficiency in the two-stroke. Further, is it fair to double the cylinder capacity of a two-stroke for the purpose of formula computation without allowance for the ineffective portion of the stroke during exhaust and distribution? or to expect an engine with effective stroke of two inches to give twice the power of one with three-inch stroke (other dimensions being equal)?

ALFRED A. SCOTT.

Lubrication Methods.

[3592.]—With reference to "Ixion's" comments on lubrication in your issue of September 16th, we must all agree that automatic lubrication would be better than bad hand lubrication, but I expect the ideal automatic lubricator is hard to find. An air-cooled engine has such a widely varying oil consumption under different conditions, even though it may be running at the same number of revolutions per minute all the time.

The drip feed system must be controlled by hand to be efficient, unless the oil consumption is steady—which it never can be; also, air-cooled oil at temperatures below freezing point will not drip readily. Similarly, any method which supplies oil in direct ratio to the number of revolutions per minute will fail owing to the widely varying consumption of oil under different loads and varying air temperatures. The system by which the excess of oil is automatically pumped out of the crank case into a reserve tank would be better, but adds weight and complication to the engine, which is flooded with oil every time the engine is stopped and started again.

The hand pump need not be abused—as recommended by most makers. It is not difficult to learn when the engine needs oil and to give it a little at a time as required. The requirements of a 5 h.p. twin under different conditions while running may vary from one ounce of oil for forty miles up to one ounce for two and a half miles, and even more on a very hot day with low gear and full load.

I have no personal experience with car engines, but suspect, from what car drivers have told me of their oil consumption, and from the clouds of blue smoke which issue from some exhausts, that many car engines are at times enormously over-oiled.

F. C. JAMES.

Acetylene Gas Generators.

[3593.]—I was especially interested to see the letter from Mr. Ridge on the subject of "Autoclipse Generators," as I am also a sufferer from the same trouble as himself, and have not, thus far, been able to devise any satisfactory means for correcting it. Though not a Model E, my generator works on the same principle as his (all the Autoclipse models being on identical systems), and the trouble is that the water does not offer sufficient resistance to the pressure of gas generated, which, at 1 or 2 ozs. pressure, pushes its way through the water and escapes through the safety pipe provided.

When I purchased the generator from the company and experienced this trouble I returned it, explaining the facts, and they returned it to me (presumably cured) after soldering up two of the water approach holes, which had absolutely no effect. Soon after this Messrs. Brown Bros. took over the agency, but I have not approached them on the subject, as I realise that the trouble is incurable so long as the present construction is unaltered. It is useless fitting a light pressure valve in the safety pipe, as the gas, in order to be available for the lamps, must be prevented from escaping into the outer chamber. The only remedy seems to lie in this direction, but as I am unable to rise to the occasion, I should be glad to know of the experiences of your readers

with this generator, and, if they have overcome the trouble, how they managed it.

My present procedure is: (1) Never fill up with water until lighting up time, and (2) withdraw carbide reservoir from water tank immediately lamps are extinguished. The only alternative is, as Mr. Ridge finds, that of wasting all one's carbide in the course of forty-eight hours, even if one has only used the lamp for two minutes.

The bubbling noise is the frequently recurring escape of generated gas through one of the small holes into, and up through, the water, and so away through the safety pipe. For the Autoclipse lamps (motor cycle models) I have nothing but praise, and if the generator would only behave itself (Model D, voiturette size, to feed the two tricar headlights) I should be perfectly satisfied. P. H. MEERS.

Suggested Improvements.

[3594.]-The following may be of interest to readers of your valuable paper:

TYRES.—Many people seem to experience serious trouble with these. This can be avoided if nail catchers are fitted, provided the wheels are suitably shod. The best type of nail catcher is made of a $\frac{3}{8}$ in. steel rod, curved to fit tyre, clamped at each end to front (or back) forks, and set to clear tyre by $\frac{1}{8}$ in.

$2\frac{1}{4}$ in. tyres will do for a $3\frac{1}{2}$ h.p. machine, but for 5 h.p. or over a $2\frac{1}{2}$ in. front and 65 mm. voiturette rear cover are necessary.

Peter Union puncture-proof bands should be fitted to the $2\frac{1}{4}$ in. and $2\frac{1}{2}$ in. covers.

The tubes should be extra heavy, and it is advisable to solution a 2 in. strip of canvas round the inner circumference of each. This entirely prevents the edges of cover chafing and puncturing tube, which commonly happens.

If Palmer cord or Peter Union heavy tyres are used under these conditions, little or no tyre trouble will be experienced. My last rear cover ran over 3,500 miles, on a $3\frac{1}{2}$ h.p., over flinty roads, before puncturing.

ENGINES.—Is it not time that manufacturers devoted their attention, not to obtaining the utmost possible power from a given sized cylinder, but to making engines which will not lose their power or wear out rapidly? Some singles are very satisfactory, though I consider larger release valves to crank case are necessary. The modern twin engine is a long way behind the modern single. The bearings are too small, more attention should be given to the material of which valves and rings are made, and m.o.i.v. are essential; a.o.i.v. possess two great disadvantages—they are liable to get out of adjustment, and, as they are necessarily made very light, they often break.

A twin engine, about 82 mm. by 90 mm., with m.o.i.v., ball bearings to crankshaft and timing gear, really good rings and valves, and a slightly lower compression than usual, would be almost ideal, as it would develop about 5 h.p., be very flexible, and require little attention to keep in order.

FRAMES AND FORKS.—For high-powered machines these could be greatly improved.

The rear wheel should certainly be sprung, and as this presents no very great difficulty, I am surprised it is not done in all cases. During long-distance rides the difference in comfort is enormous, and the stresses on frame and engine are greatly lessened.

A spring fork should allow the wheel absolutely no side play, and should have springs or other appliances to take up the sudden rebounds. These two faults are common to very many spring forks, and greatly increase the danger of side-slip.

SPEED GEARS AND CLUTCHES.—If really satisfactory, these would greatly improve a high-powered machine. Many firms are making hub epicyclic gears, but is a single one of these really successful under all conditions? If so, why are so many makers afraid to run them in long-distance trials?

For the sake of strength, a gear of this type must be heavy, and this weight, being added to the rear wheel, slows the machine badly, so that a 5 h.p. twin with hub gear climbs little better than a good $3\frac{1}{2}$ h.p. single geared.

The lubrication of a hub gear of this type is also a difficult matter, at least on long-distance non-stop runs.

The remedy for these troubles is to abolish hub gears, and fit a three-speed (sliding, direct top) gear box, with ball bearings throughout, in front of crank case. Drive by chain from engine to gear box, and by single (or twin) belt from

box to wheel. This type of gear would require no attention except filling with oil every six hundred miles or so, and with belt drive would be quite foolproof.

Many other points like these suggest themselves to the enthusiastic motor cyclist, but, as this letter is already very long, I will not say more now.

ENTHUSIAST.

The Tricar Question.

[3595.]-I have been much interested in the letters recently appearing in *The Motor Cycle* regarding tricars, as I have always had a particular fancy for this class of vehicle. So far I have seen practically nothing as regards the merits of the open frame compared with the ordinary bicycle type of frame. Three years ago I had a 5 h.p. twin Corydon cycle fitted with a very substantial forecar attachment, which formed, practically, a tricar. This machine was very safe and comfortable to ride; it was belt-driven, and would take two up nearly all hills without assistance. Had this machine been fitted with two-speed gear, free engine, and various other modern improvements, it would have formed an ideal light tricar. This year I purchased a 5-6 h.p. water-cooled tricar of well-known and advertised make. This machine had an open frame, sprung fore and aft, multiple disc clutch, wheel steering with a very good chain arrangement connecting it to the front wheels; it had also an epicyclic two-speed gear. With all these refinements it was not so satisfactory, taking it all round, as the simpler machine previously mentioned.

The first fault which made itself evident was that the bands of the epicyclic gear were constantly requiring the most minute and careful adjustment; this I put down to the lack of rigidity in the frame. Next the chain of the steering gear was so unprotected that it caught all the dust and dirt thrown up by the front wheels, and constantly required cleaning, which was a very difficult and messy job. The chain from gear to back wheel was not nearly heavy enough for the work it had to do, and therefore was always stretching, and it broke after less than 200 miles. These defects I could have put up with had it not been for the terrible amount of swing or "whip" of the back seat. It was a fast and wonderful hill-climber, and most luxurious to ride, provided it was driven on the crown of the road; but if the road had much camber, the back portion would twist and swing over to such an extent that one felt it was going to pull the whole thing over—which indeed it did on two or three occasions. If the road were greasy, even though a studded band was fitted to back wheel, it was only with the greatest difficulty that the machine could be got back to the crown again. On one occasion the back wheel skidded down into the gutter, throwing the machine across the road into a passing tram. My wife, who was in front, and myself fortunately escaped, but the front seat was wrecked. It was only possible to ride the machine solus by exercising the greatest care, as the "whip" was so great that in rounding a corner even at very slow speed it would almost pull the machine over. This was accounted for partly by the instability of the frame, the springing of the back wheel, the distance of the wheel from the too narrow gauge front wheels, and the rather high centre of gravity of the driver's position. These troubles were non-existent with the bicycle frame variety previously referred to. The open frame is undoubtedly more comfortable and "car like," but it seems a pity if the stability of the whole machine should have to be sacrificed to such an extent to gain this end. I should be very glad to hear other readers' experiences in this matter.

TRI-AGAIN.

[A number of interesting letters are unavoidably held over. These will be published as space permits.—ED.]

Will "FY 99" kindly communicate with the Editor?

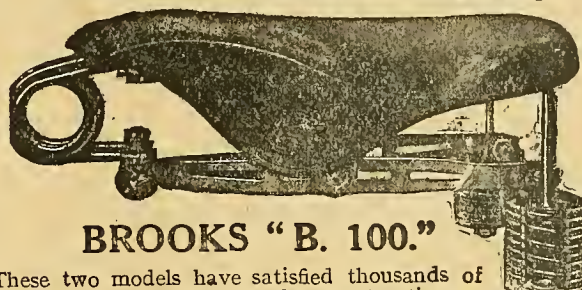
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SEATS
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BROOKS "SPRING SEAT."



BROOKS "B. 100."

These two models have satisfied thousands of motor cyclists. The method of construction on scientific anti-vibratory principle, combined with the choicest of leather tops, make these seats great favourites with all experienced riders. These reliable seats ensure motor cycling with the minimum of vibration. Our *Saddle Manual* describes them. Please ask for copy.

J. B. BROOKS & Co., Ltd.,
The Saddle Specialists (Dept. 45), BIRMINGHAM.

What USERS think of the 95 Guinea O.T.A.V. CAR.

From *The Autocar* 19/9/08.

QUERIES.

No. 719.—5½ h.p. Two-seater O.T.A.V.

I SHALL feel greatly obliged to have the opinions of owners (and others who have had experience) of the O.T.A.V. 5½ h.p. two-seater.—F.S.B.

From *The Autocar* 26/9/08.

REPLIES.

No. 719.—5½ h.p. Two-seater O.T.A.V.

Although I have not had an O.T.A.V. Car very long, I feel I can say a word for it. I bought one in London, and although I had no previous experience, I found no difficulty in driving it 325 miles from London to Southport. All the tuition I had was about half an hour on Hampstead Heath. The way it romps up hills is a revelation. On some of the stiffer hills we more than held our own. We averaged 20 miles an hour comfortably. Although the roads were very bad owing to the heavy rain, we came right through on top speed, and never had the slightest grunt from the engine. The part of the car that strikes me as the most wonderful is the gears. You can move the gear lever as much as you like, but never hear the slightest sound, and the makers say you cannot do it any harm. The engine does not get hot; in fact, it seems to be more than strong enough for its work, and anyone who buys a car should master it in half an hour. It is a wonderful production, and one that can be bought with every confidence. The appearance of the car belies its power and speed.—A. WATSON.

I have driven one of these voiturettes for some months, and have found it an extremely satisfactory little car. It is exceptionally flexible and handy in traffic. I have done several runs of 100 miles on it in the afternoon and evening, averaging 20 miles an hour. This was after I had had an extra air inlet fitted. I have never had the least trouble in regard to overheating at any time, though I have used it for hours at a time in heavy London traffic.—J.E.C.

I have driven one of these voiturettes for some time past, and find it most satisfactory in every way.—C. KNOWLES (Mrs.)

The Junior & O.T.A.V. Cars Co., Ltd., 117-119, Long Acre, W C

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

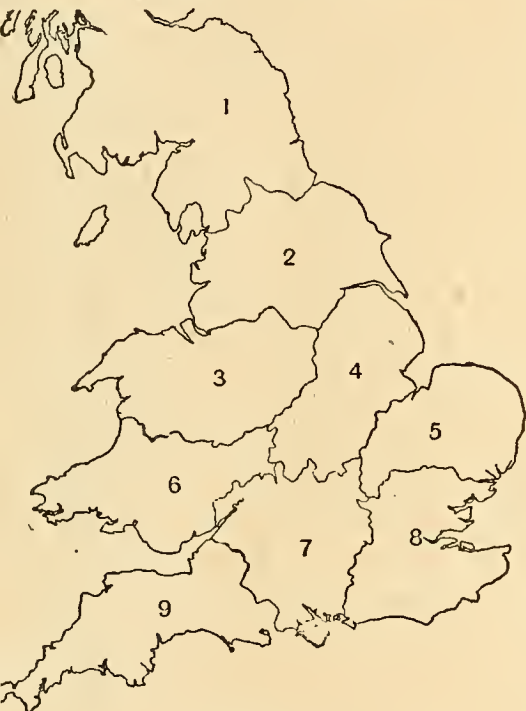
All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or sent to London, by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.
York and Lancashire.

SECTION III.
Lancashire, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

THE

PREMIER

Agents for **TRIUMPH, BAT, N.S.U., REX, ROC, BROWN, VINDEC, MOTOSACOCHE, F.N.,** and other **BEST** makes. Delivery of **TRIUMPHS** in seven days. Most other makes from stock. The best selection of **New and Second-hand machines in the kingdom.**

Exchanges. Deferred Payments.

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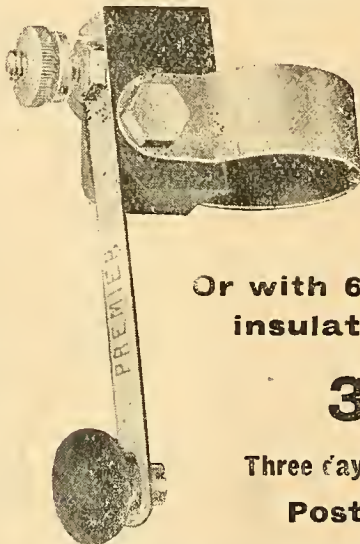
TRIUMPH, magneto, 1907	£28 0
VINDEC SPECIAL, 1907	30 0
REX DE LUXE, 3½ h.p., 1908, two-speed, soiled only	38 0
N.S.U., 3½ h.p., spring forks, Roc clutch, two-speed	23 0
QUADRANT, 3½ h.p., 1906, very good order	13 0
N.S.U., 3 h.p., spring forks	15 0
BIRCHFIELD, 3 h.p. Spray, 1907	11 10
B.S.A. 3½ h.p. M.M.C. engine, Clinchers, Lomax non-skid, Druid fork	11 0
ROYAL ENFIELD, 2½ h.p. F.N. carburetter, girder forks, good appearance and condition	10 0
EXCELSIOR, 2½ h.p., spring forks, tyres nearly new, B100 saddle, good running order	8 0
WHITLEY, 3½ h.p., spray, running well	7 0

LIGHTWEIGHTS.

F.N., 1½ h.p., 1907, magneto, spring forks ..	£21 0
F.N., 1½ h.p., 1907, " special silencer ..	21 0
N.S.U., 1½ h.p., 1907, magneto, perfect	18 0

TWINS.

5½ h.p. BROWN, 1908, magneto, 2-speed gear, hand starting, Palmer Cord tyres, £67 model, shop soiled only	£40 0
ROC, 5 h.p., twin Peugeot, magneto, clutch..	25 0
MINERVA, 7-8 h.p., perfect	26 0
N.S.U., 6 h.p., magneto, two-speed	23 0
N.S.U., 5½ h.p., magneto, good order	18 0
WERNER, 4 h.p., perfect order	11 0
RILEY TRICAR, 5 h.p., two-speed, spring frame, wheel steering, water cooled, splendid order	52 0
REX 1907 Twin, magneto, twin wheel, two-speed gear, Roc clutch, cantilever, running splendidly	22 10
MILLFORD CASTOR WHEEL SIDECAR, Palmer Cord tyre, shop soiled	£11 11



THE Premier Magneto Cut-out

2/-

Or with 6ft. of best insulated wire,

3/-

Three days' approval.

Post Free.

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British made. 10 amp. 9/6. 20 amp. 12/6.

The PREMIER SPARE TUBE CASE for preserving spare tube from damage & perishing 5/6.

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Aston Road, BIRMINGHAM,

Telephone: 4310. Telegrams: "Premier," B'ham

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For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Hiffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

2½ h.p. Clarendon, new condition, reliable, perfect going order; £10.—Aitken, Morpeth, Northumberland.

1½ h.p. Lightweight, Minerva engine, splendid little goer; trial; must sell; £4.—Millicar, Holm Hill, Dalston, Cumberland.

TRIUMPH, 1908, 3½ h.p.; two months used, perfect condition; £38 to quick purchaser.—Rae, Thornton Street, West Hartlepool.

PHELO and Moore, 1908, 3½ h.p., two-speed gear, splendid condition; £39 to clear.—Rae, Thornton Street, West Hartlepool.

5 h.p. Twin Kerry, bought August, fine machine, and unsoiled, but too powerful and fast; £40, or 1908 lightweight (new) and cash adjustment.—3, South Street, Dinnington.

3 h.p. Chater-Lea, vertical, M.O.V., automatic spray, long bars, low, girders, Continentals, new Dermatine belt, new accumulator, stand, carrier, etc., perfect; £16.—Motor Cycle, Chestnut Hill, Keswick.

SECTION II.

York and Lancashire.

ROC, 4 h.p., magneto, free engine, single gear, brand new; £30.—Below.

N.S.U., 3½ h.p., magneto, spring forks, perfectly new; £33.—Below.

N.S.U., 5½ h.p., twin, magneto, free engine, 24 by 2½ tyres, condition as new, with Montgomery sidecar; £40.—Below.

TRIUMPH, 3 h.p., 1906, newly overhauled by makers; £18.—Hartley Clegg, Motors, Burnley.

1906 Minerva, 3½ h.p., spring forks, 2½ in. tyres; £12.—Cross, jeweller, Potherham.

7-9 h.p. Peugeot, good going order; best offer over £20.—Carwin, Melbreak, Cadley, Preston.

LATEST Model 3½ h.p. Rex, as new, with sidecar; £27.—Box 935, The Motor Cycle Offices, Coventry.

ONAWAY, 7 h.p. Peugeot, Jap carburetter, Druids, perfect; £25.—26, Oxford Road, Waterloo, Liverpool.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

HAMPSTEAD for dead snips this week.—
3½ h.p. Minerva, 1906, good condition;
2.

HAMPSTEAD.—3½ h.p. Minerva, late 1907,
new condition, with all accessories;
6, guaranteed.

HAMPSTEAD.—1908 Lightweight N.S.U.,
magneto, only shop-soiled; £19, with
accessories.

HAMPSTEAD.—3½ h.p. N.S.U., late model,
magneto, 24 wheels, new condition,
guaranteed perfect; only £18.

HAMPSTEAD.—3 h.p. Triumph, Fafniren-
gine, good condition; £12, all acces-
sories, great bargain.

HAMPSTEAD.—3½ h.p. 1908 Triumph, al-
most new, gold medal winner; £37 10s.,
with all accessories.

HAMPSTEAD.—1½ h.p. F.N. Lightweight.
1908 model, new condition; £20, with
spares.

HAMPSTEAD.—F.N., four-cylinder, mag-
neto and spring forks, grand condi-
tion, guaranteed, all accessories; £18 only.

HAMPSTEAD.—F.N., 4½ h.p., 1908 model, as
good as new, only wants seeing; bar-
gain price, £27.

HAMPSTEAD for new F.N., 6 h.p., late
model, from stock, and 4½ h.p.; ex-
change entertained.

HAMPSTEAD.—5 h.p. Twin Peugeot, Cha-
ter-Lea No. 6 frame, splendid condi-
tion, like new; £24.

HAMPSTEAD.—New Griffons at second-
hand price, £4 under price, only shop-
soiled; catalogues on application.

HAMPSTEAD.—Sole Agents for Griffons,
F.N.'s, Minervas, Vindec, Triumph,
etc., cycle, sidecar, or low power in part pay-
ment; liberal allowances on old machines
or new, any make.—Rey, 5, Heath Street
Motor Works, Hampstead. Tel., 2678 P.O.

F.N., 1½ h.p., 1908 model, lightweight, mag-
neto and spring forks, splendid condi-
tion, all spares; £19.—Milma.

h.p. Twin Jap, engine, carburetter, com-
plete, as new; £16.—40, Waddon Road,
Croydon.

1905 Minerva, 2½ h.p., compulsory selling;
£9; specification; trials.—44, Gopsall
reet, N.

1 h.p. Rex, in good order, footboards; £6
4 10s.; photo.—Barker, Oxford Road,
Lorthing.

WIN Vindec, magneto, as new, perfect,
spares.—8, Barrett Street, Manchester
quare, W.

1 h.p. Tourist 1908 Rex, shop-soiled only,
2 ball bearing; offers wanted.

1 h.p. de Luxe Rex, Roc free engine, ball
2 bearings, new, shop-soiled only; ex-
changes accepted on this.—Horner's, Store
reet, W.C.

CLEARANCE.—All models Rex motors,
special autumn quotation. Notify
our requirements.—Horner's, Store Street,
C.C. Phone, 13456 Central.

DEX Motors, all models; special conces-
sion during October to clear remain-
der of our contract.

DEX London Agency, having special con-
cessions, can give most advantageous
cash, gradual, or exchange terms.—Phone,
456 Central.

1907 Twin N.S.U.; £30, or near offer, bar-
gain.—West Heath House, Hamp-
stead, N.W.

h.p. Albion, Chater-Lea frame good con-
dition throughout; £12.—Jeweller, Sel-
ey, Sussex.

ROVER, 3 h.p., beautiful condition, guaran-
teed faultless; £17.—Peveril, Chadwell
oad, Grays.

h.p. Rover, excellent condition, guaran-
teed faultless; £17.—Peveril, Chadwell
oad, Grays.

TRIUMPH, 1907, handle-bar control, splen-
did condition, spares; offers.—186, Peck-
ham Rye, S.E.

If you want bargains in second-hand
motor cycles, you can get them at
Lauchop's, 9, Shoe Lane, Fleet Street,
London.

END OF SEASON - CLEARANCE SALE

For Four Weeks only.

F.N., four-cylinder, magneto	£18
CLYDE, 2½ h.p., magneto	£10
REX, 5 h.p., 1907 model, blue finish	£18
REX, 3½ h.p., 26in. wheels, very low	£12
MINERVA, 4½ h.p., 2½in. tyres	£22
SAROLEA, 5 h.p., very low, new tyres	£20
WERNER, 3½ h.p., twin good condition	£15
ARIEL, 3 h.p., B. and B.	£12
MINERVA, 3½ h.p., M.O.V.	£12
CLARENDON, 3 h.p., vertical	£10
REX, 3 h.p., 50-guinea model	£10
BAT, 3½ h.p., spring frame	£15
QUADRANT, 3 h.p., spring forks	£12
BAYLISS, 3 h.p., special price	£8
F.N., 2½ h.p., splendid puller	£11
HUMBER, 2½ h.p., very fine mount	£10
GIVAUDAN, 2½ h.p., perfect, non-skid rear	£15

LIGHTWEIGHTS.

£11 LLOYDS, 2 h.p.	£11
£7 QUADRANT, 2 h.p.	£7
£8 MINERVA, 2 h.p.	£8
£7 JAP, 2½ h.p.	£7
£7 HUMBER, 2 h.p.	£7
£8 MINERVA, 2½ h.p.	£8
£10 ARIEL, 2½ h.p.	£10

50/- DOWN AND 5/- PER WEEK SECURES:

3 h.p. EXCELSIOR	£11
2 h.p. SINGER	£9
2½ h.p. JAP	£11
3 h.p. REX	£10
2 h.p. ORMONDE	£8
2 h.p. WERNER	£10
2 h.p. MINERVA	£10
2½ h.p. CUNARD	£12
2½ h.p. LLOYDS	£11
2½ h.p. HUMBER	£8

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REXETTE, 8-10 h.p., two speeds and reverse. A perfect article	£60
GARRARD, 5 h.p., three speeds, water-cooled ..	£32
MINERVA Pattern, 3½ h.p., spray, good tyres ..	£15
REXETTE, 8 h.p., open frame, two speeds, per- fect order	£38

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24 h.p. DARRACQ, perfect order throughout. Trial run	£110
14 h.p. GOBRON-BRILLIE, four speeds, two- cylinder, five seater	£80

FORECARS, Etc.

Three very good forecar attachments, new tyres to all and perfect	only £4 each
MONTGOMERY sidecar, shop-soiled, and made rigid, fits Rex	£5 10s.
BAT rigid sidecar, 26in. wheel	£4 10s.

ACCESSORIES.

PALMER TYRES (Cord)

Cover.Tube.	Cover.Tube.	Cover.Tube
26×2 43/6 10/-	26×2½ 59/3 16/3	28×2½ 63/6 11/-
26×2½ 58/9 11/-	28×2 50/3 10/-	28×2½ 64/3 17/6

10/- allowed on old covers, and 2/- on tubes.

TUBES (fully guaranteed).

26×2in. ... 5/6	26×2½in. ... 7/6	28×2½in. ... 7/-
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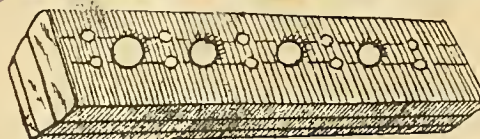
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You cannot do better than try one. Money returned
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ALBANY BELTING.



¾in. 7d., ¾in. 8d., ¾in. 9d., 1in. 10d. per foot
Approval. Immediate delivery.

MAUDE'S MOTOR MART, Powell St., HALIFAX

National Telephone 438.

MOTOR BICYCLES FOR SALE.

3½ h.p. Minerva, Palmer cord, in faultless
condition; £12.—58, Ferme Park Road,
Stroud Green.

3½ h.p. Rex, new condition; great bargain,
£15, or nearest.—64, Bassett Road,
Notting Hill, W.

3½ h.p. 1907 Brown, almost new, splendid
running order; £15.—W.H., 15, Radlix
Road, Leyton, E.

2½ h.p. Phoenix, spray, spring seat and
handle-bar; £6 6s.—Hill, Freemason's
Arms, Hampstead.

WERNER, 3 h.p., fast, powerful, fault-
less; £6 15s.—Robertson, 111, Larkhall
Lane, Clapham, S.W.

1908 N.S.U. Lightweight (June); £26, rea-
sonable offer.—Portland Road Garage,
Portslade, Brighton.

VINDEC, 5 h.p., twin, 1907, magneto, Truf-
fault; £28.—13, Empress Avenue, Manor
Park. Tele. 448, East.

3½ h.p. White-Poppe, 2½in. Palmer cord,
good order, spring forks; £15.—Gould,
10, High Road, Chiswick.

1908 Minerva, 2½ h.p., magneto, spring
forks, as new; £22 10s.—Stuart, 58,
New Road, Grays, Essex.

3 h.p. Carlton, very low, accumulator
ignition, good condition.—K., 78,
Harold Road, Upton Park.

3 h.p. Zedel, brand new, Chater, very low,
Peter-Unions, everything best; £15.—73,
Telham Road, East Ham.

3½ h.p. De Dion and sidecar, Palmers,
spring forks, chain driven; £17.—Ide,
Underhill, New Barnet.

2½ h.p. Jap-Rover, perfect order; bargain,
£10 10s. cash; take push bike part.—
36, Carter Street, Walworth.

FOUR-CYLINDER F.N., magneto, spring
forks, excellent condition; great bar-
gain, £19 19s. cash.—Below.

BAT, 3½ h.p. genuine De Dion engine, splen-
did order; £15 15s.—Whittle, 41, Skel-
brook Street, Earlsfield.

1907 3½ h.p. Minerva, spring forks, com-
plete with lamp, etc.; £14.—Brown,
37, Bruton Street, London, W.

2½ h.p. Ariel, good condition, stand, horn,
two pulleys; reasonable offer.—11,
Lincoln Road, Ponder's End.

£10.—2½ h.p. Excelsior motor cycle, in thor-
oughly good order; a bargain.—62, Cale
Street, Sydney Street, Chelsea.

£5 5s.—Minerva, 1½ h.p. surface, long bars,
also coil and carburetter.—Markham,
Wrotham Park Gardens, Barnet.

2½ h.p. Minerva, 1907, not been used this
season, equal to new; £15 10s.—Lay-
zell, Ockendon, Romford, Essex.

5 h.p. Kerry, Palmer tyres, good condi-
tion; £17 10s., near offer.—26, Lans-
downe Hill, West Norwood, S.E.

3½ h.p. Rex, low saddle, new tyres, belt,
just overhauled; £13, or offer.—Har-
vey, Buckingham Road, Woodford.

£7.—Triumph, 2½ h.p. Jap engine per-
fect, very fast and powerful.—Stevens,
4, Goldhawk Mews, Shepherd's Bush.

6 h.p. Twin Antoine, Longuemare carbur-
etter, Continentals, accumulator, coils,
as new; bargain, £15.—Address below.

1907 2½ h.p. M.O.V., Minerva, Chater-Lea
frame, Peter-Unions, new belt and
lamp, recently enamelled and plated, com-
plete accessories; worth seeing; £12.

2½ h.p. M.M.C., Chater-Lea frame, Dunlops,
good condition, smart; £10.—Milo
Motor Co., Chadwell Heath.

4 h.p. Water-cooled Antoine Cycle, low,
fast, powerful, long handle-bars; £15.—
Barrett, 332, High Street, Manor Park.

ROC, 4 h.p., one year 9 months old, Bosch
magneto, clutch; £21, no offers.—Gas-
kell, 31, Edith Road, West Kensington.

TRIUMPH, 1908, equal to new, perfect con-
dition; £39.—Matthews Bros., 96, West
Green Road, Tottenham. Phone. 1722.

3½ h.p. Chater-Lea frame, copper torpedo
tank, long bars; £10.—Kewley, 17
Warden Road, Kentish Town, London.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

21 h.p. Quadrant, grand condition and order, tyres unscratched; £6 10s.—16, Northumberland Avenue, Wanstead.

31 h.p. Alldays, magneto, two ignitions, **32** first-class condition; offers.—At Wauchope's, 9, Shoe Lane, Fleet Street, London

GODFREY and Applebee.—We have now a large stock of second-hand machines. Give us a look up. We are sure we can suit you.

GODFREY and Applebee.—Lightweight **2½** h.p. J.A.P., very low Chater frame, Palmer tyres, Watawata belt, footrests, everything in perfect condition, weight about 95 lbs.; £12 10s., exceptional bargain.

GODFREY and Applebee.—**2½** h.p. Kerry, very good condition, guaranteed, one of the good old goers; £14.

GODFREY and Applebee.—1908 Rex models, shop-soiled models at rock bottom prices; liberal cash discounts; agents for all well-known makes. We can save you money, and give you absolute satisfaction.

GODFREY and Applebee.—See our Miscellaneous advertisement for bargains in accessories. Phone 464, Walthamstow.—165a, Hoe Street, Walthamstow.

21 h.p. Quadrant Motor Bicycle, recently overhauled, tyres new, two batteries; £8 15s.—R. Duckett, 13, Church Street, Greenwich.

31 h.p. Minerva, two accumulators, new **32** Palmer cord, good condition; £18.—G. Dale, 21, Lansdowne Road, Old Charlton, Kent.

5 h.p. Vindec Special, Truffault forks, magneto ignition, condition as new; £32 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

STAMFORD HILL.—**5½** h.p. Twin Rex de Luxe, 1907, Roc clutch, H.T. magneto, twin back tyres, as new, property of doctor; £25.

STAMFORD HILL.—**5½** h.p. Twin Rex de Luxe, Roc clutch, two-speed gear, twin back tyres, property of doctor, as new; £25.—128, High Road, Tottenham.

STAMFORD HILL.—**2½** h.p. Rex, B. and B carburetter, excellent machine, in perfect condition, lightweight; £7.

STAMFORD HILL.—**3** h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL.—**1½** h.p. Quadrant Lightweight, Minerva engine, two brakes, all in very good condition and perfect order; £5 10s.

STAMFORD HILL.—**2** h.p. Lightweight Raleigh, engine, low frame, tank, wheels, back tyre, almost complete; £3 10s., bargain.

STAMFORD HILL.—Light motor cycle, **2½** h.p., less wheels and saddle, 18in. frame, make nice light machine; £3 10s.

STAMFORD HILL.—**2½** h.p. Precision engine, ed lightweight, in good running order, and very good condition; £6 15s.

STAMFORD HILL.—**2½** h.p. Sarolea, loop frame, spray carburetter, dropped saddle, smart machine; bargain, £7 15s.

STAMFORD HILL.—Colossal sacrifice, **2½** h.p. Bradbury, perfect, complete, grand powerful machine; £10 15s.—128, High Road, South Tottenham.

4 h.p. Stevens (90 by 95), spring frame, forks, spares, low, faultless, **2½**in. Palmers; £18, best offer.—27, Melbourne Road, Ilford.

TRIUMPH, **3½** h.p., 1908, including lamp, horn, plug, valve, and other spares; £35.—Furze, 156, Tottenham Court Road, London.

31 h.p. N.S.U., latest 1908, magneto, brand new, perfect throughout; compulsory sale, £30.—Storey, 106, Albany Street, London, N.W.

MINERVA, **2** h.p., in perfect condition; nearest £10, or push bike taken as part payment.—79, Dartmouth Road, Brondesbury, N.W.

£8 10s.—**2½** h.p. Genuine De Dion, new belt, tyres, trembler coil, etc., in good order, selling through illness.—30, Aroden Road, Brixton Hill.

BID-A-WEE.

Cash offers will receive every consideration and prompt reply. Room wanted for 1909 Models.

TWINS—Offers Wanted.

6 h.p. Twin Rex, £18 18s., or £4 and '07 Single Rex, or £6 and **3½** Rex, or level exchange with Single Magneto Rex.

SPECIFICATION.—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order. Any machine taken in part payment.

1908, magneto, Twin REX, little used	£35 0
5½ h.p. N.S.U., magneto, new, 1908	£52 0
5 h.p. Twin VINDEC, magneto, Truffault ..	£35 0
5½ h.p. REX DE LUXE, 1907, brand new ..	£35 0
5½ h.p. Twin REX, spring forks, black finish ..	£18 18
5½ h.p. REX DE LUXE, magneto, Roc clutch ..	£27 10
Twin REX, blue lines, new tyres	£18 18
6 h.p. Twin REX, non-skids both wheels ..	£18 18
5½ h.p. Twin REX, magneto, 1907	£23 10
4-5 h.p. Twin ALCYON, N.S.U., two-speed ..	£20 0
5 h.p. Twin SAROLEA, long frame	£18 18
6 h.p. Twin ANTOINE, R.O.M. ignition ..	£22 0
5 h.p. Twin ONAWAY, very low, spring forks ..	£19 0
6 h.p. Twin ANTOINE, spring forks	£22 0
5½ h.p. REX DE LUXE, two-speed	£32 10

SINGLES—Offers Wanted.

1908 REX, magneto, featherweight, nearly new	£19 19
1908 MOTOSACOCHE, splendid condition ..	£22 10
1908 N.S.U. Lightweight, magneto	£22 10
1908 3½ h.p. N.S.U., had trial only	£34 0
1908 3½ h.p. REX DE LUXE, two-speed	£35 0
1907 3½ h.p. Magneto REX, black finish	£20 0
Very fine 4-cyl. F.N., spring forks	£20 0
3 h.p. SINGER, H.T. magneto	£20 0
3 h.p. TRIUMPH, magneto	£24 10
3 h.p. TRIUMPH, spring forks	£21 0
3½ h.p. Magneto REX Racer, a flier	£25 0
3½ h.p. 1906 REX, spring forks, long bars	£15 0
2½ h.p. Magneto REX, 1908, shop-soiled	£22 0
3½ h.p. MINERVA, M.O.V., vertical, spray ..	£16 10
3 h.p. GIVAUDAN, nearly new, very low ..	£16 0
3 h.p. QUADRANT, spray, spring forks	£13 0
3 h.p. LLOYD'S, 26 × 2½in. Palmers	£13 13
4 h.p. ANTOINE, vertical, M.O.V., spray	£16 0
2½ h.p. MINERVA, fine condition, M.O.V.	£13 10
2½ h.p. CLYDE, magneto, vertical, spray	£15 0
4 h.p. ANTOINE, 26 × 2½in. tyres	£16 10
3½ h.p. SIMMS, magneto, 2½in. Palmers	£17 10
3½ h.p. QUADRANT, 1906, spring forks	£18 10
3½ h.p. CENTAUR, free engine, M.O.V.	£16 0
2½ h.p. F.N., special frame, reliable	£12 10
3 h.p. HUMBER, spray, good climber	£10 10
3 h.p. FAFNIR, very low, spray	£13 10
3½ h.p. REX, 22in. frame, trembler coil	£11 10
2½ h.p. MINERVA, 26 × 2in., spray, vertical ..	£11 10
3 h.p. BROWN, spray, guaranteed	£12 10
3 h.p. M.M.C., spray, very low	£10 0
3½ h.p. EXCELSIOR, spray, trembler coil	£10 10
2½ h.p. COVENTRY EAGLE, vertical spray ..	£10 0
3½ h.p. Two-speed REX, suit sidcar	£13 10
2½ h.p. F.N., light, low, smart appearance	£12 0
2½ h.p. CLEMENT, very low, good order	£11 0
2½ h.p. KERRY, spray, low, reliable mount	£10 10
2 h.p. RALEIGH, spray, smart	£8 0
2½ h.p. ROYAL, vertical, spray, trembler coil ..	£7 15
2½ h.p. HASKARD, spray, smart	£11 10
1½ h.p. MINERVA, spray, suit light rider	£5 10
2½ h.p. EXCELSIOR, trembler coil	£8 0
2 h.p. HUMBER, chain drive, trembler coil ..	£6 10
2 h.p. PEUGEOT Lightweight, smart	£9 10
2 h.p. Magneto SIMMS, vertical engine, spray ..	£6 10
4 h.p. CORONET, tyres as new, smart	£14 0
2 h.p. MINERVA, spray, smart, good	£7 0

TRICARS.

4½ h.p. W.C. BRADBURY, 2 speeds	£37 10
5½ h.p. REXETTE, W.C., two speeds	£35 0
REX TRICAR, coach built	£13 10
Twin REXETTE, W.C., two speeds, 8 h.p.	£47 10
4½ h.p. STEVENS Tricar, very low built	£15 0
5 h.p. HUMBER, open frame, W.C., 2 speeds ..	£35 0
REX, Phoenix Two-speed	£18 10

Extended payments to suit all requirements.

CARS.

18 h.p. REMO, magneto ignition	£225 0
10-12 h.p. BRUSH, tonneau, three speeds	£55 0
6½ h.p. ASTER, three speeds, two-seater	£30 0
6½ h.p. HUMBERETTE, two-seater	£45 0

Gnawiter Rubber and Canvas Belting.

½in. 10d., ¾in. 1/1, 1in. 1/4, 1in. 1/9 per foot. Liberal allowances for old belts.

High-class Magneto Machines Wanted for spot cash.

The Halifax Motor Exchange,
16, Westgate, Halifax

Telephone: 766.

Telegrams: "Perfection."

MOTOR BICYCLES FOR SALE.

21 h.p. Peugeot, as new; **2** h.p. Bowdler, good order; **1½** h.p. Werner, good order; £30 the lot.—"Cycle," 21, Balfe Road, Ilford.

1908 Triumph, handle-bar control, as new, £38 lowest.—C.V.M., 3, Avonmouth Road, West Kensington. Telephone, Hammersmith.

TWIN Kerry, **5** h.p., Continental belt, two accumulators, S.N.P. stand, perfect condition; £18.—53, Kingsley Avenue, W Ealing, London.

31 h.p. Ariel, Osborne four-speed, free gear, gine, Dermatine, Dunlops, long handles, low, perfect condition.—West, Grand Hotel, Eastbourne.

51 h.p. New N.S.U. Motor Cycle, 1908, two cylinder engine, magneto; very low, best cash, £38.—Wauchope's, 9, Shoe Lane, Fleet Street, E.C.

£16.—Chater-Lea motor cycle, **5** h.p. Sarolea (Kerry), twin, long and low, free engine, in fine running order.—309, Brighton Road, Croydon.

31 h.p. White and Poppe, fine condition, new, Continental tyres, new Sha rock-Gloria belt; £14.—S.C.P., 163, Balak Street, Plaistow.

1908 N.S.U. Lightweight, magneto, overhauled for two months, new and perfect condition; lowest £23.—F. Jermy, Frimley Green, Surrey.

21 h.p. Peugeot throughout, low built, splendid condition; trial; motor wanted.—Goldwasser, 25, Southampton Street, Pentonville.

21 h.p. F.N., splendid condition, vertical engine, spray, footboards, stand; except £10.—Millar, 44, Lancaster Street, Borough Road, S.E.

CORONET, **3½** h.p., magneto, Chater-Lea throughout, almost new; bargain, 10 guineas.—Whittle, 3, Bexhill Terrace, Moton Road, Southfields.

23 h.p. M.M.C., De Dion pattern engine, Longuemare carburetter, and 9 aluminium cone clutch; £3.—Page, 18, Tottenham bridge Road, Clapham.

4 h.p. Military Model Roc, two speed clutch, magneto, new non-skid tyres, spares, all complete order; £25.—Innes, Station Valence, Maidstone.

CLEARANCE of Second-hand Motor Cycles, several good machines at ridiculously low prices.—H. P. Rose, Ltd., 28, Frith Street, Shaftesbury Avenue, W.

4 h.p. Stevens, low, spring forks, Longuemare carburetter, Goodrich tyre, footboards, fast, in fine condition; £16.—Shenley Road, Camberwell.

4 h.p. Roc, Military Model, clutch, splendid condition, enamel like new, Bonnet magneto, footboards, spare cover, tube; £11.—11, Normanton Street, Brighton.

5 h.p. Roc, twin Peugeot engine, free gear, gine clutch, magneto, excellent machine; £26 10s.—Garaged at Wauchope's, Shoe Lane, Fleet Street, London, E.C.

1908 Moto-Reve Lightweight, brand new, owing to cancelment and forfeited deposit, can be purchased for 27 guineas.—936, The Motor Cycle Offices, Coventry

MOTOSACOCHE, accumulator, spray handle-bar, Millennium stand, ridden 400 miles; cost £33 10s., lowest £22.—J., 9, Great Tower Street, London, E.C.

31 h.p. Ariel, spring forks, carrier, handle-bar stand, two accumulators, lamp, horn, wallet, tools, and spares; £15; seen at 5.—409, Green Street, Upton Park, London

23 h.p. Scout, nearly new condition, free up hills, light, smart, low, thorough, reliable, forced to sell; £12 for quick sale.—Motorist, 7, Bodney Road, Hackney, London.

7 h.p. Peugeot, twin, magneto, Chater-Lea fittings, not ridden 500 miles, good new, too fast for owner; £35, or near offer.—Crowe, 36, Willesden Lane, Kilburn, N.W.

23 h.p. Brown, Longuemare, Palmer, Continental belt, stand, tools, excellent condition; genuine bargain, £11, no offer accepted.—62, Colvestone Cresce Dalston.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TRICARS FOR SALE.

1 h.p. Noble Tricar, Peugeot engine, free, two speeds, art cane forecar, good condition throughout; £20 (cash only).—70, Newwood Road, Hounslow.

BENZ, 4½ h.p. Victoria, three speeds, including Crypto, solid tyres, guarantee good goer; £10, cash wanted.—Thomas, Sandfield Road, Thornton Heath.

RILEY Tricar, 4½ h.p., in thorough order, many spares, smart appearance; cash £45; seen any time.—63, Showell Green Lane, Sparkhill, Birmingham.

WATER-COOLED Tricar, 4½ h.p. M.M.C. engine, Chater-Lea fittings, in thorough order; £25, or nearest.—Dowglass, 96, Upper Richmond Road, Putney.

1 h.p. Water-cooled Humber, two speeds, foot clutch, coach-built, condition perfect, tools, spares; any trial; £25.—Bartlett, Blowfield, Hornsey Lane, N.

3 h.p. Rexette, car built, water-cooled, two speeds, Michelin and two new Clinchers, first-class condition; trial; £40.—Dr. Gaskell, 44, Mount Park Road, Ealing.

17-68 h.p. twin-cylinder tricar, three speeds, large clutch, wheel steering, bucket seat, wants slight adjustment; must sell.—66, Grand Parade, Haringay.

WHAT Offers?—5-6 h.p. Twin Rex Tricar, in perfect running order; consider exchange for good magneto cycle.—Chapman, 64, London Road, Southwark.

1 h.p. Aster Tricar, W.C. head, Chater-Lea, chain driven, Bozier two-speed, in perfect order, and most reliable; £25.—Cale Street, Sydney Street, Chelsea.

1 h.p. Wolf Tricar, w.c., Anglian two speeds, coach built, Dunlops; bargain, £22 10s., or exchange twin motor cycle. Letters, 1a, Torbay Road, Kilburn, London.

VON Tricar, 5-6 h.p., three speeds, wheel steering, water-cooled, Bowden controls, in nice condition; £22; seen, tried any time. Thomas, Sandfield Road, Thornton Heath.

AGONDA Tricar, 10-12 h.p., water-cooled, three speeds, in excellent order throughout; price £55.—Further particulars apply, Western Motor Works, Sidcup, S.E.

GENUINE Phoenix Trimo, 5-6 h.p. twin Peugeot, two speeds, free engine, handle starting, wheel steering, coach built, sprung like a car, guaranteed perfect condition, £5 spares; will exchange for 1908 Triumph, or sell.—Motor, 11, Chester Road, Wellingborough.

GENUINE 4½ h.p. Riley Light Tricar, free engine, excellent condition; £22 10s.; offers; exchange; magneto lightweight preferred.—Brown, Blake House, Osmaston, Ashbourne.

6 h.p. Twin-cylinder Tricar, wheel steering, coach-built seats, two-speed gear, sprung like a car; £50, or exchange and cash for small two-seated car.—Carnforth Cycle and Motor Co., Carnforth.

MART Little 3½ h.p. Phoenix Trimo, Minerva engine, splendid condition, perfect order throughout, tyres and belt practically new; exceptional bargain, £15.—A.T.S., 86, Olvestone Crescent, Dalston London.

1 h.p. Genuine De Dion Tricar, Chater-Lea open frame, wheel steering, two speeds, coach-built, smart appearance, thorough going order; must sell; owner bought car; £32.—Liversidge, Bangor Road, Brentford.

h.p. Humber Tricar, coach-built throughout, water-cooled, two speeds, steel on-skid back, quantity spares, perfect condition; would entertain exchange; £35.—Lawkins, 64, Belgrave Gardens, Martha Road, Vanstead.

h.p. Twin Kerry Engine Tricar, Longuemare, new Clincher tyres, wing guards, splendid condition, fast, reliable; any trial; £26, or exchange good motor cycle and cash.—18, Ferncliffe Road, Sandringham Road, Dalton, London.

15, or offer.—Wolf tricar, 3½ h.p. Whitley engine, aluminium forecarriage, bucket driving seat, two speeds, chain transmission, belt drive, non-skid back, handle starting, running order, horn, two spare valves.—St. Edmund Motor Works, Abington Square, Northampton.

SOME SPECIAL HIGH-CLASS CLEARANCE LINES.

All guaranteed in first-class running order.

5½ h.p. TWIN-CYLINDER brand new N.S.U., magneto, 1908 model. £38. splendid bargain, at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

2 h.p. MOTO-REVE, 1908 model, twin cylinder engine, not run 500 miles. £25 lowest cash. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

THREE 1907 brand new TRIUMPHS, fitted with 1908 engines, 84 by 86, all at £41 nett. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

2 h.p. LIGHTWEIGHT PEUGEOT, vertical engine. £10. Unprecedented opportunity. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5-6 h.p. TWIN ROC, two speeds, starting handle, Druid spring forks, 1907 model, 2½ in. tyres, magneto ignition, not ridden 300 miles, just as new. Lowest price 30 Guineas. Splendid bargain. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5 h.p. VINDEC SPECIAL, 1907 model, twin engine, magneto ignition, in first-class repair, fitted foot-rests, Truffault forks, low frame, splendid opportunity. 30 Guineas at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

4 h.p. BAT, J.A.P. engine, sprung back and front, London to Edinburgh machine, 1907 model, in best of condition, very powerful. £25. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3 h.p. 1906 TRIUMPH Motor Cycle, magneto ignition, spring forks, smart little mount. £22 10s. opportunity. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

2½ h.p. FEATHERWEIGHT REX, 1908 model, in condition like new, magneto ignition. £16 10s. lowest cash. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

2½ h.p. F.N., magneto ignition, spring forks, very little used, with full complement of tools and accessories. £19 19s. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5 h.p. TWIN ROC, Peugeot engine, free engine clutch, magneto, starting handle, pink of condition. £26 10s. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½ h.p. 1908 BROWN, non-skid back wheel, not run 500 miles, standard model. £22. Unprecedented opportunity, at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½ h.p. TWIN-CYLINDER PEUGEOT, Chater-Lea frame, low-built, torpedo tank, silent and fast. £18. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5 h.p. 1908 VINDEC SPECIAL, as new. £35. First cash. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½-4 h.p. ALLDAYS Motor Cycles, two ignitions, very powerful, in condition as new, low frame. £19 19s. Bargains at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5 h.p. TWIN-CYLINDER REX, smart, and in perfect running order, spring seat, tools, accessories. £15. Splendid opportunity at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

5 h.p. TWIN PEUGEOT, Rex frame, magneto, very fast, lowest possible, £19 19s. Worth inspection. Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½ h.p. 1907 TRIUMPH, magneto, spring forks. lowest, £26 10s. At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

Also a large selection of Second-hand Machines of various makes, all guaranteed, from £6 10s.

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THE WORLD'S
LARGEST DEALER

TELEGRAMS: OPIFICER, LONDON.
TELEPHONE NO. 5777, HOLBORN.

TRICARS FOR SALE.

DE DION Engined Tricar, 4½-6 h.p., w.c., Oppermann three-speed and clutch, coach-built, Palmer cord (700 by 75) and Dunlops, fast, climb anything; for immediate sale, £25 cash.—Frank Almgill, Yeaton, Leeds.

8-10 h.p. Rexette Tricar, seats three persons, in almost new condition throughout, little used; any trial; cost £130, sacrifice £39; first-class motor cycle or light tricar taken part payment.—R. Else, Leawood, near Matlock.

MOTOTRI Contal, 5 h.p., the best French tricar, recommended by editor, water-cooled, two speeds, chains, fast, and excellent order; £50, cost over £100, or accept good motor cycle and cash balance.—Longford Villa, Uddingston.

GLASGOW.—9 h.p. Singer tricar, three speeds, reverse, coach-built, seats three, side doors, heavy Dunlop tyres, four lamps, numerous spares, and many extras, almost new; bargain; owner going abroad; £68.—Templeton, 535, Sauchiehall Street.

3½ h.p. Fafnir, w.c., open frame, wheel steering, Brooks bucket seat, roomy front wicker, Kent three-speed gear, chain driven, foot and side brakes, all in good condition; seen by appointment; £28.—18, Percy Avenue, Kingsgate, Broadstairs.

3 h.p. Fafnir, Chater-Lea, coach-built, wing mudguards, Peter-Union and Palmer tyres, two accumulators, Bassee-Michel, Dermatine, fast and powerful, lot of spares, etc.; £16 10s.; letters only; motor bike part.—Nicholls, 4, Ruston Mews, Notting Hill.

MISS MURIEL HIND'S Rex Tricar, 6 h.p., water-cooled, open frame, wheel steering, built for Land's End to John-o'-Groat's, cancelled on account of delay in delivery, just finished after being tested in rough; £100 to clear.—The Rex Motor Mfg. Co., Ltd., Coventry.

5 h.p. Twin Rex Tricar, coach-built front, Clinchers, studded back, Whittle, Longuemare, coil ignition, spring saddle, lamps, spare tyres and bike attachment, new condition; trial; offer, or exchange good 3½ h.p. and cash.—Barber, 17, Galena Road, King Street, Hammersmith.

6 h.p. Rexette, car built, Thermo-syphon water-cooling, wheel steering, large horn, with flexible, heavy Michelin back, new Clinchers front two speeds, metal-to-metal clutch, Hans Renold chain, carriage springs, spares first-class condition; offers.—Dr. Gaskell, 44, Mount Park Road, Ealing.

BEAUTIFUL 6 h.p. Singer Tricar, as new, cost £130, sacrifice £45, bargain; also Rex water-cooled 5-6 h.p. open frame tricar, lovely condition, only wants seeing, any trial, motor cycle part payment either, accept £38 10s.; several Marconi accumulators in mahogany cases, as new cost 75s. each, sell 25s.—W.T., 35, Roland Road, Walthamstow.

GREAT Bargain for cash.—5-6 h.p. Rex Tricar, two speeds, three seats, just been thoroughly overhauled, re-plated and painted, bills for above work shown, very reliable machine indeed, and excellent hill-climber, new Clincher tyre; any trial and examination; sacrifice for £29 10s.—Fletcher, 21, Pleydell Avenue, Anerley Hill, Upper Norwood.

AUTOMOTOR Tricar, coachbuilt, as new, free engine and clutch, chain drive, wheel steering, complete control from steering column (same as a large car), large polished brass tank, 22 by 11 by 4, for petrol and oil combined, enamelled red, black lining, etc., unscratched, just completed run London to Yarmouth and back; £30, or nearest offer.—Chase, 9, Greyhound Road, Tottenham, N.

9 h.p. Riley Tricar, three speeds and reverse, coach-built, open frame, and wheel steering, guaranteed as perfect as new, has several spares, non-skid on the back wheel, lamps, horn, electric tail lamp; any severe trial can be given; it will do forty miles with a gallon of petrol; price £65, will take an up-to-date motor cycle in exchange.—Garaged at Wauchope's, 9, Shoe Lane, Fleet Street, London.

TUITION.

MOTOR Car Driving Taught in one month. —Particulars, 661, The Motor Cycle Offices, Coventry.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

SIDECARS AND FORECARS.

£4.—Montgomery, either side, 26 or 28in. wheel.—76, Willesden Lane, N.W.

MONTGOMERY Sidecar, 28in. wheel, good tyre, 24in.; £4.—Kent, Downfield Road, Bristol.

RIGID Montgomery Sidecar, excellent condition; £4; what offers?—St. Norman's, Streatham Hill.

SIDECAR and 6 h.p. Antoine, Chater-Lea, in excellent order; £27.—16, Sansome Walk, Worcester.

FORECAR, 26in., fit Chater frame, £5 5s.; also sidecar, ditto, £4 15s.—Ellis, Oxford Road, Kilburn.

SIDECAR, Montgomery, almost new; £6, with all fittings.—Rae, Thornton Street, West Hartlepool.

FOR Sale, rigid sidecar, 26 wheel, wicker seat, perfect; £2 15s.—Stevens, 4, Goldhawk Mews, Shepherd's Bush.

CHATER-LEA Forecarriage Attachment, no seat, nearly new; best offer accepted.—24, Southgate Road, London.

FOR Sale, new condition, Montgomery flexible sidecar.—Apply, Messrs. Attride, Wellington College Station, Berks.

MILLS-FULFORD castor wheel Sidecar, splendid condition; £7 10s., or near offer.—Carwin, Melbreak, Cadley, Preston.

PHENIX Coach-built Forecar, 26 by 24 wheels, splendid condition; £5 15s., lowest.—47, Montague Road, Dalston, London.

SIDECAR, coach-built, 26 wheel, rigid, new, £6 10s.; complete new 26in. wheel, Continental tyres, £2.—Sembill, Church End, Finchley.

FOR Sale, forecar attachment, wicker seat, upholstered, 26 wheels, tyres perfect; £2 15s.—Stevens, 4, Goldhawk Mews, Shepherd's Bush.

CHATER-LEA Sidecar, latest 12 guinea model, quite new, suit Triumph or Roc; sacrifice £6 12s.—J. Sallows, 50, Vauxhall Bridge Road.

FORECAR Attachment, side stays, band brakes, 26in. wheels, cane body, with basket, complete, less tyres; 55s.—Lewis, 23, Arden Road, Handsworth.

PHENIX Forecar Attachment, wicker, upholstered green, neat box under, spring footboards, brakes, apron; £4 15s.—Chattell, Kingsley Park, Northampton.

1908 Montgomery Sidecar, run 200 miles only, like new, also Mabon clutch, fit Triumph; will take £10 10s., or offer.—Smart, 468, Garratt Lane, Earsfield, S.W.

MONTGOMERY Flexible Sidecar, left hand, with luggage basket and apron, nearly new condition, 26 by 24 Model de Course tyre, hardly worn; £4.—T. Worrall, 22, Park Street, Walsall.

SIDECAR, fit any frame, perfect condition, 26in. Continental tyre, motor tyre; lowest price £4 5s.; also genuine Chater-Lea, price £6 5s.—C. A. Edgar, 123, Holloway Road, London, N.

STAMFORD HILL.—Famous rigid sidecars, instant delivery, none better, fit your machine, £4 18s. 6d.; sound second-hand sidecar, £3 5s.; another, £4.—128, High Road, Tottenham.

BOOTH.—Several Montgomery sidecars, cheap, shop-soiled. A few second-hand sidecars very cheap. State requirements.—Booth's Motor Exchange, Wade Street, Halifax.

SIDECARS.—Special price until November. Our rigid type sidecars, the best of all, upholstered wicker chair, Clincher A Won motor tyre, detachable wheel, wide mudguard, exquisite finish, £4 17s. 6d. with snug underframe pic-nic basket, 19 by 16 by 6, fitted, £5 17s. 6d.—Pilot Co., Soho Road, Birmingham.

THE Oakleigh Sidecar is the only sidecar of its kind. Sideslip impossible; price £5. The Oakleigh spring wheel sidecar takes up all shock to bike frame. The same as illustrated in last issue. We hold the sole manufacturing rights for this sidecar. Come and have a free trial. We don't press you to buy. Price £8.—Oakleigh Motors, Ltd., West Dulwich. Telephone, 93, Sydenham.



Accumulators UNSPILLABLE 1908 TYPE.

Read what a private rider says (*Motor Cycle*, July 15th, '08, letter No. 3414) when answering a letter from another reader of the *Motor Cycle*, who does not use "E.P.R." accumulators.

"If your correspondent will try 'a couple of 'E.P.R.' unspillable accumulators, I think his troubles will be at an end. If he cares to do so, he can put them in his tank upside down, but he will get 'no acid trouble. Unlike most of 'the unspillable type, they contain 'no jelly. I have had two in use 'for some considerable time, and 'find them excellent."

No. 20c. 4 x 2½ x 6in. "Acid type," 14/6.



No. 20c /08. 4 x 2½ x 6in. "Unspillable," 17/6.

We make these unspillable accumulators in all sizes from 5 to 50 amp. capacity. All unspillable types are sent out fully charged and ready for use. No loose acid to shake out. Full instructions with every cell. All batteries, whether usual type or unspillable, fitted with "E.P.R." non-corrosive terminals.

A FEW SIZES ARE LISTED HERE.

		"Acid type."	"Unspill."
The "Fleet"	4 volt 5 amp.	6/6	7/6
	3½ x 1 x 4½		
No. 10c	3½ x 2 x 6	10/6	13/6
" 16r	3½ x 2½ x 5½	13/6	16/-
" 20c	4 x 2½ x 6	14/6	17/6
" 30c	3½ x 2½ x 6	18/6	21/-
" 40c	4½ x 4½ x 6½	25/-	28/6

REPAIRS.—We make a speciality of treating old and damaged batteries. We can either repair and make them equal to new, or else allow their value in part exchange for new "E.P.R." cells. Send for new catalogue and terms.

NOTE.—All repair work guaranteed.

Richford and Co.,
ACCUMULATOR SPECIALISTS,
153, FLEET STREET, E.C.
Established 1876.

SIDECARS AND FORECARS.

EXCEPTIONAL Value.—Montgomery sidecar, 26 wheel, Clincher, aluminium coach-built body, enamelled dark green cushion, apron; £5 10s.; extra spring same, 6s. 6d.—Hetherington, chemist, Moff

MOTOR TRICYCLES.

£7 10s., or first offer.—Beeston Humber tricycle, De Dion engine, perfect order, seen at E. G. Young and Co., Trent Bridge Nottingham.

4½ h.p. Genuine W.C. De Dion, carburettor coil, and silencer, £8; 3 h.p. Humber tricycle, with free engine, £10; two-speed reverse gear box, £3 10s.—Turner, Ship Street, Rotherham.

SINGER Motor Tricycle, 2½ h.p., hair-stuff spring seat, with accessories, in perfect condition, as new, tyres unpunctured, sell £14; owner bought car; seen by appointment.—B., Hill Crest, Palewell Park, East Sheen, S.W.

2½ h.p. Genuine De Dion Tricycle, Full coil, 28 by 3 Dunlops, unscratched, voiturette Clincher tubes, unpunctured, enamel and plate exceptionally good, bearings, gears, and engine in perfect condition, spare valves, etc.; £15, no offers exchange.—Malim, Grantham.

QUADRICYCLES.

QUADRICYCLE, Dennis-De Dion, 2½ h.p. w.c. head, two speeds and free, coach-built forecar on Cee springs; £14.—Thomson, Sandfield Road, Thornton Heath.

TRAILERS.

MOTOR Trailer, complete, with tyres, good condition, 30s.; also first-class leather coat, 38in. chest, 18s. 6d.—Major, 910, Hyde Road, Gorton, Manchester.

QUADCARS.

PHENIX Quadcar, 8 h.p., two-cylinder water-cooled Fafnir engine, two speeds and reverse, in perfect order; £40, or nearest offer.—Bailey, London Road, Redhill.

6 h.p. Phoenix Quadcar, two-cylinder water-cooled Fafnir, magneto, two speeds, reverse, guaranteed perfect, three lamp spares, two covers, two tubes, magneto valves, etc.; any trial and expert examination; bargain, £35.—Rowland Moody, Niglingale Grove, Shirley Road, Southampton.

CARS FOR SALE.

PALMER.—3½ h.p. De Dion Quad, water-cooled, two speeds; any trial; £12 10s.

PALMER.—4½ h.p. De Dion engine car, two speeds, reverse, reliable, perfect; £10s.

PALMER.—6½ h.p. Darracq, two-seater, three speeds, reverse, excellent condition throughout; £35.

PALMER.—10-12 h.p. Gladiator, tonneau, twin-cylinder, three speeds, reverse, very reliable; £55.

PALMER.—16-20 h.p. Winton, 1907, side entrance, four-cylinder vertical engine, magneto; £100.

PALMER.—16-24 h.p. De Dietrich, four-seater, four-cylinder, magneto, four speeds, 45 m.p.h., guaranteed; £145.

PALMER.—24-30 h.p. Hurst and Lloyd, side entrance, four-cylinder, cardan drive, perfect; £95.

PALMER.—16-22 h.p. Gladiator, 1906, side entrance, long chassis, four-cylinder, perfect; £140.

PALMER.—7-11 h.p. Panhard Delivery Van, twin-cylinder, four speeds, reverse, £29.—L. N. Palmer, 190, Mellison Road, Tottenham. Telephone, 208 Streatham.

MORS Car, seats four; £30, or nearest trial by appointment.—Smith, plumber, Wivenhoe.

6 h.p. Clement Two-seater Car, cardan drive, modern appearance; any trial; £32.—Robinson, 102, High Street, Manchester.

8-10 h.p. Darracq (single-cylinder), 1907, four-seater, swing seat, in every way new, absolutely reliable, and extremely light on tyres and petrol; £140; trial and inspection with pleasure.—Toby, 9, Sydney Street, South Kensington.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

EXCHANGE.

EXCHANGE White and Poppe Tricar. Chater-Lea, Longuemare, mechanical, for good motor bike and cash, or sell £20.—Herd, Colnbrook.

EXCHANGE Chater-Lea lady-back tandem and Chater gent's single for 3½ h.p. motor cycle and sidecar.—Regan, 47, Ellington Street, Barnsbury, N.

PHOENIX Quad, good condition, spares; part exchange motor cycle, four-cylinder F.N. preferred.—B. Martin, 10, West Chapel Street, Mayfair, London.

61 h.p. Century Tricar, wheel steering, good order, two speeds, for motor bike and cash, or small car, or sell £30.—No 933, *The Motor Cycle Offices*, Coventry.

£70, or offer, exchange.—Two or four-seater Siddeley-Wolseley car, equal artillery wheels, good running order, two cylinders.—Owner, 21, Balfour Road, Ilford.

23 h.p. De Dion Pattern, in going order, and £5 5s. 1908 Standard phonograph, exchange for good strong motor cycle.—R. Bell, 9, Zion Row, Ebbw Vale, Mon.

EXCHANGE 1906 3½ h.p. Minerva, for 2½ h.p. Rex, featherweight; will send photo; cash adjustment; or sell £16.—Pearce, Coffee Bar, Tournay Barracks, Aldershot.

EXCHANGE brand new 28in. by 2½in. Dunlop cover, cost 27s. 6d., for 28 by 2in. of same or equal make, or sell for 18s. 6d.—Alexander, 138, Wendover Road, Staines.

VAUXHALL, 6½ h.p., two-seater, tiller steering, good climber, Stepney, spares; £30, or exchange 4½ Drummond lathe and cash.—Box 933, *The Motor Cycle Offices*, Coventry.

EXCHANGE Cycle, three-speed, truss frame, for good motor cycle; sell £11; another cycle, would exchange for one requiring repairing.—Wheatland, Newport, Mon.

EXCHANGE Rudge-Whitworth road racing tandem, nearly new, also 24in. roadster, and little cash, for 3½ h.p. Triumph, magneto.—Willis, shoemaker, Hadfield, near Manchester.

7-9 h.p. Peugeot, sidecar, Roc, two speeds, magneto, Palmers, built by Chater-Lea, ridden 200 miles, perfect; exchange two-seater car, no rubbish.—Tarr, Cemetery Road, Sheffield.

EXCHANGE for lower power and little cash 3½ h.p. Rex, very powerful, takes sidecar, low saddle, long handle-bars, well tuned up.—E.S., 4, New Norfolk Street, Curtain Road, London.

EXCHANGE for motor cycle and cash 1907 practically brand new 6 h.p. twin Rex triette, cantilever seat, every refinement, absolutely perfect condition.—Exchange, 86, Holvestone Crescent, Dalston, London.

MOTOR Cycles, new or second-hand, taken in part payment for talking machine supplies (wholesale), one of the largest stocks in England to draw from.—No. 873, *The Motor Cycle Offices*, 20, Tudor Street, E.C.

EXCHANGE for good motor cycle, tricar, or modern small car, new high-class furniture, any description, valued wholesale, direct from works.—Furniture manufacturers, 7-11, French Place, Shoreditch, London.

£65.—Smart 6½ h.p., water-cooled, two-seater, bucket seats, three speeds and reverse, direct on top, cardan drive, equal artillery wheels, good order throughout; exchange part.—Motorist, 21, Balfour Road, Ford.

TRIUMPH, 1907, adjustable pulley, Liberty sidecar, exchange both for 1908 Triumph; Osborne four-speed free engine pulley, fit twin Brown, 35s., exchange studded over, 26 by 24.—Horner, Milnes Street, Wellington Road, Leeds.

EXCHANGE 5½ h.p. Baby Peugeot car (latest type), three speeds, reverse, artillery wheels, paint, gears, etc., splendid order, fast and economical, for 1908 Triumph Vindec, and £15, or other good make.—amonyb, Greenrig Street, Uddingston.

COTLAND.—Wanted, Phoenix or other quad, Humberette, Minervette, or light car, good order; will exchange 1908 3½ h.p. Minerva, torpedo tank, unpunctured, complete set spares, Whittle belt, only ridden a few miles; half carriage paid to Glasgow each way; guaranteed perfect.—No. 934, *The Motor Cycle Offices*, Coventry.

Stanley Dermatine,

The Motor Belt of Merit.
BRITISH IS BEST.

TOURIST TROPHY RACE

Twin Class won on **Dermatine Belts**.
London to Edinburgh.

Land's End to John-o'-Groat's.

London to Land's End and back.

London to Plymouth and back.

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Copy of Mr. Reed's letter:

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"Dear Sir,—I used your belt and fastener in the Tourist Trophy Race, Isle of Man, and won the twin class, and I am pleased to say that both went through without giving the slightest trouble.

"Yours faithfully,

"(Signed) H. REED."

Two years in succession first prizes
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RESULTS TELL.

Hundreds of Testimonials. British Made.

**NOTE THE PRICES.**

¾ in.	¾ in.	¾ in.	1 in.
1/2	1/4	1/8	1/11 per ft.

POST FREE.

The **STANLEY DETACHABLE FASTENER**.
30,000 in use.



With Unbreakable Hook. Guaranteed. (Made under Simplex Patent.) In sizes ¾ in., ¾ in., ¾ in., 1 in., 1½ in. each. Wholesale and Retail.

The **STANLEY DERMATINE**
MOTOR BELT CO.

32, London Road, BROMLEY, KENT.
STANLEY WEBB, Manager.

¶ Readers who purchase, or contemplate purchasing, a new machine, should advertise their present mount in these columns. ¶ Experience has shown that "The Motor Cycle" is, in the majority of cases, successful in finding a purchaser. ¶ This applies also to accessories and spares. ¶

WANTED.

WANTED, two 24 by 2½ or 2½ tyres; cash.—52, Perry Hill, Catford.

£10 for your old machine.—No. 940, *The Motor Cycle Offices*, Coventry.

MOTOR Cycle, 2-3 h.p., 26 wheels, low, perfect.—13, Cadogan Road, Cromer.

WANTED, 1908 Motosacoche, for cash.—Apply, Treelands, Leekhampton.

MINERVA, standard 1906-1907, about 2½ h.p., for cash.—30, High Street, Walsall.

WANTED, Chater-Lea three-speed reverse gear.—Young, Gas Works, Bishop Auckland.

WANTED, cylinder and piston, 1906, 3½ h.p. Rex; approval.—Harwood, Sandwich, Kent.

WANTED, sidecar, good make, cheap for spot cash.—5, Heath Street, Hampstead.

CRANK Case, for Minerva, 2½ h.p., inclined, automatic inlet.—Glen, The Avenue, Chingford.

WANTED, Girder Forks, twin Rex, 1906 pattern, for cash.—Electricity Works, Folkestone.

WANTED, F.N. or Triumph, Roc, or any good make.—Rey, 5, Heath Street, Hampstead.

WANTED, crank case, for cylinder, 3½ in. bore.—Garland, 221, Adelphi Street, Glasgow, S.S.

ELECTRIC Motor Cycle Lamps, latest; agents wanted.—82, Upper Tooting Road, London.

WANTED, Trailer, small, light, exchange for triplet or sell; £6.—Arch, Market Place, Boston.

WANTED, Phelon and Moore, with or without sidecar.—Hillier, Woodley, Romsey, Hampshire.

WORKING Partner in motor cycle business, London.—Box 944, *The Motor Cycle Offices*, Coventry.

WANTED, 28 by 3½ wired edge cover, in good condition.—Hawthorn, Baguley, Altrincham, Cheshire.

WANTED.—Advertiser offers £1 for Brooks tricar bucket seat.—Reply to L.S., 182, Ewell Road, Surbiton.

WANTED, 2½ h.p. engine, Minerva preferred.—Alfred Webb, 106, Wellington Street, Canton, Cardiff.

WANTED, Single-cylinder 4½ or 5 h.p. engine, w.c., in good condition.—Russell, 72, High Street, Croydon.

WANTED, Tricar, thermo-syphon, radiators and three-speed gear box.—27, Cambridge Road, Barking.

WANTED, good car, cheap for cash, slight repairs not objected to.—14, Zermatt Street, Chapelton, Leeds.

TRIUMPH Wanted, 1908 preferred, cash or part exchange Phoenix quadcar.—Motorist, Theatre, Nuneaton.

WANTED, 1½ to 1½ h.p. engine, carburetter, silencer, cheap.—30, St. John's Road, New Shildon, Durham.

WANTED, 1908 Osborne four-speed, automatic jockey, fit Minerva.—Smith, Sunnyside, Meanwood, Leeds.

1908 Triumph wanted; private owners only; Oxford district preferred.—Motor, Ewelme, Wallingford.

ENGINE, about 3 h.p., inclined: cheap for cash; no rubbish; approval.—Salmon, engineer, Wroxham, Norwich.

HUMBERETTE, or similar, and little cash for 9 h.p. Riley tricar, or cash offer.—Shephard, Charles Street, Bath.

WANTED, 28in. by 2in. Palmer or Clincher cover, good condition; cheap.—15, West Street, Pimlico, London.

WANTED, reliable, medium power bike, good condition, spring forks, accessories, cheap.—Full particulars, Kennton, Rhyl.

WANTED, second-hand Montgomery or Millford sidecar, 24in. wheel, good tyres; cheap for cash.—Bannister, Easingwold.

WANTED.

WANTED, good air-cooled cylinder and piston, Triumph preferred.—Tyndale, Bartlefrere, Haileybury, Hertford.

METAL-TO-METAL Clutch, and three-speed and reverse gear box, for 9 h.p. car.—Turner, Ship Hill, Rotherham.

WANTED, gears, for 6-8 h.p. Decauville, air or water-cooled.—F. Ranger, 2, Camden Hill Road, Upper Norwood.

WANTED, Two-wheel Attachment, or fore-car for motor cycle, give good exchange.—Stephenson, Castleside, Consett.

F.N., four-cylinder, 4½ h.p., wanted, with Mills and Fulford castor wheel sidecar.—Clark, Riverside, Walton-on-Thames.

7½ FT. 3in. Whittle Belt, good, also small generator for motor cycle (approval).—Henderson, 4, Lothian Street, Edinburgh.

WANTED, petrol engine, any condition, and frame, tank, wheels, also old Minerva or F.N.—61, London Road, Manchester.

WANTED, Phoenix Quad, late pattern, magneto preferred, must be in good order and cheap for cash.—Beck, Thursby, Carlisle.

SECOND-HAND Double-breasted Motor Jacket; state size, lowest price, condition, material.—J. Worth, Hippodrome, Brighton.

WANTED, good twin and sidecar, must be in first-class condition, and cheap for cash.—53, Ridgeway, Portland Road, Birmingham.

WANTED, 6 h.p. De Dion (or pattern) crank case, with or without flywheels; must be cheap.—237, Hertford Road, Edmonton.

WANTED, for cash, motor cycles, first-class makes only; must be cheap.—Particulars by letter, 33, Upper Tulse Hill, London, S.W.

WANTED, good powerful twin, must be in perfect condition, and very cheap, a bargain.—Apply, H. Porter, "Surrey Mirror" Office, Redhill.

MODERN Magneto Motor Cycle wanted, cash or exchange pianoforte, cost £32 10s. recently, and cash.—39, Fulham Road, Sparkhill, Birmingham.

WANTED, Montgomery flexible sidecar; part exchange with good lady's push bike and cash.—Woodage, 3, Highland Villas, Rutland Place, Maidenhead.

WANTED, 3½-4½ h.p. Cycle, magneto, Triumph preferred.—State details and lowest cash price to Box No. L3325, The Motor Cycle Offices, 20, Tudor Street, E.C.

WANTED, 4 or 5 h.p. Motor Cycle and sidecar, in exchange for ladies and gents' new cycles, value £20, and cash to balance.—Hancock, High Street, Battersea, S.W.

WANTED, Four-cylinder F.N. Motor Cycle, in exchange for 1908 Rex featherweight, new, or sell £20; power wanted for sidecar work.—No. 939, The Motor Cycle Offices, Coventry.

WILL Pay £3 10s. per month for a 1908 Triumph motor cycle, magneto, spring forks, etc., slightly used, but must be in first-class condition; approval.—Address, No. 927, The Motor Cycle Offices, Coventry.

WANTED, good motor cycle, tri-car, or reliable small car; exchange new high-class furniture, any description, valued wholesale, direct from works.—Furniture manufacturers, 7-11, French Place, Shore-ditch, London.

WANTED, to purchase, for prompt cash, second-hand motor cycles, as Triumphs, F.N.'s, Vindec Specials, Phelon and Moores, Anglian, Rocs, Rexes, Bats, Peugeots, etc.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

SIDECARS wanted; give new cycles, three-speed Sturmey-Archer gears, level exchange; wanted also Drummond or other S.C. lathe, gramophone; reasonable cash price given for good motor cycles.—Booth, Wade-Street, Halifax.

WANTED, 5 h.p. Riley Tricar, no rubbish will give 6 h.p. twin Phenomen, magneto, two speeds, sidecar to match, all in perfect condition, and cash.—Full particulars to Ashby, Horton Grange Cottage, Raymill Road, Maidenhead.

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YOU KNOW THAT

The ability to drive slowly is as important as the ability to drive fast. Now **WHITE'S ECONOMISER** enables you to keep going steadily at a walking pace, without misfiring. It enables you to *throttle down to the extreme, and ensures an instant start at all times*, in all weathers, without flooding Carburettor and without opening throttle more than for normal running. It therefore *saves your petrol*, and has, in fact, *won first prize* in recent consumption test. It can be attached in half a minute to models E and H Longuemare, Rex, and Minerva-Longuemare, and /08 Triumph Carburettors. Try one—it is so simple, and its price is only 4/- each.



THE "ELECTARY" ADJUSTABLE FOCUS PROJECTOR, with GENERATOR (The finest motor cycle Searchlight extant), 30/-
ORDINARY MIRROR LENS SEARCHLIGHTS, with Generator (as sold elsewhere at 30/-), 22 6

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RICH DETACHABLE AIR TUBE.

24" x 2"	13/6	26" x 2½"	14/6
24" x 2½"	14/-	26" x 2½"	15/6
24" x 2½"	15/-	26" x 3"	22/-
26" x 2"	14/-	28" x 2"	14/6



Please write for Special List, with full prices and particulars of all sizes, together with instructions and hints. Your OWN TUBE CONVERTED. Write for price

WANTED.

DYNAMO, gas engine, two-speed free engine gear, magneto, vulcaniser, S.S. lathe, in exchange £13 girder two-speed coaster Enfield, £10 Ariel special path racer, Edison's phonograph, and 3 h.p. Brown motor cycle.—R., c/o Parish, Plympton, Devon.

MISCELLANEOUS.

ENGINES Re-bushed throughout from £1.—Tufnell and Co.

CYLINDERS Re-bored from 5s.—Tufnell and Co.

PISTONS Supplied new from 7s. 6d.—Tufnell and Co.

RINGS from 9d.—Tufnell and Co.

CONNECTING Rods from 7s. 6d.—Tufnell and Co.

INLET Valves from 1s. 6d.—Tufnell and Co.

EXHAUST Valves from 2s. 6d.—Tufnell and Co.

PULLEYS for any motor.—Tufnell and Co.

TRIUMPH, Brown, Fafnir, 4s. 9d.—Tufnell and Co.

REX, Antoine, Kelecom, 5s. 9d. -- Tufnell and Co.

DE DION, M.M.C., 6s. 9d.—Tufnell and Co.

ABOVE 4½in. Diameter, extra 9d.—Tufnell and Co.

AXLES, cranks, spindles, handle-bars, seat pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed.—Tufnell and Co., 527, High Road, Leytonstone.

CYLINDERS Re-bored from 4s. 6d.—Central Motor Works, Paisley.

CAST-IRON Headed Exhaust Valves; from 2s.—Central Motor Works, Paisley.

LONGUEMARE Carburetter, for single or twin; 15s.—58, Whitehorse Road, Croydon.

BARKER'S Iron Cement for cracked cylinders, etc.; 1s. tin.—Oxford Road, Worthing.

WHIPCORD Breeches, latest cut; 10s. 6d.—J. C. Savage, 119, Donegall Street, Belfast.

CHATER Pattern Frames made to order, £2 10s.; wheels, 17s. 6d. pair.—Millard, Belvedere.

QUADRANT Loop Frame, with front forks and 20in. handle-bar; 32s. 6d. each.—Farrar.

LONG Motor Handle-bars, 21in., 4s. 9d.; heavier gauge, 5s. 6d.; well plated, three sizes.—Farrar.

DOUBLE-TWIST Cow-voiced Horns, 4s. 9d.; large size, 6s.; new Lycett's B toolbag, 6s.—Farrar.

PREMIER Accumulators, Rex size, 12s.; send for price list; pounds saved.—Farrar, Square Road, Halifax.

PUNCTURES Vulcanised, any size, 6d., and guaranteed.—16, Summerland Mansions, Muswell Hill.

FOUR-SPEED 1908 Osborne, fit 3½ h.p. N.S.U., new; £4.—At Eagles, High Street, Acton.

SHEDS for Motor Cycles, 45s.; portable.—Stevens, 82a, Leighton Road, Kentish Town, London.

GENUINE De Dion Quad, w.c. head, 2½ h.p., live axle, complete; £6 10s.—Bone, Ivanhoe, Llandudno.

EIGHT Pair Simplex Spring Fork Attachments; 9s. 6d. pair.—Mitchell, 22, Leghorn Road, Plumstead.

WHIPCORD Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, tailor, Longton, Staffs.

F.N. Carburetter, 4s.; electric lens lamp, 6s.; leather coat, 7s. 6d.—63, New Fillibrook Road, Leytonstone.

CHATER Pattern Frames made to order, £2 10s., which includes girder forks and engine lugs; wheels, 17s. 6d. pair; also sidecars.—Millard, Belvedere.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

BOOTH.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

BOOTH.—Double-twist horns, deep tone, 4s. 9d.; large leather toolbags, 5s. 6d.

BOOTH.—500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget trembler coils, 17s. 6d.

BOOTH takes your old coil in part payment; part with troublesome coils.

BOOTH.—Fuller accumulators, 20 amp., 17s.; Rex type, 16s.; Minerva, 16s.; Midget, 16s.

BOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fuller's.

BOOTH.—50 pairs XI'all spring forks; immediate delivery; N.A.B. seat-pillar, 3s. 6d.

BOOTH.—Long motor cycle handle-bars, heavy gauge, best quality plating; 5s. 6d.

BOOTH.—Silent silencers, for engines to 5 h.p., very efficient, no back pressure; 3s. 3d.

BOOTH.—New Antoine frame, with wheels, belt rim fitted, two cable brakes, mudguards; £4 19s. set, low built.

BOOTH.—Gas lamps, separate generators, powerful light, well plated, 5s. 3d.; mica plugs, 1s. 1d.

BOOTH.—Pocket voltmeters, very handy and reliable, 4s. 1d., usually 10s. 6d.

BOOTH.—Motor frame, wheels, and tyres, suitable for 2 h.p. inclined engine; 40s.

BOOTH.—200 best quality magneto covers, 2s. 3d. each, usually 5s. 6d.; new L.T. magneto, 20s.

BOOTH'S Motor Exchange, Coronet Works, Wade Street, Halifax. Telephone, 198Y.

MILLER'S Cetolite Motor Cycle Lamp, separate generator, perfect; approval; 10s. 6d.—Torrens, Youghal.

SIMMS - BOSCH Low Tension Magneto, rotary armature; 25s. — Edward Irving, 13, Lowther Street, Penrith.

WHIPCORD Motor Cycling Breeches; 8s. 6d.; post free; patterns free.—Meredith's, Wearwell, Northwich.

GENT'S Tandem, in good condition, nearly new tyres; exchange for gramophone, or push cycle and cash.—Below.

2 h.p. Universal Engine, carburetter, and silencer, £2 10s.; plain coil, 6s.; Hummer Chater-Lea frame, girders cranks, pillar, and handle-bar, 25s. — F. Herbert, Gorton, Boxford, Suffolk.

R.O.M. Contact Breaker, complete, perfectly new; £1. — Premier Motor Co., Ltd., Aston Road, Birmingham.

LATHE, screw-cutting, 7in. centres, 6ft. bed, as new, 22 wheels; offers.—Middleton, 27, Broad Street, Griffithstown.

LATEST Fit-all Two-speed Gear, used 4 h.p. Antoine; accept £4, lowest.—19, Mountfield, Prestwich, Manchester.

NEW Kent Tricar Gear, three speeds, complete, in hands of makers; price £6.—Cloake, Rose in Valley Hotel, Chatham.

BELT Rim Brakes, flexible cable hand applied, easily fitted, stop anything; 8s. 6d., usual price 15s.—Slack's Garage, Stockport.

TRICAR Frame, complete, less engine, wheel steering, large basket seat, etc.; cheap.—Hicks, 67a, High Street, Maldon, Essex.

OSBORNE Four-speed, perfect, 45s.; Fuller coil, twin trembler, 28s.; Aldington's silencer, 7s. 6d.—16, Sansome Walk, Worcester.

EVERYTHING made in Tanks and Radiators except a fortune.—Write for prices, A. Phillips, 112, Lynton Road, Bermondsey.

26 by 2 Dunlop Wired Cover, new, 12s.; 3ft. 5-16in. Renolds chain, new, 5s.—Box L3,345, *The Motor Cycle* Offices, 20, Tudor Street, E.C.

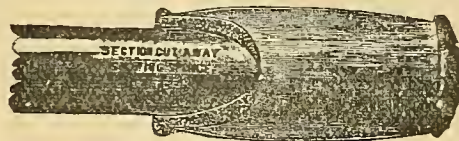
FOR Sale, Gamages £22 leather suit, flannel lined, excellent condition, 33in. chest; 17s. 6d.—Jecks, 15, Fairmile Avenue, Streatham.

PLEASE NOTE

We can supply all parts for 2½ and 3½ h.p. F.N. Engines.

"VINDEC" Adjustable Pulleys for 2½ h.p. F.N. Engines, 10/- each.

"VINDEC" Adjustable Pulleys for 3½ h.p. F.N. and 3½ or 5 h.p. Peugeot Engines, 15/- each.



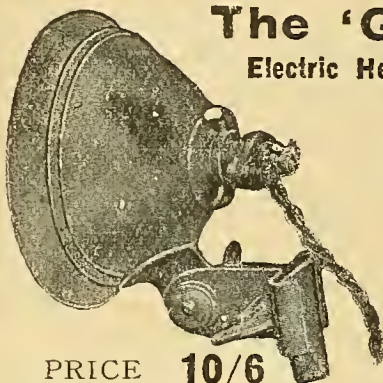
"KUMFO" Sponge Rubber Grips, ¾in. or 1in. bars, 2/6 per pair.

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The 'GLARE'

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Consumes
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Weighs
only 8 ozs.

Throws a
beam 100 ft.
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PRICE 10/6



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VARIABLE
SPEED
PULLEY,
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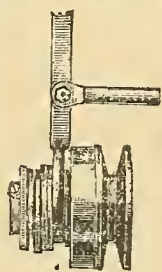
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BRACKET,
4s. 6d.
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A few of our Specialities. Write for particulars.

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PORTLAND PLACE WORKS, HALIFAX.

"MABON FREE
ENGINE CLUTCHES."

No alterations required to fit. In stock to suit single cylinder "Minerva" and "Rex,"

55/-,

complete with handle-bar control.

MABON MOTOR WORKS,
54, High Road, North Finchley, N.

MISCELLANEOUS.

CAMEL Rubber Belting, grooved; the last word in rubber belts, ¾in., 9d.

CAMEL Rubber Belting, cut to a correct angle, beautiful grip, never slips, ¾in., 1s.

CAMEL Rubber Belting is made of the finest materials procurable; ¾in., 1s. 3d.

CAMEL Rubber Belting is of the highest class, and price is popular; 1in., 1s. 6d.

CAMEL Rubber Belting has a strong canvas core, surrounded by specially vulcanised rubber.

CAMEL Rubber Belting.—¾in., 9d.; ¾in., 1s.; ¾in., 1s. 3d.; 1in., 1s. 6d.

CAMEL Rubber Belting can be had at Booth's Motor Exchange, Wade Street, Halifax, on approval.

6 h.p. De Dion Carburetter and Castle trembler coil; cheap; offers.—Wallis, 45, Fieldhead Road, Sheffield.

AUTOGENOUS Welding.—Send that broken casting to the Alvaston Motors, Derby, to be welded by patent process; metal reunited.

AUTOGENOUS Welding.—Costly castings saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, and a thousand other things

AUTOGENOUS Welding.—Wonderful results. Broken flanges, lugs, brackets, etc., all amenable to our process; send part to-day; quotations on sight.

AUTOGENOUS Welding.—Alvaston Motors, Derby. Telephone, 1. Alvaston.

ADJUST or Detach your belt instantly without using tools; Instanta fastener, only 1s. 6d.—251, Oxhill Road, Handsworth, Birmingham.

BOSCH Magneto, complete, suitable for twin or four-cylinder motor cycle; what offers?—"Spark," Jobs Hill Office, Crook, Durham.

BOWDEN Valve Lifters, 6s. 9d., usual price 10s.; Vim stands (starts like free engine), 6s. 3d., usual price, 17s. 6d.—Slack's Garage, Stockport.

LARRAD'S Motor Timer, 21s., quite new, cost £3 3s.; trembler coil, 7s. 6d.; motor kit, never been used, 15s.—73, Church Street, Camberwell, London.

FIT-ALL Two-speed Gear, suitable 6 h.p. Jap engine, with handle-bar control and all fittings, complete, first-class order, not run 50 miles; £6.—Below.

MABON Clutch, first-class condition, suitable 3½ h.p. Brown; 35s.—Martin, 12, Nithdale Road, Plumstead.

CLEARANCE Sale.—Millennium stands, 7s. 6d., usual price 20s.; Vim flexible cable rim brakes, 5s. 6d., usual price 12s. 6d.—Slack's Garage, Stockport.

SCREW-CUTTING Lathe, by Buck and Hickman; cost 45 guineas, for foot or power; £30, or exchange to value.—Hancock, High Street, Battersea, S.W.

LATHE, Drummond, 3½in. centres, screw cutting, treadle, and about 24 tools, including chuck (self-centring); £10.—896, *The Motor Cycle* Offices, Coventry.

GIANT Watawata Belt, 7ft. 9in. by ¾in., condition excellent, with spare fastener; 12s. 6d., cost double.—H.H.B., 13, Kidderpore Avenue, Hampstead.

VARIABLE Pulleys soon wear out. We make them everlasting for 2s. 6d.; send pulley and postal order to the Utopian Works Co., 92, Myrtle Road, Leicester.

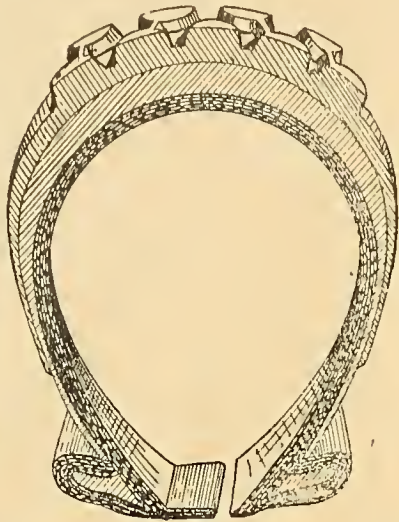
BRAND New extra heavy beaded edge cover, 26 by 2½, accept 21s.; Lucas Acetylene gas lamp, 18s. 6d.; inner tube, 26 by 2½ 4s. 6d.; bargains.—45, Parade, Leamington.

QUADRANT 3½in. frame, tank, wheels, all complete, minus engine, spring forks, etc.; must be sold; good reason for disposal; £5 10s. cash.—Write, stamp, E. S. Danger, Aberdare.

TWO New "Essex" Accumulators, 4-volt, 10 amp., 2½in. by 2in. by 6in.; 4-volt, 12 amp., 3½in. by 2in. by 4½in.; charged once; first cheque for 16s., or 8s. 6d. each.—Payne, Metchley Lane, Harborne.

TYRES!! BANDS!!

Note thickness of Tread.



Note Non-Skid.

(Cover fitted with rubber studded band.)

BANDS, RE-TREADING, and Repairs OUR Speciality.
(All makes of bands fitted.)

A Non-skid band is essential for winter riding, and a band **FITTED IN TIME SAVES** the buying of a new Tyre.

Shamrock, Clincher, or Goodrich rubber studded Non-skid Bands £1 1s.; Bates, extra heavy, 15/-; heavy, 13/-; Pullman Leather Steel Studded Non-skid Band, 17/6.

Retreading with our corrugated tread, 17/6.

Note.—Pullman leather steel-studded bands fitted to the "R.O.M." special re-enforced covers. Complete, all sizes, 40/- (These "R.O.M." tyres are specially manufactured to stand the strain of a non-skid band. We supply these covers fitted with any make of band at an inclusive price of £1 2s. 6d. above the cost of the band.

When buying a new cover, remember we allow 10/- for your old one in part payment and are Special Agents for Shamrock, Goodrich, Clincher Rubber-studded Non skids and Palmer Cords (delivery from stock). We supply only the best tyres as supplied to us by the manufacturers. We do not touch the so-called cheap covers.

Whatever your requirements, write for our new "ILLUSTRATED TYRE LIST" (sent free). This gives prices of all covers, full particulars of our allowances on old covers, prices for re-treading, fitting bands etc.

SPECIAL TRADE LIST ON APPLICATION.

R.O.M. (Patent) Front Wheel Stand.

Price (to fit any machine), 14/6 per pair.

The only contact breaker Really suitable for twins with accumulators and coils. Ensures permanent synchronism.

R.O.M. means—more power, easier starting, smoother running. Illustrated list free.

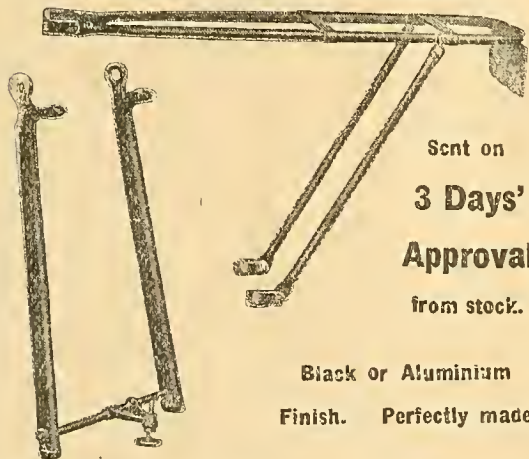
The CONTINENTAL MOTOR CO.,

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Phone: Holborn, 1513. Tel.: "Bromitch," London.

TUBULAR STANDS. CARRIERS.

The PREMIER are the **LIGHTEST, NEATEST, BEST DESIGNED.** They FIT ALL MAKES.



Sent on

3 Days' Approval

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Black or Aluminium

Finish. Perfectly made.

The Luggage Carrier may be had with curved top members, for machines with extra low frames, wide saddles, etc. No extra charge.

Stands, 7/6; Carriers 8/6.

Sold by all Agents, or direct from

The PREMIER MOTOR Co., Ltd.
ASTON ROAD, BIRMINGHAM.

MISCELLANEOUS.

MAUDE'S.—Genuine Stanley - Dermatine 1in. belts, 8ft. 6in., guaranteed and genuine; 12s. 6d. each.

MAUDE'S.—Osborne four-speed, very good order; £2 17s. 6d.

MAUDE'S.—Genuine De Dion Engine, 2 1/2 h.p., perfect order; £3; approval.

MAUDE'S.—Why not try a latest Brown and Barlow carburetter, with handle-bar control; only 30s.

MAUDE'S.—Will allow you 10s. on your present one, no matter what make, in exchange; immediate delivery.

MAUDE'S.—Amac carburetters, latest pattern, 29s., or your present one and 20s. secures; any model.

MAUDE'S.—Mabon clutch, fits Minerva, good condition; 32s. 6d.

MAUDE'S.—Longuemare spray carburetter, 15s.; Brown and Barlow, 15s.

MAUDE'S.—High tension wire, best quality, 9d. per yard; low tension, 6d.

MAUDE'S.—Rubber goggles, latest pattern, sold elsewhere at 4s. 6d., our price 1s. 9d.

MAUDE'S.—Albion Free Engine Pulley, brand new; 30s.

MAUDE'S.—Stratex belting, 3in., 8ft. 6in. lengths, 10s. 6d.; voltmeters, guaranteed, 3s. 9d.

MAUDE'S.—Middlemore padded Rideasy saddles, your old one and 12s. 6d. secures, guaranteed, exactly as on Triumphs, splendid value.

MAUDE'S. the Fair Factors, Powell Street, Halifax. Tyre catalogue ready in a week. Register your name for one.

LENS Mirror Searchlight, Premier pattern, complete, brand new; 21s.—Motor, 21. Highbury Quadrant, N.

DYNAMO, 5 volt 20 amp., by Canning, complete with switchboard, volt and ampere meters, practically new; £7.—Glendower Co., 3. Glendower Place, South Kensington.

42 Amp. Premier Accumulator, only charged three times, 19s. 6d.; Fuller twin plain coil, soiled only, cost 45s., accept 35s.—Smith, Ford Street, St. Mary, Nottingham.

STILL they Come.—One more triumph for the Advance adjustable pulley. Winner of Tourist Trophy race, H. Reed, with 5 h.p. Dot and Advance adjustable pulley.—Address below.

ENGINES, Engines, Engines.—3 h.p., 6 h.p., and 9 h.p., air or water-cooled. Write for particulars.—Address below.

HERE at Last.—An ideal adjustable belt fastener, for variable pulleys; price 2s. 6d.

PATENT Leather Magneto Covers, 3s. 6d.; Advance generator brackets, as recommended by Ixion, 2s. 6d. each.—Advance Motor Mfg. Co., Northampton.

ATLAS Spring Fork Attachment.—Motor cycling a pleasure; no side play, no vibration, polished, rustproof; 13s., carriage paid.—Atlas Engineering Co., 115, Victoria Road, Charlton, S.E.

OSBORNE Free Engine Pulley and three-speed gear, will fit Minerva engine, 50s., or offer; A.R.A. vulcanising outfit, with materials and instructions for repairing tyres, 15s.—Jas. Woods, Bungay.

AMATEUR Photographers.—Superior enlargements (bromide), from your negatives, 8 by 6, 9d.; 10 by 8, 10d.; 12 by 10, 11d.; 15 by 12, 1s. 1d.; cash; from prints 6d. extra.—Greame, Wellesley, Whyteleafe.

READERS having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium; 3d. per word, minimum 9d.—Address, "Photography and Focus" Offices, 20, Tudor Street, London, E.C.

810 by 90 Stepney, complete with Dunlop, £4 12s. 6d.; three-speed gear box, £5; Darracq, Aster, De Dion valves, from 2s. 6d.; commutators, 10s.; carburetters from 10s.; 810 by 90 Michelin non-skid, brand new, £5 10s.; pair Ducellier oval headlights, £4 5s.—Eclipse Engineering and Motor Co., 255, Earlsfield Road, Wandsworth. Phone, 1135 Putney.

No Tools Required.

The Winner
Tourist Trophy Race
(Twin Section) says:

"I used it (the 'Advance' Adjustable Pulley) in T.T. Race. I am pleased to say it gave me every satisfaction, and enabled me to get the most suitable gear for the course. I consider it the best Adjustable Pulley now on the market.

(Signed) H. REED.

Price, 20 -

The Advance Motor Mfg. Co.,
NORTHAMPTON.

THE ADVANCE ADJUSTABLE BELT FASTENER

can be operated without removing the belt.

London Agents:

BOWEN & ODERY MFG. CO.,
62, New Cross Road,
S.E.

Adjustable without removing the belt.

Adjustable without removing the belt.



Invaluable to Motor Cyclists when Touring or Planning a Tour.

"The Autocar" Folding
Map, Style 3.....

"The Autocar" Folding Map occupies but little space on the motor cycle. as when folded up, in its case, it only measures 7 1/2 x 9 1/2 in. It is well printed on strong linen, all the main roads are marked in red and the distances between all important towns are shown.

Price 8/10 carr. paid

from the offices of

"THE MOTOR CYCLE,"

20, Tudor Street, London, E.C.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."



THE MOTOR CYCLE



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Subscription Rates: Home, 6s. 6d.; Foreign, 10s. 10d.; Canada, 8s. 8d. per annum.

ADDRESS—20, TUDOR STREET, LONDON, E.C.

Motor Cycle Lamps.

THE long winter nights are close upon us, and every evening lamps have to be lit a little earlier. The article published elsewhere in this issue under the above heading will therefore be of particular interest to readers who contemplate doing any amount of motor cycling by night. The speed of a motor cycle, however moderate, entails the use of a bright light which will illuminate the road at least fifty to sixty yards ahead of the rider. Apart from this question of illuminating the road, a bright light at night is more companionable than a dim one which barely illuminates the hedges on either side; sometimes, unfortunately, a poor light is also the rider's undoing. The law, although it makes it compulsory for vehicles to carry a light, allows a drove of cattle of any size to be driven on the highway at night, and as the movements of cattle are almost inaudible, at least to a motorist, the fact that one is likely to meet either straying cattle or those in charge of drovers should be sufficient cause to induce motor cyclists to see that they carry not only a perfect lamp, but one well trimmed and ready for use. There are numerous other dangers encountered on the roads after dark, but cattle, singly or in droves, are certainly the most common.

In the case of acetylene gas lamps, only the very best carbide should be used; the carbide should be carried in a carbide carrier, tightly packed to prevent as far as possible the formation of dust. The reason it should be carried in a separate compartment is because the formation of the above mentioned dust gets into the water valves and other passages of the generators and prevents the flow of water and gas and the proper functioning of the lamp. It will not be

out of place at this season to reiterate the well-worn hint with regard to acetylene gas lamps, viz., that after use the flame should never be allowed to die down of its own accord. Either blow the flame out after turning off the water supply or pinch the rubber tube, if a separate generator, and leave the remaining gases in the container to escape through the burner. If the machine has to be brought into a dwelling house remove the carbide container and leave it outside. The water tank or compartment of the lamp or generator should be frequently washed out, and as far as possible water should be used which is free from foreign matter or particles.

Oil, Gas, or Electric.

IN the case of electric lamps it is quite as essential to see that the accumulator is fully charged before setting out. If the machine is magneto ignited it will be necessary, of course, to carry a separate battery, but in the case of a battery ignited engine the lamp can be run off the same cells as those used for igniting the charge in the engine.

Oil lamps are seldom used on motor cycles, as the light they give is hardly sufficient to perfectly illuminate the road for a sufficient distance ahead of the rider. If an oil lamp is used great attention should be paid to its cleanliness. No stale oil should ever be allowed to remain in the oil vessel, and the wick should be frequently changed.

On the question of self-contained or separate generator gas lamps, we certainly must say we lean towards the separate generator, and we think that nine-tenths of the motor cyclists in the country will agree that we are right. The lamp-bracket on a motor cycle is not made sufficiently strong to carry a heavy self-

contained acetylene gas lamp. The consequence is, if one is used, particularly on machines with rigid forks, the jolting very soon breaks the lamp iron and a serviceable lamp is spoilt by being dropped on the road. We have also known accidents to take place through the lamp falling into the spokes of the front wheel. In the case of separate generator lamps the heaviest portion—viz., the carbide and water container—is carried on a bracket attached to a part of the machine where vibration is not so great or where the parts are made sufficiently strong to hold it. This leaves the lighter portion—the lamp body, reflector, and glass—to be carried on the lamp iron in front. We also think that the tube connecting the generator to the lamp is an advantage rather than otherwise, as it acts in a way on the lines of a gas reservoir, and enables a fairly steady supply of gas to reach the burner. On the question of attachment of the generator to the machine, there are various devices on the market for this purpose, the most popular being a bracket which screws by means of clips to the front forks. This is hardly an ideal method of attachment, as the clip is very liable to slip down the fork sides, and might cause the spokes of the front wheel to be torn out, if not an unpleasant accident to the rider. A lamp iron on the forward tank clip, enabling the generator to be fixed at the side of the tank, is a far better plan, but seldom adopted by manufacturers of complete machines. One or two makers of the latest types of separate generators have adopted a position behind the seat tube, and for a motor bicycle this is almost ideal. The generator is out of the way, and although it entails a long length of rubber tubing to reach the lamp, it occupies practically

the only space left on a motor bicycle where it can be readily fitted and be free from injury.

With regard to the carriage of accumulators for illuminating electric lamps, two or three positions have been tried, and in all probability the one last mentioned for generators is about the best, viz., to fit the battery in a compact case behind the seat tube. Some riders carry the accumulator box or case on the front forks, just above the front mudguard. This means shorter wires, but does not look so neat as the seat tube position.

Finally, as to which is the best type of lamp—gas, oil, or electric—it is one of those questions which cannot be answered directly in one word. The style of lamp that should be adopted depends entirely upon the rider's requirements. If he uses his machine nightly for short distances, and wants the light to be ready at a moment's notice, we should strongly advocate a good electric lamp and battery; but if he wants the lamp for long rides, where the utmost light-giving power is essential, then let him choose a first-class acetylene lamp. Again, if the machine is required for very short journeys and to be ready at a moment's notice, an oil lamp is serviceable for town use, where the machine is to be ridden in well-illuminated streets. If the rider possesses more than one type of lamp, all the better; he will not then require to drive a motor cycle through a well-lighted suburban district of London or provincial town with a brilliantly-lighted acetylene gas lamp when he can see all approaching traffic for a hundred yards or more ahead without a light at all. An oil lamp or a small electric lamp in these cases is quite satisfactory, and nothing more is required.

THE GAILLON HILL-CLIMB.

SEVERAL motor cyclists competed in the above event on the 4th inst. In the class for motor bicycles not exceeding 50 mm. bore Pean on a Peugeot won in 1m. 12 $\frac{1}{5}$ s. The speed class was won by Giuppone on a Peugeot, Grapperon on an Alcyon coming second, and Mentel on an Anzani third. The fastest time was 32 $\frac{1}{5}$ s. It is some time since Giuppone competed in any classical event on a motor cycle, for he has of late turned his attention to voiturette racing; but his performance proved that he has lost none of his old dash and form. Grapperon ran him very close, being only one second slower. On the day following the competition it was announced that Pean had been disqualified for pedalling on the hill, and that Vilbois (Lurquin-Coudert) was placed first in the class for motor bicycles not exceeding 50 mm. bore. The manufacturer of the Ronteix tricar has entered a protest against the classification. His mount was weighed as No. 107, and competed and timed as No. 108, and yet the machine was not included in the formula classification; neither was any other motor cycle competing so classified. He also strongly protested against a tricar having been

allowed to start with only the driver on board, this not being permissible according to the rules, except in the racing car classes.

Last year's contest was better supported than it was this year, although better time was made on the 4th.



Cambridgeshire Motor Cycle Club. Competitors at the start of the Consumption Trials. (See page 808.)

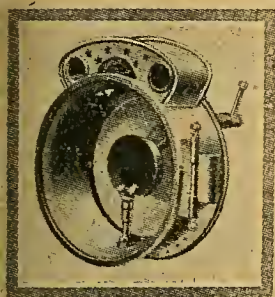
Bucquet last year on a Griffon made fastest time—37 $\frac{3}{5}$ s.—on a motor cycle weighing under 110 lbs. This is 5 $\frac{2}{5}$ s. slower than Giuppone's time this year.

The Château Thierry Hill-climb, another important French event, is down for decision on Sunday next, the 18th inst.



For night riding we have for some time relied upon a Model F Autoclipse lamp with eclipsing mechanism, and although of comparatively small dimensions its light-giving powers are wonderful. It is 400 candle-power, and the projective power 200 feet. But the brilliant light it gives is not its only good point, for the lamp is splendidly finished and stoutly constructed, and after carrying it on our motor bicycle for many hundreds of miles it is just as solid and free from

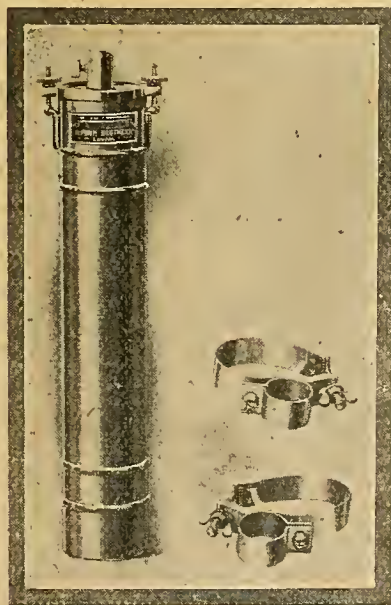
rattle as ever. We mention this, as all riders who have used flimsily constructed lamps know how tiresome they can be. It is certainly a high-priced lamp, but it is obvious that the makers studied quality first, and not cost. The eclipsing mechanism is shown in the accompanying illustration. By altering the position of the operating lever shown on the right, a disc is interposed between the burner and the reflector, thus completely



The Eclipsing Disc of the Autoclipse Lamp.

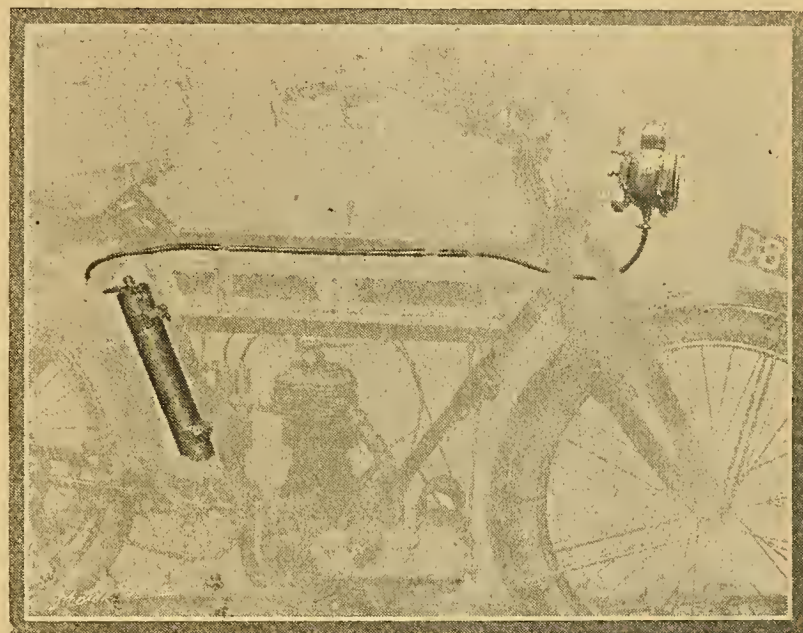
eliminating the long-distance rays which are so dazzling when riding in traffic, and cause much annoyance. Even when the eclipsing disc is in use a good light is maintained for immediate surroundings. The lamp can be obtained from BROWN BROS., LTD., Great Eastern Street, E.C., with either side or back lamp-bracket, and without the eclipsing mechanism if desired. It weighs 2 1/4 lbs.

We wish we could speak in as high terms of praise for the generator, which works on the diving bell principle; that is to say, gas is generated by water soaking through a capillary pad at the bottom of the carbide reservoir, and after enough gas has been evolved it automatically forces the water away from the carbide, so preventing further decomposition of the carbide. As soon as the gas generated has been consumed, the water again attacks the carbide and a further supply of gas is generated, and so on. But in use the generator only lasts one and a half to two hours, and is



Autoclipse Diving Bell Generator, with clips for attaching to the seat tube.

very wasteful with carbide, requiring to be filled each time a light is required, and personally we prefer the ordinary drip-feed generator (which Brown Bros. also supply) on account of its reliability and simplicity. But, though heavy, the Autoclipse generator is very neat and well made, and quite adds to the appearance



The Autoclipse Lamp and Generator, showing the neat method of carrying the latter between the seat tube and rear mudguard.

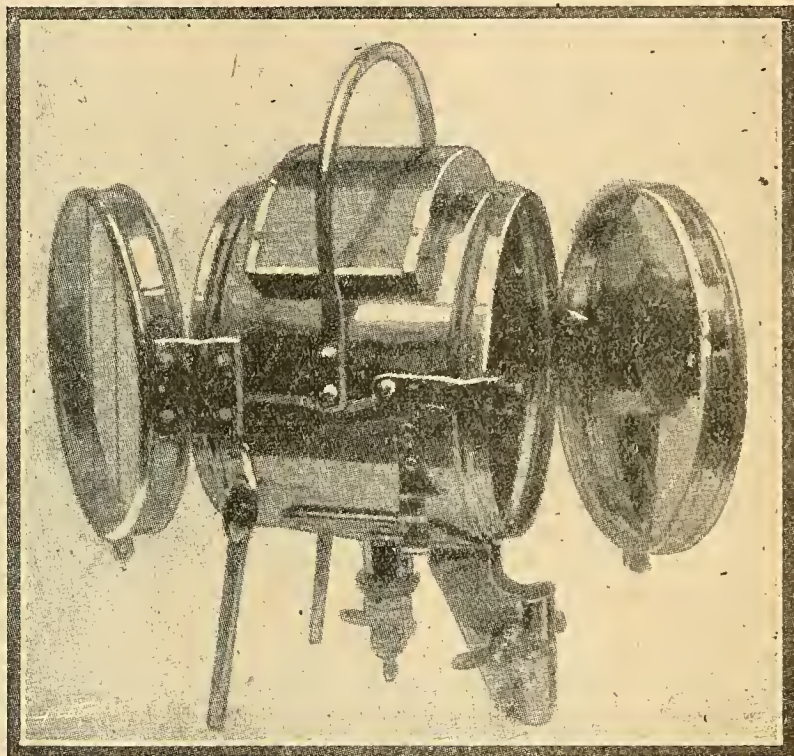
of a machine when attached to the seat tube by the clips provided. A drip-feed generator designed to be attached to the seat tube in the same manner would make an excellent combination. The firm also sell the Duco lamp and separate generator, which is a cheaper pattern than the Autoclipse.

THE SERVICE CO., LTD., 292, High Holborn, W.C., supply the Service mirror lens headlight and generator. This lamp has been designed to meet the requirements of those motor cyclists who do a great deal of night riding. The mirror lens is detachable, the front glass is dissected, and the lamp is supplied complete with generator, tubing, and clip for attaching generator to the fork. A carbide carrier is also supplied by the same firm to fulfil a very necessary want, viz., a case in which the carbide may be carried until it is actually required for use in the lamp.

The F.R.S. lamp is the outcome of suggestions made to MESSRS. SAMUEL HALL AND SONS, LTD., of 12, Clyde Street, Edinburgh, by readers of *The Motor Cycle*. The latest pattern F.R.S. has a body made of aluminium and plated brass combined, and the total

Motor Cycle Lamps.—

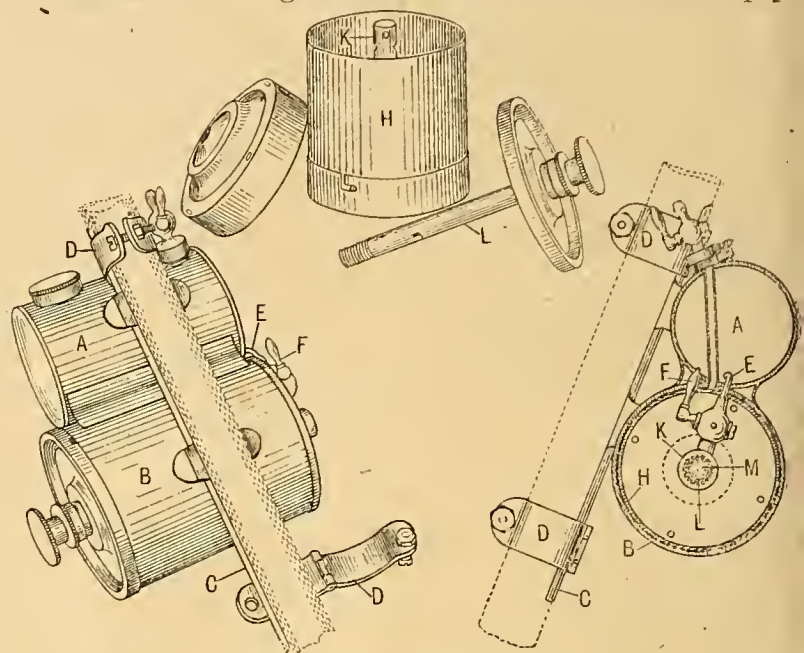
weight is only $1\frac{1}{2}$ lbs. This is extremely light for a lamp of the size, and from personal experience we are pleased to say that the lamp gives a most excellent light. Its shape follows the popular Rushmore design, and one of the special features is the door at the back as well as the dissected glass door at the front. This door is provided to enable the user to make a tyre repair or adjustment to any portion of the machine which is unlighted by the front rays of the lamp without detaching it from the lamp iron. Two small legs are provided, which allow the lamp to stand on the ground while lit. The size of the lamp under review is—length 5 in., diameter of glass front $4\frac{1}{2}$ in., lens 4 in. The attachment to the lamp iron is simple yet effective, for we have never had the lamp work loose on the lamp iron, although it has been fitted for some weeks to the top of the wings of a rigid-framed tricar. The burner and gas tap are detachable, and a difference can be made in the projecting power of the light by moving the burner nearer to or further from the



F.R.S. Lamp, with the front and back doors open.

lens. The further forward it is put the more penetrating the light becomes. The generator differs in appearance and also in its action from the usual drip-feed generator supplied with motor cycle lamps. The line drawing we have prepared of this generator will show that it consists of two cylindrical parts—A the water chamber and B the generating chamber. C is a long bracket firmly attached to both the chambers. This, when placed against the round seat-tube of a motor cycle, is held in position by two hinged clips which pass round the bracket and the tube and hold the generator securely. Connecting the water chamber with the carbide container is a small pipe E fitted with a tap F, which either allows the water to flow into the carbide container or the gas to flow out from the generating chamber to the air, according to the position in which it is placed. The carbide is placed in the drum H, which is provided with a cap at each end, and a handle at one end for withdrawing it from the container. In the centre of it is a tube K perforated with holes, through which passes another tube L, forming

the tubular bolt locking the end cap on the container. The water from the tap F flows through a centre tube M, this latter being a continuation of the small pipe

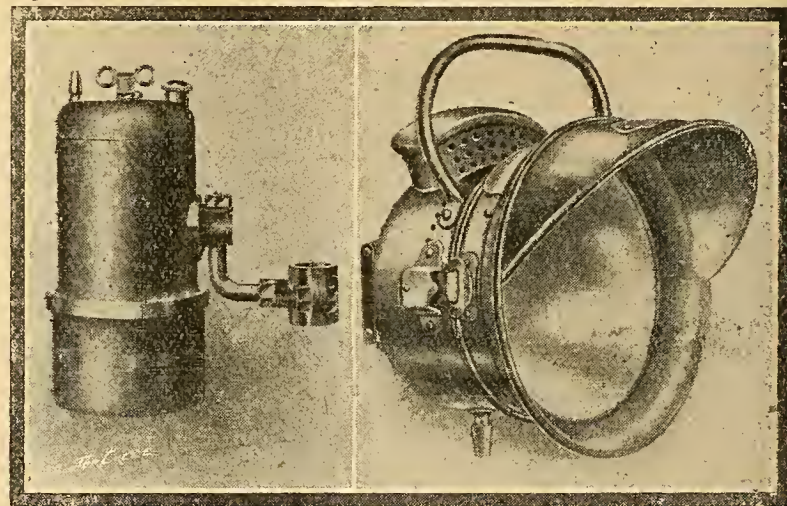


The F.R.S. Separate Generator.

- | | |
|------------------------|------------------------------|
| A. Water chamber. | F. Water tap. |
| B. Generating chamber. | H. Carbide drum. |
| C. Long bracket. | K. Outer tube of generator. |
| D. Clips. | L. Middle tube of generator. |
| E. Water pipe. | M. Centre tube of generator. |

outside, through which the water flows from the tank. It is claimed for this generator that it is perfectly automatic in action after turning on the tap. There are only two positions for this, viz., full on or full off, and the amount of gas required for any burner will be generated. Since receiving the generator for trial we have not been able to test this claim, but hope to do so shortly. In ordering the generator, it is necessary to state if it is to fit the forks, side of tank, or seat tube of bicycle frame. The F.R.S. generator will light a very large burner for six hours and a smaller one for ten hours, such as a $17\frac{1}{2}$ litre burner. It is, of course, connected up to the lamp or lamps by means of a rubber tube in the usual way.

POWELL AND HANMER, LTD., Chester Street, Birmingham, are an old-established firm of bicycle lamp makers, and have specialised in motor cycle lamps. The two patterns they make are a self-contained lamp



Powell and Hanmer Headlight, with separate generator.

and one with a separate generator, which we illustrate. It will be noticed that the generator has an adjustable bracket for securing it to the fork or any other part of the frame where it is required to be attached, and

Motor Cycle Lamps.—

no matter to what part it is fixed it can always be set in a vertical position. The lamp has a large front with hood reflector to throw the light down on the road. The lens is double convex, and the reflector is made of aluminium. Unfortunately we have not had samples of these lamps sent to us for inspection, so it is impossible to give a detailed description of the way they are fitted up and the method in which the separate generator operates, but the illustration of the lamp and separate generator is practically self-explanatory, and the length of time the firm have been established is sufficient proof that their workmanship can be relied upon.

The Kerry-Hella is an exceedingly well-made acetylene gas lamp, placed on the market by the EAST LONDON RUBBER CO.,

2, 4, and -8, Great Eastern Street, London, E.C. It is certainly one of the best finished lamps we have ever examined, and it can be supplied in polished brass or nickel plated. The lamp body is strongly riveted, no solder being used in its construction. The front glass is dissected, and a glass mirror lens is provided. The novel method of fitting the lamp



The Kerry-Hella Headlight.

bracket at the back is worthy of mention. Instead of it being plainly riveted, the ends of the bracket are tucked inside the body of the lamp, so that it is almost impossible for it to be shaken loose—a not infrequent habit of heavy lamps with weakly fitted brackets. Two sizes of separate generators can be supplied. The small size measuring 6in. by 3in. will burn three and a half hours, and the larger pattern (8in. by 3¾in.) for six hours.

The "Glare" electric headlights for motor bicycles and tricar have been previously referred to in these

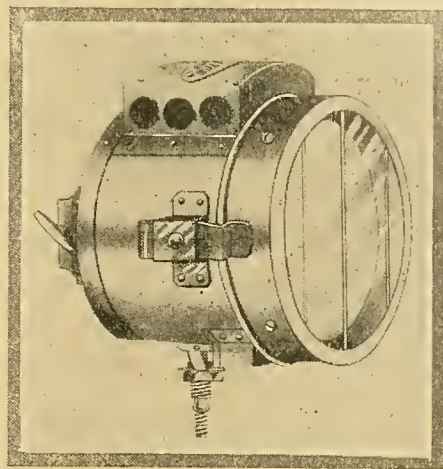
pages. Their speciality is light weight combined with an adjustable bulb. The lamp body is specially shaped, and the bulb is screwed into the back of the lamp in such a way that it can be placed nearer to or further away from the front glass. The nearer the bulb is brought to the glass the further the light is projected. The bulbs consume rather more current than some others, but give a very good light, their chief advantage being



Glare Electric Headlight of small dimensions and very light weight.

that they can be used with a four-volt battery. The makers' address is J. W. Greenwood, Ltd., Portland Place Works, Halifax.

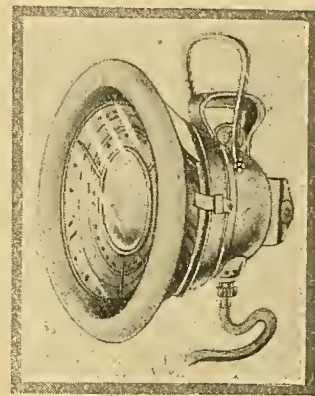
A. W. GAMAGE, LTD., Holborn, supply no less than five different motor cycle gas lamps. Three different



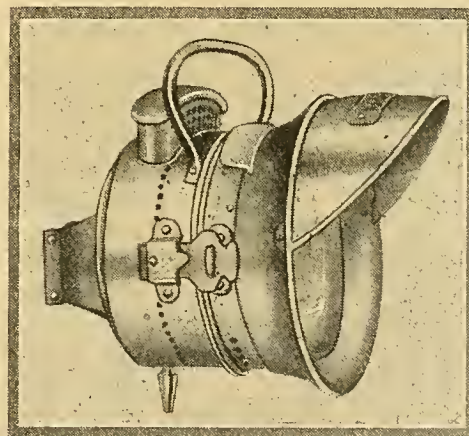
"Nulite" Lens Mirror Headlight. Note the dissected front glass.

patterns are illustrated in this article, viz., the Nulite lens mirror headlight, British made, riveted throughout, and fitted with Bray's Cyka burner, finest quality 4in. mirror lens, and dissected 4in. diameter front glass. This lamp is obtainable in polished brass or nickel plated and with side or back bracket fitting at the same price. The

separate generator is a stoutly constructed article made to withstand rough use. Then there is the Holborn condensing lens motor bicycle or tricar headlight. The size of this lamp over all is 6in. deep, with a front glass 4in. in diameter, the lens being 2in. in diameter, mounted on a screwed-on tripod, which is detachable if desired. It is provided with an aluminium reflector and atmospheric burner, and the price with separate generator is extremely moderate. This is a lamp of rather light construction, yet, it is claimed, quite strong enough for motor cycle work. Another type of Nulite separate generator headlight has a well-shaped hood and cowl, aluminium



The "Holborn" Motor Bicycle or Tricar Headlight, with condensing lens.



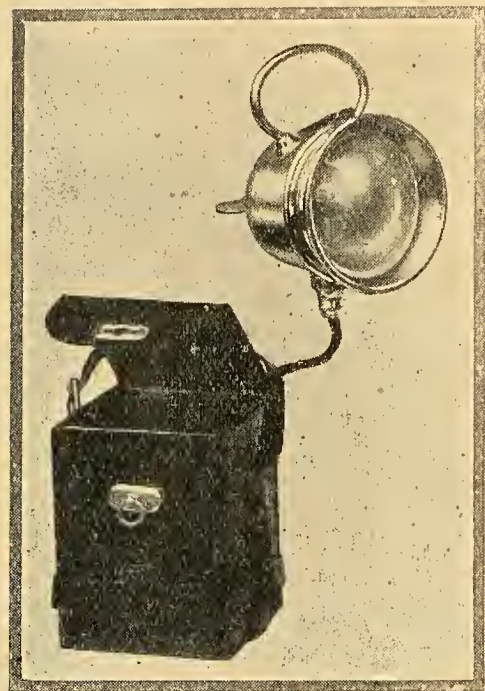
Gamage's "Nulite" Separate Generator Headlight.

reflector, powerful front lens 3¾in. in diameter, is English made, riveted throughout, and heavily nickel plated. The back bracket is provided with a fixing screw with lock-nut to lock the bracket firmly to the lamp iron. The burner is one of Bray's Cyka burners. In addition to the three above mentioned types, Messrs. Gamage also supply the Nulite self-contained headlight, which is practically the same as the one last mentioned with hood and cowl, except that it is self-contained and fitted with a stout gas bag to provide an even feed of gas to the burner. With this lamp is provided a special sprung fork bracket with round clip for clamping to the handle-bar stem, or a flat clip for clamping to the ordinary lamp iron. It will burn for over four hours. It is heavily nickel plated, and, in addition, is provided with a bail handle. The New Century is a separate generator lamp of ordinary pattern provided with a central lens,

Motor Cycle Lamps.—

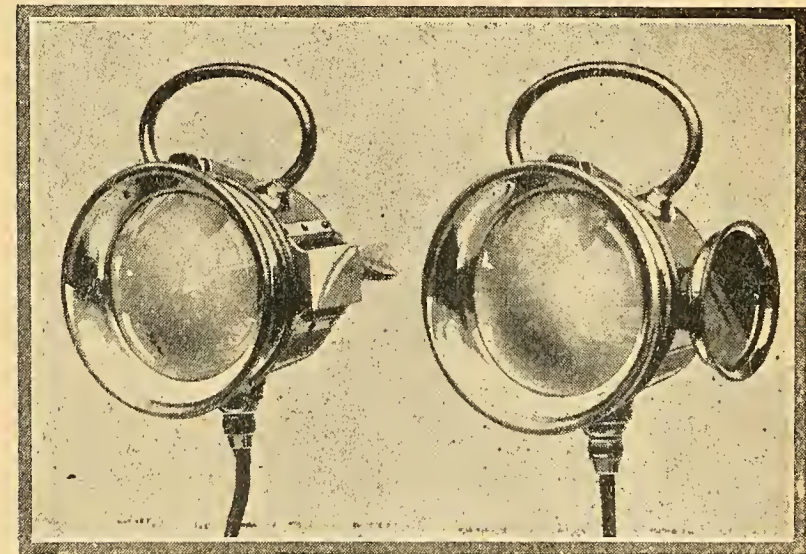
4¼in. glass and 2¼in. lens. The reflector is highly polished, and the burner is a Bray's Cyka burner. The burner holder is detachable for cleaning purposes, the body is riveted throughout, and an extra strong bracket is provided for back fixing. This is a smart little lamp, British made throughout, and sold at a remarkably low figure. Those of our readers who wish to see illustrations of the whole of the motor cycle lamps supplied by Messrs. Gamage should write for the catalogue called "Everything for the Motorist." This can be obtained free on application to the above address, and contains illustrations of all the lamps we have described in addition to those for which we have not space in this article.

The Electary mirror lens acetylene projector and the Electary electric head lamps and side lamps are made by MESSRS. W. AND R. JACOBS, 39c, King William Street, E.C.



Jacobs's Electric Headlight and Metal-lined Case for Accumulator.

The acetylene projector is a stout gauge brass lamp with adjustable focus burner pillar. The dissected front glasses are all fitted into a separate metal flange before being attached to the lamp front, so that all chance of rattling or movement is avoided, and any of the glasses can be replaced at a moment's notice if the original is broken at any time. With the electric head and side lamps are now included a genuine Osram metallic filament bulb. These lamps are provided with a special type of polished reflector and a lens which throws the light well ahead. We are informed by Messrs. W. and R. Jacobs that one of these electric lamps used in the London-Edin-



Jacobs's "Electary" Side Lamps for Tricars.

burgh run was still giving its light long after many of the gas lamps had gone out, choked up, given trouble,

and caused delay. The firm supply, in addition, cheaper types of motor cycle head lamps with separate generators, and for use with the electric lamps special seven hour four and eight volt accumulators in tin-lined leather cases, with straps complete for attaching the case to a machine.

(To be continued.)

"THE AUTOCAR" LECTURES.

THE series of weekly lectures on the motor car which are being organised by *The Autocar* throughout the country commenced at the London centre yesterday, Tuesday, October 13th, in the small hall of the Queen's Hall, Langham Place, W. The complete list of dates at the various centres is as follows:

LONDON.—Queen's (Small) Hall, Langham Place, W. Tuesdays, October 13th, 20th, 27th; November 3rd, 10th, 17th, 24th; and December 1st at 3.30 p.m. and 8.30 p.m. (tickets available for either).

BIRMINGHAM.—The University, Edmund Street, at 7.30 p.m. Wednesdays, October 21st, 28th; November 4th, 11th, 18th, 25th; and December 2nd and 9th.

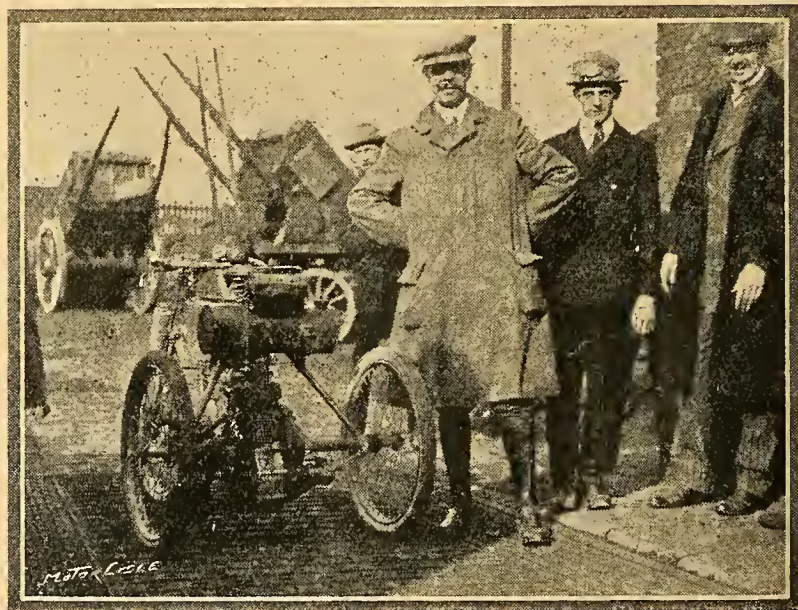
LEEDS.—The University, College Road, at 7.30 p.m. Thursdays, October 22nd, 29th; November 5th, 12th, 19th, 26th; December 3rd and 10th.

MANCHESTER.—Geographical Institute, The Parsonage, Deansgate. Fridays, October 23rd, 30th; November 6th, 13th, 20th, 27th; December 4th and 11th, at 4 p.m. and 7.30 p.m.

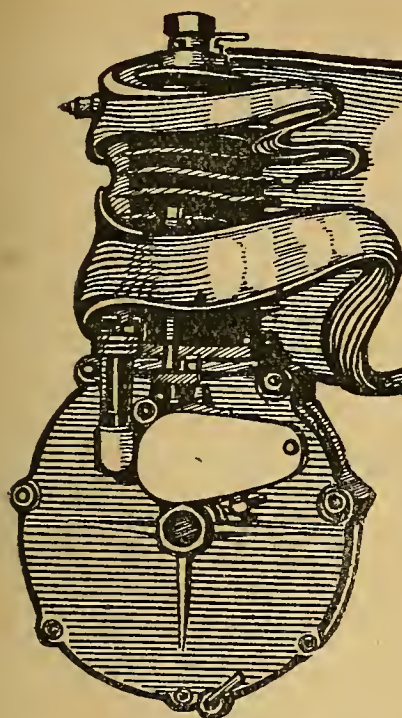
NEWCASTLE-ON-TYNE.—The Armstrong College. Mondays, October 26th; November 2nd, 9th, 16th, 23rd, 30th; December 7th and 14th.

There will be a discussion after each lecture, and the lecturers will deal with any special points desired by those who attend. We cannot too strongly urge our readers not to miss the opportunity these lectures offer for the obtaining of a sound practical knowledge of motor matters. They will prove of especial value to motor cyclists who hope one day to be car owners.

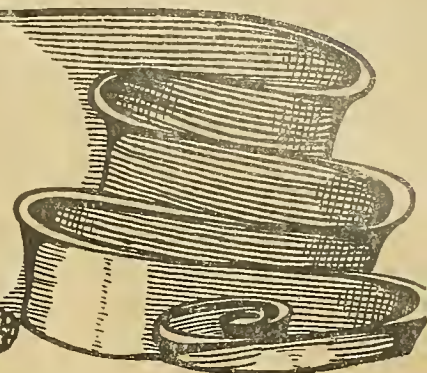
The lectures are an educational effort on the part of *The Autocar*, and the fee (£1 1s. for the course) is fixed as low as possible. Affiliated members of the M.U. may obtain tickets for the course at 12s. 6d. each. Applications for tickets should be made immediately to the Lecture Secretary, *The Autocar*, 20, Tudor Street, London, E.C.



A member of the Liverpool M.C.—Mr. J. Pickering—usually attends at club runs and competitions on his "good old trike." He has ridden it for years.



Questions... and Replies.



A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

Pitting of Contact Points.

? Please help me out of the following difficulty: The fixed platinum point on the contact breaker of magneto of my 1905 Triumph has practically vanished after about 700 miles running. This excessive wear did not commence until I put in new points. The point on the rocking lever has not worn, but has become pitted and black. I have cleaned the two carbon brushes, the brass cap, and both ends of the spring which holds the cap in position, and the screw securing the spring to the condenser terminal, but it did not stop the wear.—E.S.

Experiences such as yours are, fortunately, extremely rare, and we can only think that you have been supplied with a metal which is not suitable for the purpose.

Governor Control and How to Prevent Spilt Acid.

? I have just fitted a $3\frac{1}{2}$ h.p. Fafnir engine and B. and B. carburetter to my cycle, and shall be glad if you will tell me the best way to drive? (1.) I set the spark and throttle for top speed and control speed by the governor, as I find that if I set at half throttle and have to slow down almost closing the governor, the engine will not pick up again, but stops dead. (2.) I wedge the accumulator down in case with a long set screw and it cannot move, but find that the vibration spills out half the acid each time I go out. How can I avoid this? I have put a piece of rubber tubing on each vent, but this does not stop it.—LN 3980.

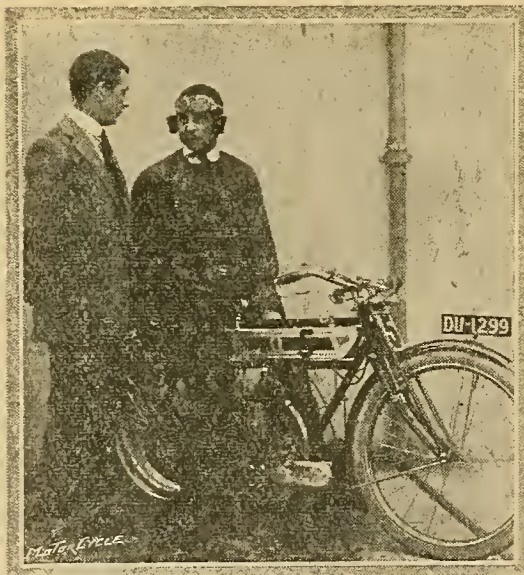
(1.) If the governor mentioned controls the lift of the inlet valve we should recommend you to set the throttle almost fully open and control by the governor and spark lever. Naturally, if you do not retard the spark when attempting to run slowly the machine will come to a standstill owing to ignition being too far advanced for the speed. There is no reason why throttle should not be open if you use the governor control, as the engine cannot draw in a

full charge of gas, no matter what opening of throttle, if the governor is working properly. (2.) The accumulator vents should be connected with a piece of small diameter indiarubber tubing in the form of an arch with a small hole in the centre at the topmost point of the arch. This will prevent spilling of acid to a great extent.

Cost of Running a Passenger Machine.

? (1.) Does it cost less to run a bicycle with sidecar than a tricar? and is the cost of buying in first instance less? (2.) Would $3\frac{1}{2}$ h.p. be enough for touring purposes (not in the hilliest districts) if I had a change-speed gear?—W.P.

(1.) A $3\frac{1}{2}$ h.p. bicycle with sidecar would be slightly cheaper to run than a $3\frac{1}{2}$



Gordon Gibson asking J. Marshall how he does it. (And apparently he was told in time for the last Brooklands race.)

h.p. tricar, owing to the reduced weight on tyres and lower petrol consumption. The sidecar combination would also be a little cheaper to buy. (2.) It would not be wise to go under $3\frac{1}{2}$ h.p. with two speeds for passenger work. Suitably geared, and with passengers not exceeding twenty stones you could tour in most counties without meeting unclimbable hills.

Lubrication of an Engine.

? I recently removed the cylinder of my $2\frac{3}{4}$ h.p. Minerva motor bicycle engine so as to clear it of the carbon deposits. Finding it difficult to remove the deposit owing to the cylinder being all one casting I decided to bore it. I therefore placed it in a pan of cold water, to which I added a quantity of paraffin and a handful of common washing soda, and then let it boil steadily for about half an hour; this had the desired effect of thoroughly cleaning the cylinder of all foreign matter. I next turned my attention to the crankcase; this I swilled out with paraffin and then let it all drain out. Having scraped the piston head I replaced the cylinder. Next day I started off for a run; on leaving the garage I gave the engine four pumpfuls of oil (Vacuum B oil) and cooled. I then sped along for a mile and a half, the engine purring away quite distinctly. I then stopped for a flock of sheep to pass. Upon restarting I could hear squeaks from the engine, so I dismounted (within twenty-five yards of starting place) only to find that it had seized. I therefore slipped off my belt and "pushed" home. After tapping away for nearly an hour I got the piston out. I could then re-insert it in cylinder, and it worked well with the exception of getting very tight at the bottom of stroke. (1.) Did I do the right thing to boil cylinder? (2.) Did I give enough oil before starting? (3.) Do you advise reboiling of cylinder and new piston? (4.) Should not the engine have given warning of overheating or seizing?—GOODIE.

(1.) You could not damage the cylinder by boiling it, because the temperature 212° Fahr. is very much under the temperature reached by an air-cooled engine under normal conditions of running. (2.) Yes. Four pumpfuls should be ample, but you may not have assembled the piston correctly on the crank rod, or you may have changed the position of the rings; or the oil sold to you at the garage may

have been genuine air-cooled vacuum B. Another point is, who assembled the engine? It should have been thoroughly oiled everywhere before being put together, so that the oil pumped into the crank chamber would follow the lead. If the parts are put together dry it is very possible that the splashed oil would not reach one of the bearings immediately, and so a seizure would take place. (3.) The engine ought to run all right if assembled properly, without it being necessary to rebore the cylinder. (4.) Not necessarily.

Single v. Twin-cylinder Machines.

I am purchasing a new machine. Kindly tell me—(1.) Do you recommend twin-cylinder engines in preference to single-cylinder engines? (2.) Is the vibration less on twin engines? (3.) Is there greater wear with twin or single engines as regards expenses of tyres, etc.? (4.) Will a Triumph motor bicycle pull a sidecar with passenger, say, twelve stones and driver twelve stones, and is there any extra license to pay for sidecar, and which sidecar do you recommend, at least which fittings for coupling up?—C.E.R., Yorks.

It entirely depends for what purpose you intend to use the machine. Both types have their uses, but a novice perhaps better off with a single-cylinder machine owing to its simplicity. (2.) Vibration is less on twin-cylinder engines of the V-type. (3.) A 5 h.p. engine of 5 h.p. would wear out its tyres sooner than a $3\frac{1}{2}$ h.p. single-cylinder, but not quicker than a 5 h.p. single-cylinder, if as quick, and likewise a $3\frac{1}{2}$ h.p. twin would not wear out its tyres any quicker than (if as quick) a $3\frac{1}{2}$ h.p. single-cylinder. (4.) Twenty stones is a heavy weight for a $3\frac{1}{2}$ h.p. engine, and without a two-speed car a little beyond the limit. There is no extra license for a sidecar. The choice of a sidecar is more a matter of personal taste than anything.

Concerning Compression.

I have a $2\frac{3}{4}$ h.p. Kerry bicycle, and am desirous of fitting new piston rings. (1.) Would any $2\frac{3}{4}$ h.p. make of rings do? (2.) May I look forward to increase of compression? (3.) Must ends of rings be as far apart as possible? (4.) When grinding in an exhaust valve, is it necessary to file the bottom of valve, as in grinding the seating the valve drops a fraction, and if the end is not filed I take it the valve cannot close properly, as it is made too long. Am I right in this? (5.) Will a stronger exhaust spring also improve power? (6.) I ground exhaust valve last week, and instead of improving engine it ran worse. There was hardly any compression at all. All joints tight, etc. Could not start for some time until I slightly filed end of valve which seemed to improve it, and I at last got a start. What do you think was the cause?—W.A.

No, you must send to the makers, the East London Rubber Co., Great Eastern Street, London, for the rings.

(2.) Yes, if properly fitted. (3.) No, as close together as possible, allowing for expansion through heat. (4.) If distance between the end of valve and top of tappet is less than a bare 1-32in., the stem must be filed, not otherwise. (5.) Extra strong springs may break head off valve, and also put a strain on timing gear, but if the one now on the engine is old, it has most probably lost its temper and a new spring would improve the running. (6.) It is not unusual for compression to be absent immediately after grinding the exhaust valve. Run the engine for a few miles and the compression will return. Probably in your case the valve stem was too long.

Vibration, Hill-climbing, and Tubes.

Kindly tell me what devices I can purchase for my Triumph to minimise vibration. I am going a week's tour in Devonshire next week. Shall I be able to climb all hills without using the variable pulley? My weight is twelve stones with luggage. I propose carrying a spare tube. Which is the best of the detachable variety?—B.R.

Spring seat-pillars render riding more comfortable, also an extra large springy saddle. If your tyres are blown up too hard you will notice the vibration more. It is hardly likely you will be able to climb every hill in Devonshire on the top gear, but if you carry a spare belt giving a gear of about 5 to 1 when the variable pulley is altered, you should be able to surmount any hill. There are several makes of butt-ended tubes, and also several makes of tubes with detachable ends, i.e., those giving a continuous air current. If you adopt our rules we will place a list in order of merit for you.

Unequal Power in Two Cylinders.

I have just cleaned cylinders and valves of my 5 h.p. J.A.P. Compression of front cylinder is slightly better than back. Spring front inlet valve slightly weaker than back one. Sparking appliances in perfect order. Synchronisation practically correct. Cannot detect any leak in inlet pipes. On the road the back cylinder does much more work than front one. When throttled down the front cylinder does practically no work, only firing now and then, and runs nearly cold. On the stand, with the contact breaker connected separately for each cylinder, the spark has to be much more advanced to start front cylinder than back one, and even then the engine runs much more slowly. Accumulator and plain coil ignition. A solution will be gratefully received by—O.J.P.

The compression should be equal in both cylinders, and strength of valve springs (both inlet and exhaust) should be equal. Likewise the openings of the inlet valves should be exactly the same—not more than 3-32in. You could try the experiment of changing over the valves and wiring, and noticing if you experienced the same trouble. Synchronised ignition is best for V-type engines.

Constant Pitting of Exhaust Valve.

The compression of my 1907 Quadrant will bear my weight for about half a minute on the pedal after grinding in the valve, but by the time I run about ten miles the compression is practically gone, and the machine fails to climb hills which it can fly up when compression is good. Carburetter is a B. and B. 1908, handle-bar controlled, and fitted with an adjustable nipple. The engine gets a little hot but nothing extra, and to make sure that I have not been running with too rich a mixture I open the extra air till I hear a pop back in the carburetter, and then close the lever slightly. Taking out the exhaust valve after a run I find that it is all charred, and takes a lot of grinding to make it right. I may say this is the second valve I am using, although I lubricate freely.—H.B.

The charring of the exhaust valve may be due to the worn timing gear having reduced the proper lift of the valve. It should lift about $\frac{1}{4}$ in. We should advise you to check this, and also to fit as large a silencer pipe as possible with only gradual bends in it. If the silencer is choked this might account for the trouble. If you are still unable to cure the trouble you should try a new valve of special material, such as nickel, or with castiron head.

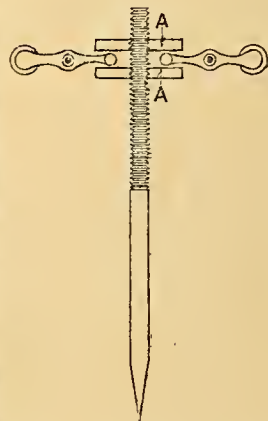
READERS' REPLIES.

A Tip to Triumph Users.

It occasionally becomes necessary to remove the rear wheel of a motor bicycle to insert either a new tube or to fit a new cover. The first operation of a Triumph rider is to undo the chain bolt to take off the chain, but this is unnecessary, as wheel can be taken out and replaced without undoing the chain at all. In replacing a wheel single-handed, it is a good plan to strap up the wheel to the carrier while the axle nuts are screwed up.—T.T.

Adjustment of Petrol Level.

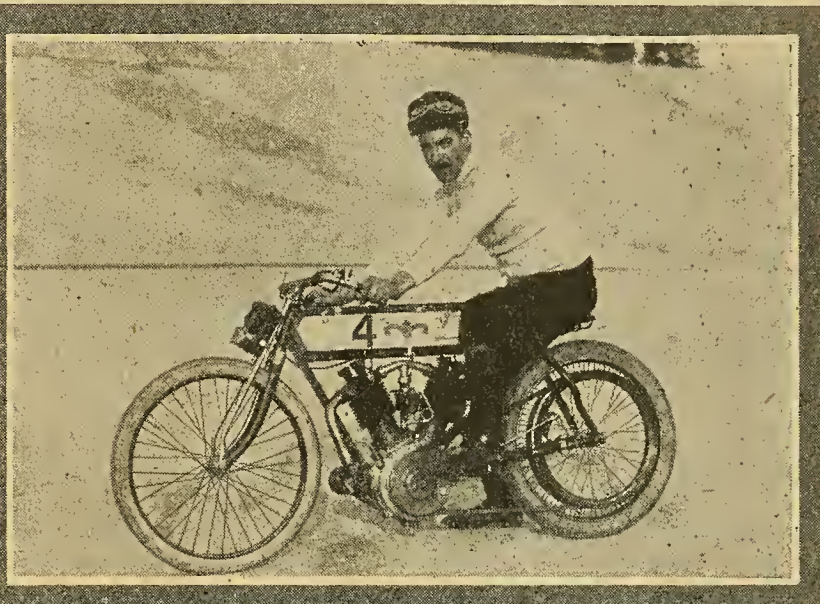
I have seen a number of queries lately re adjustment of petrol level in F.N. carburetters, and I have hit upon a plan which I think might be useful. I have made a needle similar to the original and the same weight, but instead of having the little brass flanges soldered on, I have turned a screw thread on top part of needle and made two small iron flanges to screw on. I can by screwing these up or down readily alter the level of petrol in the jet. I have found by experience that to get the best running it does require altering from time to time; possibly the specific gravity of the fluid varies. The level can also with advantage be slightly lowered after the engine has been running for some time warmed up.—R. A. CAMPBELL.



The World's Hour Record Broken.

ON Thursday last that skilful and daring rider of Matchless motor bicycles, C. R. Collier, made an attempt at breaking the hour record at Brooklands with no small amount of success. A gloriously sunny afternoon—one of the many which this splendid St. Martin's summer has provided—with little or no wind, favoured the attempt. The machine used was the 7-10 h.p. Matchless twin-cylinder which as No. 4 was ridden by H. V. Colver in the Tourist Trophy Race; it is British-built throughout, and a few details concerning it may not be out of place. The motor is a twin-cylinder J.A.P., dimensions 85 x 85, Longuemare carburetter. The valves, which are mechanically operated, are situated on the top of the cylinders, and are worked by overhead tappets, the rods being kept down on the cams by means of light

Peugeot on the Parc des Princes track, Paris, on December 9th, 1905, who covered 63 miles 1,078 yards. This splendid record made by Collier should do much to encourage motor cycle track racing. Now that a British machine holds the world's record international enthusiasm should be aroused, and continental riders may seriously attempt to beat the Englishman on his own ground, while other British motor cycle makers will probably not be content to leave the laurels of victory with one firm. Messrs. Collier and Sons, Ltd. deserve the heartiest congratulations on their success, which they have adequately earned by their enterprise and stolid perseverance. As regards Collier himself, it may be truly said that he rode magnificently; he leaned over very little on the corners, and rode very low down on the banking.



H. H. Collier congratulates his son on a splendid performance. Notice how fresh C. R. looks, notwithstanding the terrific speed he maintained.

C. R. Collier and the twin-cylinder machine on which he created a new world's hour record of 70 miles 105 yards last Thursday.

check-springs. The ignition is by coil and accumulator. The coil is a special C.A.V. non-trembler, fitted with a highly-efficient condenser, and the accumulators are by the same maker. The tyres are Dunlops, 26 x 2 1/2 back and 26 x 2 1/4 front wheel. No throttle is fitted, and there is merely the air lever, which is thrown open after the machine is under way, and the spark advance lever. The gear is 2 2/3 to 1.

The Start

At eleven minutes to three the start took place at the end of the finishing straight in the presence of the two timekeepers (Messrs. F. Straight and A. V. Ebbelwhite), Mr. E. de Rodakowski (clerk of the course of the Brooklands A.R.C.), and the representative of *The Motor Cycle*. The start was a standing one, and the engine fired almost as soon as the valve was dropped. Collier soon got the machine into its stride, and it continued running throughout the hour without a falter. The first lap from a standing start was covered at the rate of 63.24 miles an hour, while the fastest lap was at the rate of 72.89 miles an hour.

A New World's Record.

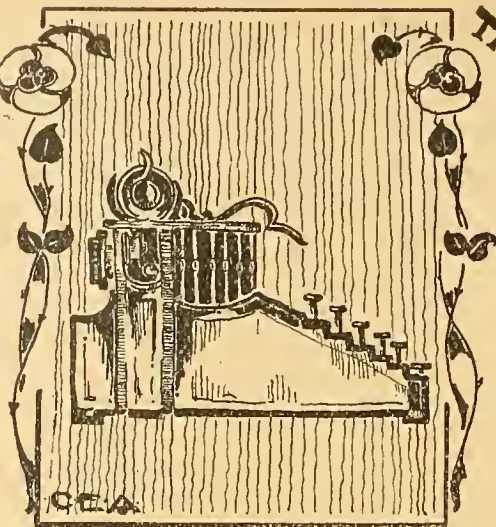
At the end of the hour Collier had covered 70 miles 105 yards, thus establishing the first motor cycle hour record on Brooklands Track, and beating the world's record by 6 miles 787 yards. The previous record was made by the Italian Giuppone on a 12 h.p. twin

while on the straight he kept about eleven yards from the inner edge of the track. The machine was in excellent condition at the end of the ride, but the check-springs on the inlet valves were broken. The Dunlop tyres looked little the worse for the strain which had been put upon them, and the Shamrock-Gloria belt behaved splendidly. Collier complained very much of the roughness of the surface, and stated the drive had been somewhat of a strain. Below we give the speeds at which he covered each lap:

Lap.	Miles per hour.	Lap.	Miles per hour.
1	63.24	14	70.61
2	70.31	15	70.51
3	70.51	16	70.61
4	72.89	17	70.11
5	72.68	18	69.63
6	72.36	19	69.33
7	71.63	20	69.63
8	71.12	21	69.24
9	71.53	22	68.76
10	71.12	23	68.66
11	70.61	24	68.85
12	70.81	25	67.31
13	70.51		

Messrs. Nilmelior (England), Ltd., 36-37, Alfred Place, Tottenham Court Road, W.C., inform us that many motorists do not appear to be aware that the old firm of Bassée-Michel is now merged into that of Nilmelior, and therefore the goods are identical.

LETTERS



THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Two-stroke Engines and Formulae in Hill-climbs

[3596.]—Why does Mr. W. H. Glaser, M.A., advocate a handicap of ten per cent. for two-stroke engines which shows an advantage of only four per cent. in favour of the two-stroke engine, and not nine per cent.?

Length of stroke.		Pressure.		Impulse.		Units per cycle.
100%	x	60 lbs.	x	1	=	6,000
81%	x	38½ lbs.	x	2	=	6,237

STANLEY WORRALL.

Lamps.

[3597.]—In a recent issue of *The Motor Cycle* I noticed in "Occasional Comments," by "Ixion," a small paragraph on "A Lamp Securing Tip." After reading the same I came to the conclusion that a good many riders seem to have trouble with their lamps. If I may be permitted to voice my opinion, I am sure that most of the lamps at present are made far too heavy, which is the cause of all this trouble. I myself have seen and tried a good many different sorts, but none of them have pleased me as much as an electric one I saw advertised in your paper, and which only weighs 8 ozs. With this I get a very good light indeed, and have no fear of breaking lamp brackets, etc., besides being handier in every way.

I have no axe to grind in this matter, but simply write what seems to me a way out of a lot of trouble, and that is have a *light* but good lamp.

M. REEVE.

Hill-climbing.

[3598.]—In letter 3566 Dr. J. C. O'Rafferty has something to say about Mr. I. B. Hart-Davies's climb up "Beggar's Roost" hill, near Lynmouth. He makes such statements respecting the gradients of this comparatively mild hill that I feel compelled to write and correct them. The steepest gradient is about 100 yards above the one and only corner, and is 1 in 5.3, as measured by myself last Easter Saturday. The remainder of the hill is considerably easier, and, excepting for the surface, is quite rideable. The other hill at Barbrook, mentioned by Dr. O'Rafferty, is certainly much nearer 1 in 3½ than Beggar's Roost, and the surface is excellent, as mentioned in my letter in issue of September 2nd, but I notice Mr. Hart-Davies did not roar up this one. Perhaps he was afraid of slipping over the back of his saddle, or the front wheel rearing up and falling on top of him. This is certainly the impression it gives one on approaching it.

HAROLD KARSLAKE.

The Balancing of Petrol Engines.

[3599.]—Some months ago I read in *The Motor Cycle* a description of a method by which the shock and vibration due to the explosion of a charge in a powerful single-cylinder engine might be prevented. This, I believe, was brought about by equalising the weights of certain parts in the engine. As near as I can remember, the details given were not sufficiently clear to induce me to commence operations on my own machine, and, unfortunately, I do not now possess the number of *The Motor Cycle* in which these details appear. If any brother motorist can supply me, through your columns, clearly and fully, with what is wanted to conduce to the aforesaid desirable conditions, he will be earning not only my gratitude, but possibly the kindly feelings of many others who may be in a similar position.

AM 48.

[An article on balancing was published in *The Motor Cycle* of March 18th, and numerous letters followed in these columns, probably the most practical being written by O. Sprey, letter No. 3186, page 225, March 18th.—Ed.]

The T.T. Motor Cycle Race.

[3600.]—With reference to the performance of Mr. J. Marshall on a Triumph in the Tourist Trophy Race in the Isle of Man, there is one curious fact that I should like to see explained, viz.,

that it was publicly stated by the officials that he could barely get all his second allowance of petrol (2 quarts 13 ounces) into his tank.

Now, sir, even assuming that the one gallon served out to him at the beginning of the race quite filled his tank, he must have done the seventy-nine miles in the first half on less than 2 quarts 13 ounces, or approximately 135 miles to the gallon, but at the finish he had 38 ounces left, after emptying carburetter, etc., so that the second half was done on 1 gallon less 38 ounces, or approximately 103½ miles to the gallon, which shows a difference of at least thirty miles per gallon between the first and second half of the race.

INTERESTED SPECTATOR.

[The explanation is, we think, fairly simple. The difference in consumption is due to Marshall having found that he was doing so well in the first round that he could afford to drive faster in the second. In fact, we believe he drove in the second round with throttle practically wide open.—Ed.]

Road Dangers at Night.

[3601.]—As a motor cyclist my recent experiences with sheep and cattle on dark roads may be of interest to others.

Within the last month I have had no fewer than three serious spills from this cause in the neighbourhood of Carlisle. On the first occasion I was riding along quietly at night and overtook a man. As I passed he shouted, but I was into the middle of a flock of sheep instantly, and was pitched off.

Within a week of this, while still in the outskirts of the city of Carlisle, an unharnessed horse galloped at right angles across the road. Of course I hit it as soon as I saw it with sufficient force to throw it down, and I myself was again upset, and the machine smashed.

Within three weeks of this, having had trouble with my engine, I was running down hill one night with my belt off. I heard a shout from the darkness when only about five yards from another flock of sheep, which, even with my powerful lamp, it was quite impossible to see. I had not time to stop before I was again thrown off and badly bruised, and the machine was again damaged.

Surely it is time that steps were taken in this matter. Cannot the county authorities be made to see the partiality of a law which insists on multiplied lights on a narrow and perfectly controllable motor, and yet permits uncontrollable droves of sheep and cattle to occupy the whole of the road without any light or adequate warning?

The remedy for each drover to carry a hand lantern is so obviously simple and reasonable to all but the mysterious rustic, that a byelaw compelling the practice should be at once put into force, for their own protection as well as for that of the unhappy motorist.

C. J. F. MARTINDALE.

Handicapping of Motor Cycle Races.

[3602.]—As a racing motor cyclist of some years' standing, and in the interests of the sport, I consider it is time that some steps were taken to improve the handicapping of motor cycle races.

The handicap at Brooklands on the 3rd inst. has, I should imagine, clearly shown the necessity of attention being drawn to this feature of track contests. In this race, the riders finishing first and second were each allowed

2m. 20s. start, or, roughly, two miles. Now it is perfectly well known to me or anybody else that either of these men could attain a speed of fifty miles per hour on a track such as Brooklands. This means that for the scratch men to even draw level they must travel at a speed approaching eighty miles an hour. A glimpse at the entries reveals the fact, amongst others quite as ridiculous, that a $3\frac{1}{2}$ h.p. had to concede a start of 40s. to the winner on a $3\frac{1}{2}$ h.p. Triumph with an engine 57,000 cubic mm. greater cylinder capacity, and, worse still, a $2\frac{3}{4}$ h.p. N.S.U. 75×75 was conceding 5s. to the same rider, whose cylinder dimensions were 84×86 , and also to a 5 h.p. F.N., which finished second.

Now when it is borne in mind that these identical machines have, by the abnormal starts allotted to them, finished first and second in no fewer than three important events within the last few weeks, I think everybody will agree that it is high time something was done to improve the handicapping. The general dissatisfaction expressed amongst the competitors at Brooklands can only have a detrimental effect eventually upon the sport.

C. R. COLLIER.

Competitions and their Value.

[3603.]—Why cannot these be given in a tabulated form, so that the reader may see at a glance how the various machines have performed?

The question of ratio of gear is important in hill-climbs (as mentioned by a previous correspondent). A report that a $3\frac{1}{2}$ h.p. ——— alone climbed the hill without pedalling astounds the world, but if this machine is geared 10 to 1 and all the others have touring gears, say $4\frac{1}{2}$ to 1, the fact is no longer wonderful.

The club secretaries have (or should have) these details; the belt gear can easily be checked by an official and a piece of chalk. Even if all trials cannot be fully reported, surely the leading trials might be so dealt with—the M.C.C. Consumption Trial, for instance.

I am not blaming your excellent paper in any way. I feel certain the fault is with those responsible for sending in the reports. I would suggest something like the following:

CONSUMPTION TRIAL.

Rider	Machine	Order on formula	Weight of m'chine	Weight of rider.	Petrol allow- ance.	Distance covered.	Miles per gallon.
Jones	$3\frac{1}{2}$ Squib	1	160 lbs.	114 lbs.	2 pints	$25\frac{3}{4}$ miles	103

HILL-CLIMB.

Rider	Machine	Order on formula	Weight of m'chine	Weight of rider.	Time.	Gear.	Miles per hour.
Jones	$3\frac{1}{2}$ Squib	1	160 lbs.	114 lbs.	1m. 8s.	$4\frac{1}{2}$ to 1	33

I would mention that this letter is the result of a discussion between a dozen or so keen motor cyclists on the question of competitions and their value.

R. SAMSON.

Has the Tricar a Future?

[3604.]—I was much interested in Mr. Davies's article regarding the tricar. Being a tricarist myself, I have driven the 1906 type for nine months, in all weathers, and at all times, including a journey from Culross (a place in Fifeshire) to London—a distance of about 435 miles—in two days and two nights, and hence can claim to have had a fair experience of this type.

I cannot agree with "(1) Complete loss of steering control when back tyre bursts" forming a sufficient objection to having the rear part of a heavy tricar sprung. I have had the back tyre suddenly deflate, not burst, it is true, but deflate in 100 yards, while going at thirty miles per hour, and I did not find the steering as unmanageable as he would have us believe. Steering was difficult, but the machine was easily under control, and I was able to pull up at once.

What would happen, it might be asked, if you were in a narrow road or among traffic? My answer would be that it would only be on a wide open road in the country that I should be going that pace. Again, how often does a back tyre, or any tyre burst? I have ridden motor cycles for some years, and never had a burst yet. I certainly would not exchange the immense addition to comfort and saving of the mechanism from vibration produced by good carriage

springs for the shadowy advantages which might be gained for a second or so if the tyre was by any chance to burst. What guarantee is there that a springless frame under these conditions would be any less wobbly than a spring one?

My specification then would be as follows:

Engine.—Here I am in agreement with him, except that I would bar air and fan-cooled ones. To my mind there is nothing like a well-made system of thermo-syphon cooling.

Frame.—Certainly rear sprung. Can Mr. Davies imagine the effect on the whole machine, not to speak of the carcass of the unfortunate driver, of a 200 miles ride over variable roads in a big tricar with no rear springs? Sprung seats are an abomination.

Drive.—Gears (three speeds) and chain. Reverse essential. Anybody who has to drive a long tricar up to a house in a narrow road and then push and haul at it to turn it round and go back would soon say whether he would rather this operation were performed by the engine or by his own back muscles, with patients grinning at him out of the window.

Weight.—3-4 cwt.

Ignition.—Magneto.

Price.—£60-£80.

Steering.—Wheel.

(Dr.) H. S. GASKELL.

A Commercial Traveller's Experiences.

[3605.]—While the writer derives much benefit from the views expressed in the "Letters to the Editor" columns, he still wants more.

Commercial travellers who have discarded timetables, rail and tramways, in getting about amongst their customers, might relate much that would be of real practical benefit to motor cyclists in general.

The writer had practically given up riding on account of lack of time for the sport, when an opportunity of purchasing a machine on most favourable terms induced him to experiment with it, comparing time and money saved in visiting local customers.

The results are such that now not only local customers, but those quite distant are visited, no matter what the weather conditions may be. My kit and sample case are protected by a covering of Empire cloth, which keeps out the rain, mud, and dust very effectively. I arrive at my destination feeling better than any other means of transportation affords, and with a good appetite. My mount is a 1908 Triumph, with a Mabon clutch, which enables me to comfortably negotiate traffic, no matter how dense. I have the usual footrests, but would not dispense with pedals, as with their aid one can start the engine while on the stand, then throw out clutch, fasten up stand, and glide away as easily as with a car, no matter what the gradient may be; the pedals assist the clutch on grades in starting, and the handle-bar control effectively prevents engine from racing. One can coast the hills as silently as on a push bicycle by throwing out the clutch and stopping the engine, while the inertia will restart the engine when nearing the bottom of the grade. A mackintosh and leggings effectively defy the elements in wet weather, while the feet may be kept dry with the usual rubbers worn by pedestrians.

Rubber-studded tyres prevent side-slips, while the saddle position is low enough to kick out against the ground should the rear wheel skid, or both feet may act as emergency brakes assisting the front rim brake, although the rear driving rim pedal brake is very satisfactory in most cases. A Shamrock studded tyre and belt by the same makers do excellent service. If petrol gives out, you may get home safely on paraffin, for that has been my experience far away from any petrol supply. My tyres have never been off the rims as yet, and my magneto has never (barring a burred contact) given me any trouble, despite the fact that it has no cover.

One difficulty in entering strange towns is in finding a place to put up for the night where accommodation for the motor cycle is to be had, and while some places will do in cases of necessity, still one does not care to require help to ascend steps in getting in and out, and one would like to have the opportunity of cleaning and tuning up before starting again in the morning. The Great Central Hotel in Loughborough, the King's Head Hotel in Coventry, and the Denmark Hotel in Manchester have all that is required in this respect, but where to go to in Liverpool (have tried three different hotels) is still a puzzle to me.

Perhaps some other writer may supply this information along with experiences on the road.

H. W. TURNER.

CURRENT CHAT.

SPECIAL FEATURES.

MOTOR CYCLE LAMPS (ILLUSTRATED).

A.C.U. COUNCIL MEETING AT LEAMINGTON.

THE WORLD'S HOUR RECORD BROKEN.

TIME TO LIGHT LAMPS.—Oct. 14th, 6.10 p.m. ; Oct. 17th, 6.4 p.m. ; Oct. 21st, 5.55 p.m.

Next Week's Issue.

Next week's issue will contain illustrations and descriptions of some of the latest motor cycle accessories.

Police Traps.

Every week-end, and on some other days, a trap is working through the village of Fenstanton, ten miles from Cambridge and six miles the London side of Huntingdon.

Motor Union's Membership.

At the end of last month the total number of individual members of the Motor Union stood at 5,843, an increase of 1,406 during the preceding twelve months. Including the affiliated clubs the Union has a total membership of about 15,000.

Motor Bicycle's Christening.

At Woking last week, J. T. Bashall, of Ockham, and G. O. Kyle, of Ripley, were fined £3 and costs for riding motor bicycles at the rate of forty-five miles per hour at Ripley on September 11th. It appears that Mr. Bashall's machine was a brand new one, and after being stopped by the constable the two motor cyclists shook hands and congratulated one another that this was the first time they had been caught, remarking that it was a good christening for the new motor bicycle. At the same court W. H. Bashall was called upon to spend £5 odd of the £15 he won in the Tourist Trophy Race. He was with the two riders above mentioned, and had already several endorsements on his license, which accounts for the higher fine.

Motor Cyclists and the Newhaven Enquiry.

Two witnesses were called by the Motor Union at the Newhaven speed limit inquiry—one, a local doctor representing car owners; the other, Mr. E. F. Young, of Lewes, a motor cyclist, representing motor cyclists. Mr. Young pointed out that it would be most unreasonable to expect motor cyclists to ascend the hill out of Newhaven at a speed of eight miles an hour. It would mean that they would be quite unable to get to the top of the hill without dismounting. In order to meet the objection of motor cyclists, Mr. Rees Jeffreys, who appeared for the Union and the Sussex County A.C., suggested that the speed limit should be extended to ten miles an hour, instead of being eight miles as applied for, and that it should not include the steepest part of the hill.

A Jump in September Imports.

During September eighty-five foreign motor cycles were imported of the value of £2,236, and parts thereof value £3,933, making a total value of £6,169, as compared with £3,088 in September, 1907, and £4,073 in 1906.

Imports during Nine Months.

The number of motor cycles imported during the nine months ended 30th September was :

1906.	1907.	1908.
Number of motor cycles—		
1,593	1,547	1,227
Value of same—		
£46,056	£44,155	£33,194
Value of parts—		
£21,841	£23,714	£21,374
£67,897	£67,869	£54,568

September Exports of British Motor Cycles.

Ninety-nine motor cycles represented last month's British exports as compared with eighty in September last year, and forty-seven in September, 1906. The values of above, together with parts, were :

1906.	1907.	1908.
£3,855	£3,941	£5,388

Nine Months' Exports.

While the number of motor cycles exported during the nine months ended September 30th has increased, the value of the parts has decreased several thousand pounds, as will be seen by the following figures culled from the Board of Trade returns :

1906.	1907.	1908.
Value of complete machines—		
£16,857	£18,941	£22,578
Value of parts—		
£21,898	£20,575	£15,515
£38,755	£39,516	£38,093

Of the above, British South Africa has taken £4,347 worth this year.

Re-exports of Foreign Machines.

£1,587 worth of complete machines, and £7,100 worth of foreign parts, have been re-exported from this country during the nine complete months of the present year.

Sequel to an Irish Hill-climb.

At the Belfast Recorder's Court on the 23rd ult., Alex. Bullick, of Belfast, sued the Motor Cycle Union of Ireland for the recovery of £1 10s., of which £1 was in respect of a prize won by him in connection with the Carnmoney Hill-climb on May 9th, and 10s. the amount

of the protest fee. The plaintiff was declared winner of the hill-climb, but owing to some cross currents the M.C.U.I. went back on their decision and served notice for the re-running of the competition. Plaintiff declined to enter into a second race when he was declared winner of the first. Plaintiff's solicitor being unable to obtain all the addresses of the committee, two of the summonses were not served, and his Honour, Judge Fitzgibbon, held that proper service had not been effected, and struck out the case. Since the above action we hear that the Ulster Centre of the M.C.U.I. have paid plaintiff's solicitor £1 10s., the amount of the claim.

A Reminder.

Readers are reminded that if they are owners of motor vehicles they must notify the authorities in the event of any change in their address. We have heard of two or three motor cyclists who have been fined for failing to do this.

The Gleanoli Magneto Transmission.

The article describing the interesting magneto transmission fitted to the Moto-Rêve motor bicycle, and published on September 23rd, has caused a considerable amount of interest among our readers, particularly those who are scientifically inclined. Mr. Duncan T. M. Sommerville, of the University, St. Andrews, N.B., has very kindly sent us a letter explaining the question of the gearing of two eccentric pinions, and confirms the letter written by "F.P." No. 3578, wherein he says that it is not clear how two eccentric pinions can be made to gear correctly. Mr. Sommerville points out that it is not generally known that the only form for two equal pinions which will gear eccentrically and symmetrically, is the elliptical form. If the pinions in the case of the Moto-Rêve magneto transmission are ellipses, Mr. Sommerville points out that they could hardly be distinguished from circles, the major and minor axes being in the ratio of 1,000 : 991. He also points out that a very slight extra clearance in the teeth is sufficient to secure smooth working. We shall be pleased if any other reader can inform us whether the Moto-Rêve pinions are true circles or ellipses. In the letter signed "F.P." (published September 30th, page 763), where the letters Q.R. come together they should read 2.R., 2.R. signifying the diameter or twice the radius of the pinion.

Police Traps.

Two members of the Hull A.C.C. have been heavily fined for exceeding the limit at Selby, Yorks.

Sweepstake on the T.T. Race.

Ten per cent. of the total amount of the pool in connection with the Motor Cycle Tourist Trophy Race sweepstake organised by Mr. H. G. Cove was handed to the Wigan Colliery Disaster Fund, and a letter of thanks has since been received from the Mayor of Wigan. The amount handed over was 23s.

Continental v. British Motor Cyclists.

Although motor cycle races were not included in the Olympic Games, they would undoubtedly have furnished more excitement than any of the events figuring on the programme. One or two of the English riders suggested a series of motor cycle contests at the last big meeting of the year at the Stadium on Saturday last, but the executive received such a huge athletic entry that it was regretfully deemed necessary to forego wheel events. Several Continental stars were anxious to compete against the British cracks, and one well-known cyclist offered to bring over his 32 h.p. pacing motor to give an exhibition ride for £100. That is hardly the way to encourage the sport, however.

Numbers on the Mudguard Illegal.

At the Godalming Borough Bench recently B. H. Bramble, of Balham, was summoned for having ridden a motor bicycle at Godalming on September 12th, the identification plate of which was not fixed in accordance with the regulations. Defendant pleaded guilty, and P.C. Lightfoot said the rear number was attached to the mudguard. Supt. Jennings said the numbers were painted one above the other instead of side by side. Defendant was fined 5s. and 9s. 6d. costs.

Quarterly Trial on Saturday.

The A.C.U. Quarterly Trial on Saturday, over the usual course of about 125 miles from Uxbridge to Banbury and back, will bring the 1908 competition season to a close. The competitors will be started at 9 a.m., and will be timed on Dashwood and Amersham Hills. It will be remembered that a silver cup was offered at the beginning of the year to the entrant of the machine accomplishing the best aggregate performance in each of this year's trials. In awarding this cup at the end of the year, the reliability times up Dashwood and Amersham Hills, and strictest adherence to schedule times, will be taken into consideration.

events. The two and twenty miles handicaps were won by C. B. Franklin, who was mounted on the 3½ h.p. J.A.P. which he rode in the T.T. Race. In both of the events he scored very easily. The four miles race was for the Dunlop cup, and by winning the event for the second time in succession R. Walshe (85×60 J.A.P.) made the trophy presented by Mr. J. B. Dunlop, the president of the Union, his own property. The racing concluded with a match between some members of the Dublin and District Motor Cycle Club, which was won by H. McAdoo (3 h.p. Fafnir).

Tourist Trophy Suggestions.

Mr. Noel E. Drury, who was one of the competitors in the Tourist Trophy Race, says that next year he would like to see the cylinder capacity limited as one of the conditions of the T.T. Race, instead of limiting the petrol allowance. He suggests 500 cubic centimetres as the limit for single cylinders and 700 for twin-cylinders. He also wishes to urge the necessity of making the conditions known as soon as possible, say within a month, so that private owners may be enabled to spread the tuning up of their mounts over a longer period. We quite agree with the latter suggestion, and if it is possible to arrange it, the Auto Cycle Union Competitions Committee might reasonably meet as soon as possible and fix upon the conditions for next year's competition, provided, of course, that permission is likely to be obtained to hold it in the Isle of Man. Whether a cubical capacity or petrol allowance limit is the better for the improvement of the machine is questionable. The fuel limit is principally adopted to prevent excessive speeds. A cubical capacity limit would hardly have the same effect, and we think our suggestion to slightly increase the allowance of petrol for the twin-cylinder machines is the one which the A.C.U. is more likely to adopt.

FUTURE EVENTS.

Oct. 17—**AUTO CYCLE UNION QUARTERLY TRIAL** of Motor Cycles, Uxbridge to Banbury and back.

„ 21—Motor Union General Committee Meeting.

Nov. 13 21—Olympia Automobile Exhibition.

„ 18—Motor Union Annual Dinner at the Hotel Great Central, London.

„ 20-28—**THIRTY-SECOND ANNUAL STANLEY SHOW**, at the Agricultural Hall, Islington.

„ 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.

Dec. 16.—Motor Union General Committee Meeting.

Motor Cycling Speed Trials at Portmarnock.

On Saturday afternoon, on the Velvet Strand at Portmarnock, the members of the Dublin centre of the Motor Cycle Union of Ireland held their concluding speed trials of the year. The programme was made up of three handicaps and a match, and with the sands in good order and a calm afternoon, some fast times were recorded in the various

The A.C.U. Council Meeting.

THE Auto Cycle Union held a Council meeting of delegates of private members, delegates of members of the R.A.C., and delegates of clubs affiliated to the A.C.U. at the Regent Hotel, Leamington, on Saturday last at 3 p.m. The following members and delegates were in attendance:

Representing the R.A.C. and private members of the A.C.U.: Messrs. Victor Hart (in the chair), C. A. Smith, Martin J. Duncan, E. J. Chapman, O. H. Hawkins, A. G. Reynolds, T. D. Blanch, H. G. Cove, H. C. Ebbutt, D. K. Hall, J. W. G. Brooker, W. H. Wells, L. M. Meyrick Jones, and F. Straight (secretary).

Representing affiliated clubs: Messrs. E. G. Young, Nottingham M.C.C.; E. W. Ashworth, Hertfordshire County A.C.; H. C. Pickering, Worcestershire M.C.C.; F. A. Hardy, West Essex A.C.; A. M. Tatham, Crewe and District M.C.C.; S. W. Carty, Newcastle and District M.C.C.; Richard Booth, North West London M.C.C.; V. A. Holroyd and W. F. Grew, Coventry M.C.; E. W. Winckle, Birmingham M.C.C.; and C. A. Aubert Spring, Nottingham and District M.C.C.

The agenda was published last week on page 777.

In welcoming the delegates to Leamington, Mr. Hart explained that this was their first provincial meeting, and he hoped they would be able to get through the business amicably and with friendliness.

The Work of the Committee.

After the confirmation of the minutes of the last Council meeting, a report was presented of the work of the committee, which stated that since the last Council meeting seven meetings of the committee had been held and twelve meetings of the various sub-committees. The present membership of the Union was as follows: Affiliated members, 2,456; private members, 371; total, 2,827; the number of clubs affiliated being 47. The following new motor cycle clubs had become affiliated: Basingstoke and District, Cambridge University. Bolton and District, Cambridgeshire, Crewe and District. Blackpool and District, Surrey, Purley and District, Sutton Coldfield, Halifax and District, Wakefield, Nottingham and District, and the North-eastern Automobile Association. The agreement between the Motor Union and the Auto Cycle Union had been terminated, and the committee had paid the Motor Union £90 in settlement of its proportion of the affiliation fees to which it would have been entitled during the current year. A new badge embodying the associate badge of the R.A.C.

The A.C.U. Council Meeting.—

had been issued for the use of members, to be exhibited on the handle-bar of their machines. Arrangements had been made for special insurance facilities for members' machines. As a result of a question having been asked in the House of Commons concerning motor cycle competitions on the road, the committee of the Union at once got into communication with the President of the Local Government Board, and pointed out that the rules for these competitions were invariably carefully drawn up and so framed as to prevent the legal limit of speed being exceeded, the competitors also being compelled to drive carefully through towns and villages. The touring department of the R.A.C. had given assistance to a large number of motor cyclists in connection with tours both at home and abroad, and a number of appreciative letters had been received for the trouble taken. A great number of members had availed themselves of the legal department of the R.A.C., the assistance rendered having been of the greatest advantage to those who had sought it. Monetary grants in aid of the defence of members had been made where it was considered desirable. Competitions had been held during the season, for which 348 entries had been received. The Land's End to John-o'-Groat's trial should have a very beneficial effect upon the future touring motor cycle. The results gained and the lessons learned in connection with the Tourist Trophy Race in the Isle of Man also proved that the A.C.U. continued to carry on its good work as a society of encouragement. The committee had carefully considered the establishment of local centres throughout the country, and in June last the provincial clubs were notified that the committee would be prepared to consider the application from not less than eight clubs for the formation of a centre in their district. Correspondence took place with two clubs as a result, but so far nothing further had been heard. The question of instituting a new class of membership at an annual subscription of 5s. had been thoroughly discussed, and had received the earnest consideration of the committee, which had made certain recommendations on the subject. The Finance Subcommittee had carefully gone into the question of the payment of councillors' railway fares, but as the total affiliation fees received only amounted to £237, and the payment of councillors' third-class railway fares would amount to £401 9s. 4d., they were unable to recommend such payments. Steps were being taken to get the Dogs on the Highway Bill well supported when it came before Parliament. The Bill provides that dog owners shall be responsible for any injury caused by their dogs without any evidence of previous evil-doing on the part of the animals; also that damages under £5 can be recovered summarily.

The foregoing report was received and adopted, on the proposition of Mr. C. A. Smith, seconded by Mr. Hall. The former gentleman remarked upon the last clause in the report that at the present time, judging from the result of a case in which he recently took proceedings against a gentleman for damages caused by a dog, the dog was the chartered libertine of the highways to do as it liked.

A Popular Class of Membership.

Mr. E. M. P. Boileau proposed the following resolution: "That a new class of membership be instituted, whereby individual members may be admitted at an annual subscription of 5s." He said he would not detain them very long with observations on this proposal. To put the matter briefly, there were a large number of motor cyclists all over the country who did not belong to any club, and who, apparently, were not likely to, and it was thought that it would be an excellent idea to institute a scheme whereby these people might be got hold of. They could be offered one or two advantages of the A.C.U. for their subscription, and the A.C.U. would then have a register of the majority of motor cyclists in the kingdom, so that whenever any big question of policy, such as the taxation of motor cyclists, came up the Union would have a large number of people to whom they could appeal and whose views they could put before the people in authority. It was quite possible that affiliated club members might think that these new members would interfere with their rights and privileges. He (Mr. Boileau) thought that could be easily overcome by finding out the districts from which these new members came and giving their names and addresses to the secretaries of the affiliated clubs to get hold of those members if they liked; they would thus come into the Union somehow. That was the substance of the scheme. It had not advanced much farther than that. Its object was to get hold of as many motor cyclists as they

could, but they did not want to interfere with the affiliated club.

A member asked what the A.C.U. was prepared to offer these new members for their 5s.

To Increase the A.C.U. Membership.

Mr. Boileau replied that that was a matter for a sub-committee to go into, but he would suggest that touring facilities should be offered principally, but the great idea was to get hold of them.

Mr. W. F. Grew on being invited to give his views said he did not know that he had any particular views to put forward. He was quite in accord with the proposition for getting members into the Auto Cycle Union who would not join in any other way. There were large numbers of motor cyclists who would never think of joining local clubs; they were not sociable men at all, and would not join the A.C.U. except for its touring advantages. He thought such men would join under such a scheme as that proposed by Mr. Boileau, provided they could join at a reasonable rate.

The Secretary: Do you think it would injure the affiliated clubs?

Mr. Grew said he did not think that it would. There were a good many motor cyclists, at Coventry, for example, a hundred or perhaps a couple of hundred, but only about forty belonged to the Coventry Motor Club. If the others were asked to join they would not do so for social reasons, or for the local competitions.

Mr. Pickering (Worcestershire M.C.): I presume you would let them in without any entrance fee?

The Chairman: That is the idea.

Mr. Pickering: In that case it is more likely to affect the affiliated clubs.

Mr. V. A. Holroyd (Coventry M.C.): Would it not be possible for the affiliated clubs to divide that 5s. with the A.C.U.? If that were done the affiliated clubs would take a more hearty interest in the scheme. You would still have the names and addresses at headquarters.

The Chairman: We might entertain the idea if it goes through.

Mr. Cove, as a member of the Finance Committee, said he would second Mr. Boileau's proposal. He said they ought to get hold of those motor cyclists who did not want to join local clubs. He believed there were many who would join the parent club for its touring or legal advantages, but who would not join the local clubs for social advantages. This sort of man very often joined the local clubs, but he would say to the secretary, "Don't send me any dance programmes." If he could join the A.C.U. direct he would prefer it so as to avail himself of its touring and other facilities. What particular advantages should be offered for the 5s. subscription of the proposed new class of members was a matter for discussion. Personally, he thought the A.C.U. might give them the *Journal* and either the legal or the touring facilities, one or the other, but not both, and it would be an advantage to the new member to be attached to the governing body so far as legislation was concerned. If it could be shown by the affiliated clubs that this scheme would interfere with their membership the promoters would be only too glad to drop it. They did not wish in any shape or form to interfere with the local clubs. It was with the idea of opening discussion and getting the proposal thoroughly threshed out that he seconded the motion.

Arguments For and Against.

Mr. Hardy, in supporting the proposition, said his idea in regard to the scheme was that it was something like a manufacturer introducing samples of his goods to the prospective purchaser; if the purchaser found the goods to his liking he ordered a large quantity. The 5s. class of membership would appeal to the man who was not quite sure whether the Union would do him any good or not. If he was satisfied with the sample he would very likely be induced to increase his subscription and become a fuller member, so that he might be able to get further advantages either by joining under the half guinea scheme or by joining one of the local clubs and being affiliated in that way. As Mr. Cove had said, these points needed to be carefully looked into. Speaking for his own club, which embraced Ilford and part of the Eastern suburbs of London, there were many motor cyclists who did not belong to their club, but whom he should like to see belonging to it. Perhaps they would join under the 5s. scheme. There were some motor cyclists one would not be happy to meet, but at the same

The A.C.U. Council Meeting.—

time would like to have their support in common objects. That was where the 5s. scheme would help. Some whom he had personally canvassed rather put their back up at half a guinea and an entrance fee, but they might be caught very nicely with 5s., and after finding out what the Union was, and what it did for them, they would spring a bit more and become full members.

Mr. Meyrick Jones, referring to Mr. Holroyd's suggestion that the 5s. should be divided between the affiliated clubs and the A.C.U., said it seemed to him that this might be worth while considering, so that the local club could offer its advantages, except those of a social character, if there were such.

Mr. S. W. Carty (Newcastle) thought the new scheme would enter into direct competition with the affiliated clubs. For that reason he could not accept it. He proposed the following amendment: "That this proposition be referred to the committee of the A.C.U. for further consideration, and that they bring the matter up at the next Council meeting with recommendations." At the same time he would impress upon the committee to place the matter before the affiliated clubs and ask for their official views. He thought it was rather a mistake to have it brought up in this way. He for one was going to oppose it if it were put up. As Mr. Boileau had the interests of motor cyclists at heart it would be better to further consider it. He would suggest that it be left over till the next meeting, which would be about the time of the Stanley Show, when a more workmanlike scheme could be brought forward. There were about one-third of the members of his own club whose faces he had never seen; they received the usual club notices and the *Journal* and the usual A.C.U. notices. It seemed to him that this new scheme would take those members from the local clubs; and to lose one-third of one's income was to be rather badly hit. Any motor cyclist who wished to go in for foreign touring could join as a private member for 10s. 6d. The man who would come in merely for the sake of registration would be more likely to be able or willing to pay half a crown than 5s. The man who would be most likely to come in under this new scheme would be the man who at present pays 7s. 6d.

The Hon. Treasurer's Opinion.

The amendment having been seconded,

Mr. C. A. Smith said he opposed the scheme because the ordinary person who owned a motor bicycle had no objection to paying the very low fees now asked. He thought Mr. Carty would be pleased to hear that he (the speaker) was in accord with him, though not as far as the affiliated clubs were concerned. The affiliated clubs only brought in about £240 in the year. It would not make very much difference from the affiliated clubs' point of view. At a recent Finance Committee meeting it was suggested that only the *Club Journal* should be given to these 5s. members. Other gentlemen wished to give touring facilities and legal advice and all sorts of luxuries. He could see that shortly the 5s. man would be on equal terms with the half-guinea man. For that reason he was very strongly opposed to another class of members being formed.

Mr. Chapman, combating the suggestion to refer the matter to the committee, said if it were so referred it would still have to come up before the Council, who might have an enormous amount of business to do at the next meeting, and seeing that nearly all the affiliated clubs were represented at the present meeting, it would be a great saving of time to thresh it out now.

Mr. Boileau pointed out that other bodies offered touring and other facilities for a subscription of 5s.

Mr. Duncan (representing the R.A.C.) said he was rather in sympathy with the speaker who wished the matter settled now. It seemed to him that they were having a game of ping-pong with this matter between one committee and another. The representatives of the affiliated clubs were present, and now was the time to put forward a scheme. The matter had been threshed out in committee; it had been before two committee meetings, and they had spent a good deal of time over it.

Mr. Blanch: Let us settle either to have it or not have it, and if we decide to have it then refer it to committee to work out the details; if we decide not to have it, it will be done with.

Motor Cyclists and the C.T.C.

Mr. Hawkins pointed out that the C.T.C. for their subscription of 5s. gave touring facilities and other advantages,

and they did not mind whether their members were cyclists or motor cyclists. If the A.C.U. did not cater for those people the C.T.C. would. That body was making every effort to gather motor cyclists into its fold, and if the A.C.U. did not institute some arrangement of this sort motor cyclists would go there in all probability.

Mr. V. A. Holroyd said that surely this scheme would touch many outlying districts not covered by affiliated clubs, however energetic, and if clubs were given an interest in the subscription they would give the scheme their support, and many of their objections to it would be removed. At all events it could not be said that the scheme was competitive with the clubs if the profits were shared. There were a number of motor cyclists, lonely sort of people, who would not join any clubs, and there were others who were chummy enough, but the clubs did not want them. Both these classes would come in under the new arrangement.

Mr. W. H. Wells (Motor Cycling Club) said the argument that this scheme would detract from the clubs in general seemed to him absolutely ridiculous. Had any cycling club ever complained about the C.T.C. drawing its membership away? He was not familiar with the C.T.C., but the leading cycling organisation of America—the League of American Wheelmen—never experienced any complaint of that sort. He did not think the 5s. scheme would affect the affiliated clubs in any way whatever. If a man could afford to have a motor cycle and to keep it going he must have a fair income. He thought it was very small to talk about his looking twice at his 5s. He did not believe there would be a half of one per cent. who would leave the local clubs. It would be a grand thing for the A.C.U., and they would get in a vast number of new members.

Mr. Reynolds said this matter was an "old chestnut." It had taken some considerable time for the committee to digest the scheme. It had been threshed out in many ways, and for some time the committee of the A.C.U. were entirely against this 5s. scheme because they thought it would injure their existing club membership, particularly in the North. He believed it was the Northern clubs' proposition in the first instance to promote this cheaper scheme, and now that the committee could see its way to adopt it, some clubs seemed to oppose it. He did not think the clubs had properly considered the matter. From his own experience he did not think the 5s. scheme would in any way whatever interfere with the membership of any club in the country. The principal thing they had to watch was that there were other organisations quite willing to take in the motor cyclists, and the idea was to club motor cyclists together into one body. As the A.C.U. was

The Governing Body in Motor Cycling

it should attract all motor cyclists to itself into one body. On the one hand they had the C.T.C. trying to get motor cyclists, and on the other the Motor Union was doing its best to collect them. The A.C.U. ought, therefore, to go out of its way to attract them. According to the figures published as to the number of motor cyclists in existence, it would seem that the A.C.U. had not got one-ninth part of them. Now, where were those men? The A.C.U. must do something to collect them together. If they would not join the social clubs it was possible they would join in the manner proposed if this scheme were given a chance; but if the scheme were not given a chance it would be impossible to say where they would go. He felt sure it would not interfere with private clubs, but that it would do good all round.

The Chairman's Summing Up.

The Chairman summed up the discussion, and pointed out that the result of the deliberations of the committee was that after threshing it out at several meetings the majority of the members of the committee were in agreement with the proposition. From the point of view of finance they had this to consider: they had two classes of private members—the guinea town member and the half-guinea country member. Since the 10s. 6d. scheme had been in progress during the past year the income had dropped considerably from the private members. That was to say, the idea of commencing the 10s. 6d. membership for country members was that it was thought that it would bring in a considerably larger number than they had before at a guinea, but that view had not been borne out by what had transpired. The increase in 10s. 6d. members did not balance the loss on the other class of membership. It was about £50 out this year, although there had been an increase in the membership. He did not

The A.C.U. Council Meeting.—

think the new scheme would affect the local clubs in the slightest degree. There was a considerable divergence of views as to what should be given for the 5s. These details ought to be settled before the scheme was placed before the public.

Mr. Boileau, in replying on the discussion, said the chief point to remember was that other bodies were trying to capture the motor cyclists, and it behoved the A.C.U., as the strongest body which catered for motor cyclists, to get them all within its fold. If the meeting agreed with the scheme the details could be referred to a sub-committee.

The voting then took place, Mr. Carty's amendment being lost and the proposition carried by 33 votes against 24.

Formation of Centres.

A long discussion then took place upon the question of the formation of centres. Before the discussion of the proposition was reached, a point of order had to be decided as to whether the determination of the Council should have the effect of a new rule. On this point Mr. Hardy moved: "That such propositions appearing on the agenda from this item downwards as are carried shall be referred to the committee of the A.C.U. to formulate the necessary rules." This was seconded by Mr. Winckle and carried.

Mr. Carty then moved his first proposition (a), but the Chairman, by way of explanation, explained that the matter had been before the committee, who had already decided to form centres, and had mapped out the districts. Mr. Carty, however, said he had never heard of any such scheme.

The Secretary said the matter had been published in the *Club Journal*, and he was under the impression that a circular letter had been sent out.

Mr. Carty said he had received nothing except a letter in reply to one which he addressed to the secretary. He asked the secretary to form a centre for the Northumberland district, and the secretary informed him that it would be necessary for him to obtain the support of seven clubs in addition to his own in that particular district. There was not that number of clubs in the district.

Mr. Hardy proposed as an amendment, "That a centre scheme on a geographical basis be put into operation forthwith." Details could be arranged afterwards.

Mr. Hawkins seconded the amendment, and Mr. Carty withdrew his motion in favour thereof. On being put to the vote as the substantive proposition, Mr. Hardy's amendment was carried.

Mr. Carty next moved, "That the Auto Cycle Union enter upon a scheme for uniting the motor cyclists throughout the United Kingdom to obtain an amelioration and mitigation of the conditions under which motor cyclists now labour." After Mr. Carty had made his speech in support of the proposition, it was pointed out by several speakers that the

work suggested could be more effectively done by the R.A.C. than by the A.C.U., but Mr. Carty rather flouted the idea of another body doing this work for them. He suggested that what he proposed could be carried out by a suitable letter to the press, and on this understanding the motion was agreed to.

Another motion by Mr. Carty, "That the third-class return railway and boat fares of all councillors attending Council meetings be paid out of the Union funds," was then discussed. The Chairman pointed out that it was impracticable upon financial grounds. Whereupon Mr. Carty limited his proposal to one councillor from each club, but on a vote being taken it was defeated, only the proposer himself voting for it.

Method of Election.

A proposal by Mr. Carty, "That the councillors and members of the committee representing the private members be elected by postal ballot of all the private members," was rejected after a long and somewhat acrimonious discussion.

Another proposition of Mr. Carty's, bearing on the method of election of the committee representing the affiliated clubs, was discussed. The terms of the motion were: "That the members of the committee representing the affiliated clubs be selected by the councillors of affiliated clubs, voting either personally or by proxy at the general meeting of the Union."

This was seconded by Mr. Reynolds, who altered its terms to the following, and in this form it was adopted: "That only members of the committee representing affiliated clubs be selected by the councillors of the affiliated clubs, and that only members of the committee representing the private members be selected by the councillors of the private members respectively, voting either personally or by proxy at the annual general meeting of the Union."

The business of the meeting being concluded, about thirty sat down to a well-served dinner at 7 p.m., presided over by the Mayor of Leamington, Mr. Alfred Holt, who was supported by Mr. W. Riton Oldham, J.P. After the toast of "The King," the Mayor welcomed the A.C.U. to Leamington, and said he hoped it would not be their last visit. He was a motorist himself, and, provided due consideration towards others was shown, he should do everything to discountenance the setting of police traps. As far as the borough of Leamington was concerned there never had been a police trap there, and he hoped there never would be.

Mr. Gilbert Spicer, a resident of Leamington and a member of the Coventry M.C., to whom the thanks of the A.C.U. are due for making the necessary local arrangements, gave a few particulars of some of the beauty spots of Warwickshire.

Messrs. A. G. Reynolds and F. Straight (secretary) also made brief speeches.

A capital smoking concert was organised by Mr. Gilbert Spicer, who himself contributed two whistling solos.

CLUB NEWS.

Southern M.C.

Below will be found the official results of the club hill-climb which was held on the 26th ult.:

Class 4. Twin-cylinder motor cycles, A.C.U. formula.—1, E. K. Davies (5 h.p. Peugeot), gold medal; 2, B. Patterson (5 h.p. Peugeot); 3, C. Patterson (5 h.p. Peugeot).

Class 3. Passenger motor cycles, quadcars, tricars, and sidecars.—1, H. F. Harding (14 h.p. Etna), gold medal.

Class 5, single-cylinder motor cycles, for the Triumph medal, will be announced later.

Edinburgh M.C.C.

This club held the eighth competition of the season on Saturday, the 3rd inst. This took the form of an open penalty run and hill-climb, for which thirty-four entries were received. The result of the hill-climb was:

MULTI-CYLINDER CLASS.

Competitor and machine.	Fig. of merit.	Time.
1. C. H. Macmillan (5-6 h.p. four-cylinder F.N.)	56	50 ² / ₅ s.
2. J. R. Alexander (5 h.p. Vindec)	66	41s.
3. E. L. Matthew (5-6 h.p. four-cylinder F.N.)	69	55s.

SINGLE-CYLINDER CLASS.

1. R. H. Mouat (3 ¹ / ₂ h.p. Griffon)	63	45s.
2. J. Donaldson (3 ¹ / ₂ h.p. Triumph)	75	53s.
3. A. H. Alexander (3 ¹ / ₂ h.p. Griffon)	79	51 ² / ₅ s.
4. T. Durie (3 ¹ / ₂ h.p. Triumph)	80	61 ¹ / ₅ s.

In the scratch class for engines of unlimited capacity the fastest time was done by J. R. Alexander on a 5 h.p. Vindec, with D. Cusins (5 h.p. Rex) second. The hill-climb was much enjoyed by all present, and was carried out in ideal weather.

On October 24th this club will close the competition season with another hill-climb, for which classes have been arranged. Full particulars may be obtained from the hon. secretary, Campbell McGregor, 2, Greenhill Place, Edinburgh.

Hull and East Riding A.C.C.

The result of the inter-hill-climb held at Elsham, Lincs, on the 3rd inst., with the Hull and East Riding Auto Cycle Club and Lincolnshire Motor Cycle Club was:

CLASS 1 (under 80 x 80, pedalling allowed).

Rider and machine.	Figure of merit.
J. Guesford (3 h.p. Fafnir-Glanford)	29.4
P. Pell (3 h.p. N.S.U.)	20.5
J. Richards (2 ³ / ₄ h.p. Minerva)	20.3

CLASS 2 (80 x 80 and over).

G. Bosville (3 ¹ / ₂ h.p. Triumph)	35.8
R. Pearson (3 ¹ / ₂ h.p. Minerva)	29.4
E. J. Bascomb (3 ¹ / ₂ h.p. Triumph)	28.1

CLASS 3 (Twins).

A. Hornsby (5 ¹ / ₂ h.p. N.S.U.)	17.9
A. Heseltine (5 h.p. Rex)	19.4

The annual dinner will be held on the 5th prox.

Club News.—

Harrogate and District M.C.C.

On Monday evening of last week a meeting was held at the Oxford Hotel, Harrogate, to consider the advisability of forming a motor cycle club for Harrogate and district. There was much enthusiasm shown, and the club was formed without any difficulty, the number of members enrolled being no less than eighteen, which is an excellent number for a beginning. The intention of the club is to organise competitions, social events, etc., and to give whatever aid to motor cyclists that the club possibly can. The club is not confined to Harrogate alone, but includes the surrounding



Some competitors in the Rotherham to Scarborough and Back Speed Judging Trial.

district. The committee hope to receive a large amount of support from the district, and Mr. H. W. Fortune, of St. James's Chambers, Harrogate, will be pleased to receive names and addresses of any persons wishing to become members.

Pocklington and District M.C.C.

The above club held a very successful hill-climbing competition on Wednesday last at Kilnwick Hill, the result on formula being as follows:

	M.	S.
1. J. Forth, $3\frac{1}{2}$ h.p. Minerva	1	28 $\frac{2}{5}$
2. W. S. Lamb, $3\frac{1}{2}$ h.p. Triumph	1	28 $\frac{2}{5}$
3. W. Barlow, $3\frac{1}{2}$ h.p. Triumph	1	20 $\frac{4}{5}$
4. T. S. Suddaby, $3\frac{1}{2}$ h.p. Triumph	1	27 $\frac{4}{5}$
5. J. Everingham, $3\frac{1}{2}$ h.p. Rex	...	failed.

Rotherham to Scarborough and Back.

A speed-judging and reliability trial from Rotherham to Scarborough and back for a gold medal, given by Mr. Ernest Cross, the local motor cycle agent, took place at the end of last month. There were fourteen competitors, and, with one exception, all completed the 172 miles journey without any trouble. The competitors' machines included seven N.S.U.'s, five Triumphs, and one $1\frac{3}{4}$ h.p. F.N. lightweight. The winner was J. Scott, who was only three minutes too early on the outward journey and two minutes too early on arriving home.

Cambridgeshire M.C.C.

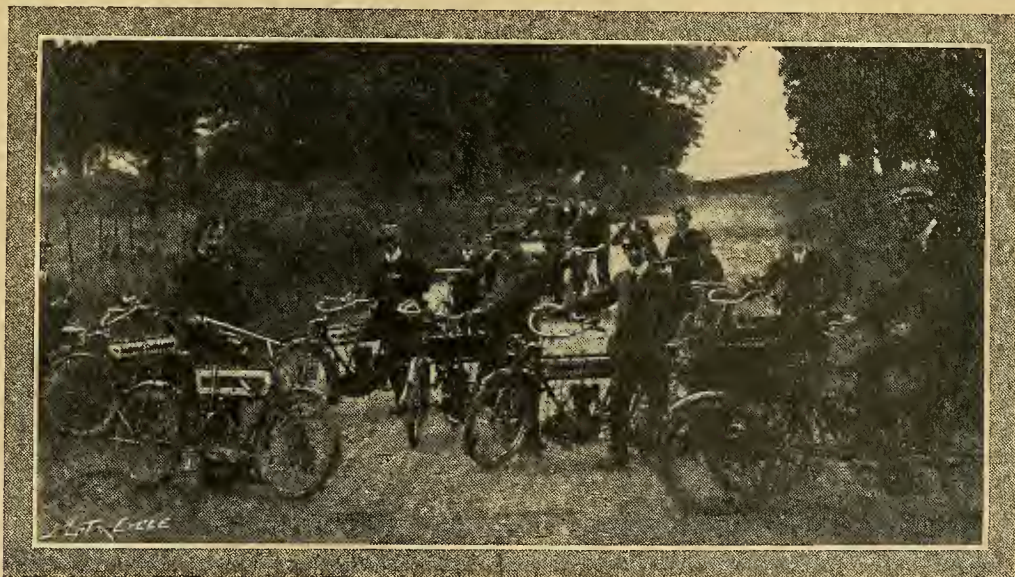
Ten competitors started in the consumption trial to Ely and back, but the weather conditions proved most unfavourable, and, owing to the deluge of rain, all but four retired and sought shelter.

On working out the results they were found to be: 1, W. King, 1 pint 9 ozs. 2 drams; 2, C. W. Wilson, 1 pint 10 ozs.; 3, P. W. Cowell (with sidecar and passenger), 3 pints 3 ozs.; 4, B. L. Peters, 3 pints 14 ozs. A photograph of the competitors will be found on page 796.

A PROMISING ACCUMULATOR CHARGER.

ACCORDING to advices we have received from one of our regular contributors, there is some probability of the electrical rheostat being used for charging purposes. Among electrical engineers it is a known fact that if two strips of different metals are soldered together so as to form a ring, and one of the joints is heated, the other being kept cool, a small current of electricity will flow round the ring. If the metals are very dissimilar thermo-electrically and the difference of temperature between the hot and cold parts is made greater by artificial means, a still stronger current is obtained. This principle has hitherto been put to very little practical use, although sometimes employed for gauging temperatures, but it has now been applied in the form of a stove, in which it is claimed a current of sufficient voltage is obtained for battery charging purposes by multiplying the number of strips and joints. The strips are coupled in series and arranged so that their inner ends are close round the flame of the stove, while the outer ends are as far away therefrom as possible. The plates therefore operate excellently as radiating fins. This will no doubt be a great advantage to the small repairer or garage owner, and to motorists who like to do their own charging. The stoves are made in different sizes, and with either oil, gas, or spirit burners. They require no flues, and the price is very moderate. A safety pattern will be shortly introduced on the miner's lamp principle, in which the flame is protected by wire gauze. This will enable the stove to be used for heating garages and workshops. If these

stoves retain their generating powers for a fair length of time (they are guaranteed for a year), they should be a very useful alternative to the systems at present in use. Further particulars may be obtained on application to the Magneto Company, Dreadnought Works, Phillips Street, Aston, who have promised to allow us



Competitors in the first hill-climbing competition of the Pocklington and District M.C.C.

to make a test of one of the charging stoves at an early date.

The N.S.U. Motor Co., Ltd., have moved from Charlotte Street to new and commodious premises, well equipped for repairs and as a showroom, at 186, Great Portland Street, W. The new premises are most conveniently located, and are within easy access of the various railways, tubes, and omnibuses.

OCCASIONAL COMMENTS.

By "IXION."

A Curious Stoppage.

One of my machines suddenly fetched up dead in very bad weather the other day in such wise that I decided in the moment of dismounting that it was an electrical defect I had to search for. Examination proved that a large blob of wet mud had settled on the naked top of the carburettor float needle, and jammed it so that it had permanently cut off the flow of spirit. As soon as this was brushed away the machine started at once.

Chains—and Chains.

It has always been a puzzle to me why some riders have no language too sulphurous for the chain drive, while others assert with a cold and dignified astonishment that their particular chain drive will run for centuries without adjustment or trouble. I used to think it was all a matter of design, but the other day it began to dawn upon me that manufacture might have something to do with it. I have been a faithful user of Renold chains for many years past, and in all the years I have employed them I have never had one break or wear with abnormal rapidity. A month or two ago I took delivery of a new passenger machine fitted with a three-chain transmission, for which I had, according to my custom, specified Renold chains. Imagine my disgust when the first 200 miles trip not only fractured the three chains in the original set, but also fractured each member of the spare set as well. I faked up three fresh chains out of a pile of disjointed fragments and a few odd links, and in the course of this weary process I discovered that the chains were not of Renold manufacture at all. *Verb. sap.*

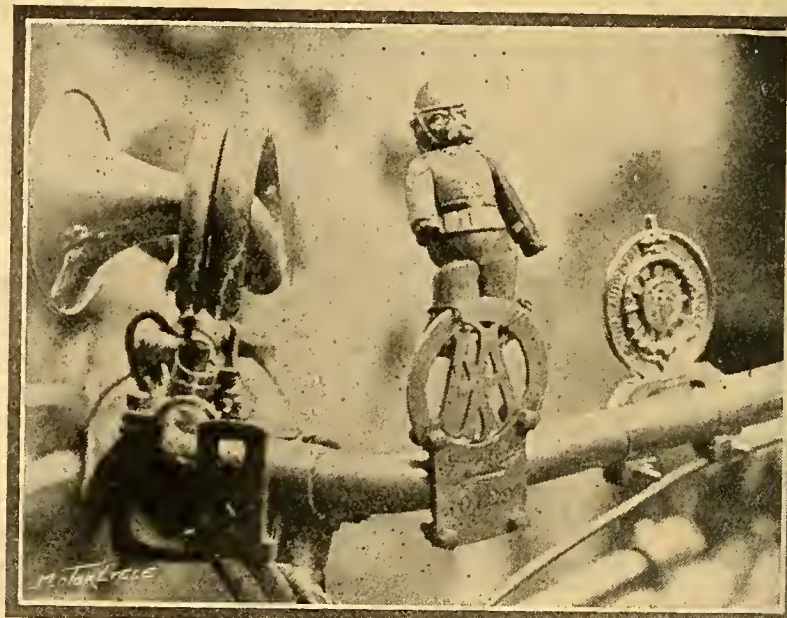
The Indispensable Belt Punch.

I am rather surprised to find so many riders remain faithful to the ancient bradawl or gimlet for belt shortening purposes. These tools are admirable for their lawful services, but they are about as suitable for drilling holes in rubber or leather belts as a club would be for mending a ten-guinea watch. It is not impossible to make a clean vertical hole with them, but it is so difficult that nine times out of ten the hole will either be out of centre or on the skew. The inevitable result of a hole drilled out of centre or on the skew is that the belt pulls through. The alleged brief life of many belts is generally largely due to the false economy of not spending eighteen-pence on a screw punch. Further than this, the shortening of any belt is done in half the time and with half the trouble by a punch. Altogether I marvel much that our belt makers have not emphasised this very elementary point in such a fashion that no rider should fail to heed them. The punch should further be of exactly the right size for the belt, and of such a pattern that the belt is threaded through an appropriately shaped eye in the centre of the punch. The use of such a punch as this destroys all probability of a fastener bolt tearing itself out.

Wanted, a New Fastener for Rubber Belts.

Our common experience has been compressed into a few letters recently printed describing the more or less ponderous and clumsy methods by which users

of rubber belts safeguard their fasteners from tearing off the inch or so of belting that they grip. The mature opinion of all riders upon the belt question is that rubber belts are the cleanest and most reliable of all belts for our purpose, but that they suffer from two defects, viz., shortness of life and the great liability to "pull through." The shortness of life, in a comparative term, as they will always run from 1,500 to 2,000 miles, and many riders are willing to put up with this, since if a leather belt does sometimes achieve a five-figure mileage, it requires a great deal more attention, and is so messy to handle. But the "pulling through" defect is more serious, and ought to be curable. I have seen many attempts at a remedy. The best I have tried was made by an amateur, and was designed to take two screws at each end of the belt, one transfixing it vertically and the other horizontally. It certainly distributed the



A very complete handle-bar equipment seen on the occasion of the Auto Cycle Union Penalty Run. On the right the Royal A.C. Associate badge—the other the A.A. badge (used to good effect).

strain, and prevented the belt tearing across; but it clinked abominably on the pulleys. The sole need is to distribute the strain usually borne by one screw, and concentrated at one point of the belt over several screws piercing the belt at several points. I am inclined to think the best device might be a fastener prolonged by two or three hinged plates at each link, each holding a screw. They would be a nuisance to affix, but when once in position would run well, as a rubber belt is practically free from stretch, and in these days of adjustable pulleys a small degree of stretch does not require the shortening of the belt. A reader suggests that the belts should be moulded with a metal chain in the part of the core near each end, so that the screw could pull against the loop of a link in the chain, instead of against the material of the belt. This would distribute the strain without complicating the fastener, and nicks on the top of the belt could show the point at which screws should be inserted. One thing is plain—that these belts will not be perfect till a better joint is devised for them. Letter 3491 struck me as an excellent tip for applying to standard fasteners.

MOTOR BICYCLES FOR SALE.

HALIFAX.—400 motor cycles to select from: splendid value; cash, credit, or exchange.—Below.

HALIFAX.—£18 18s.; fine twin Rex, spring forks, R.O.M. ignition, blue lines, recommended.—Below.

HALIFAX.—£19 19s.; magneto Rex, 1908 model, single-cylinder, nearly new, and guaranteed.—Below.

HALIFAX.—28 guineas, cost 38.—1908 single cylinder Rex, ball bearing engine, not used 10 miles, guaranteed perfect.—Below.

HALIFAX.—£3 down and 5s. weekly secures 3½ h.p. Rex, £10 10s.; 2 h.p. Simms magneto, £6 10s.; 2½ h.p. Kerry, £9 10s.; 2½ h.p. Excelsior, £9 10s.; 2 h.p. Humber, £7 0s.; 2 h.p. Minerva, £7 10s.; 1½ h.p. Minerva, spray, £5 10s.; 2½ h.p. Royal, £7 15s.; 2½ h.p. Clement, £9 10s.; 2½ h.p. Coventry Eagle, £9 10s.; 2½ h.p. Antoine, £9 10s.; delivery on first payment.—Halifax Motor Exchange, Westgate, Halifax.

2 h.p. Minerva, M.O.V., spray, girder forks, in perfect condition; photo; £10.—Bennett, Penwortham, Preston.

5 h.p. Twin Motor Cycle, fitted with Phelon and Moore two-speed gear; £24 10s.—Crabtree, Bridgend, Lancaster.

51 h.p. Twin Antoine, brand new; £30, or offers; must be sold this week.—Hardcastle, 77, Holme Lane, Sheffield.

31 h.p. Rex and Rigid Sidecar; £17 10s., or offer; will separate; trial allowed.—Morris, 477, Tong Moor Road, Bolton.

BARGAIN.—3 h.p. Minerva, splendid condition; only £11; must be sold.—Box 37, The Motor Cycle Offices, Coventry.

1908 3½ h.p. Minerva, spring forks, nearly new, climb a mountain, illness cause of selling; £27.—Duguid, Kirkby Lonsdale.

7-8 h.p. Minerva, accumulator, for less power, magneto, free engine.—Specification to Mudd, Cottingham, near Beverley.

23 h.p. Phelon and Moore, two-speed gear, accumulator, in fine condition, faultless; 25 guineas.—364, Manchester Road Bradford.

41 h.p. Minerva, 1907, twin, in perfect running order, B.B. carburetter, tyres excellent; £20.—Mitchell, 457, Lord Street, Southport.

MOTO-REVE, 1908, almost new, tyres barely scratched, horn, stand, carrier, spares, all as new; £32.—Davies, 185, Urmston Lane, Stretford, Lancs.

BROWN, 3½ h.p., very low, extra long wheelbase; bargain, nearest offer, £17, cash only.—J. Holland, 43, Ellor Street, Salford, Lancashire.

7-8 h.p. Minerva, new last August, too powerful, for 3½ h.p. 1908 Modele de Luxe Rex, two speeds, handle-bar control.—Hirst, Broomfield House, Batley.

21 h.p. Humber; £6, or offers, for quick sale; only requires cleaning; been stored away six months (tyres new).—26, Offerton Lane, Stockport.

5 h.p. Vindec, twin, Peugeot engine, two-speed gear, large quantity spares, perfect order; price £40.—Baxter, Waratah, Lower Walton, Warrington.

1907 Triumph, splendid condition, 3½ h.p., magneto ignition, spare tyre, belt, plugs, and valves; price £28, nett.—G. W. Mumby, Berkeley Street, Hull.

21 h.p. Quadrant Motor Cycle, spring forks, first-class hill-climber; £20, or exchange and cash for small car.—Carnforth Cycle and Motor Co., Carnforth.

41 h.p. Twin Minerva, magneto, spring forks, 2½in. tyres, butt-ends, perfect; £28, or exchange for good Triumph, or 4½ h.p. F.N.—315, Hessle Road, Hull.

31 h.p. Rex, 21in. frame, 26in. wheels, perfect order throughout, pump, stand, horn; £11, or best offer, a bargain.—Alfred Crampton, 103, Edinburgh Street, Goole.

WHAT Offers for one 1908 5 h.p. Twin Tourist Rex, one 3½ h.p. 1908 ball bearing Tourist Rex, as delivered from the makers.—Tidswell Preston Street, Bradford.

1908 (September) F.N., 4½ h.p., four-cylinder, only been short trial run; will accept £45, including full accessories.—Carter, St. Margaret's, Park Avenue, Harrogate.

Booth's Great Sale

£3 down, 5/- weekly secures the following:

3 h.p. SIMMS, magneto.....	£10 0
3 h.p. CALVERT, vertical engine, 26" wheels	8 5
3½ h.p. EXCELSIOR, spray, good tyres ..	8 10
2½ h.p. BUCHET, vertical engine, spray ..	8 10
3 h.p. RALEIGH, Phoenix 2-speed gear ..	10 0
3½ h.p. REX, vertical engine	8 10
3 h.p. WHITELEY, spray, good tyres ..	8 10
2 h.p. ORIENTAL, B. & B. carburetter ..	6 0
2½ h.p. MINERVA, spray, 26" wheels	8 10
2 h.p. MINERVA, M.O.V., spray.....	8 0
3½ h.p. CHATER LEA, Rex engine	8 0
2½ h.p. KERRY, spray, good tyres	10 10
2 h.p. HUMBER, spray, good condition..	8 0
1½ h.p. MINERVA, good machine	6 0
2 h.p. ANTOINE, vertical engine.....	3 19
2½ h.p. JAP, good order	8 0
2 h.p. F.N., vertical engine, 26in. wheels..	7 15
2½ h.p. SPARK, magneto, vertical engine..	10 0
3 h.p. HUMBER, free engine	10 0
3½ h.p. TWIN WERNER, 26" wheels.....	11 10
2½ h.p. PHOENIX-MINERVA, 26" wheels..	8 10
3 h.p. ARIEL, M.O.V., 26" wheels.....	10 10
3½ h.p. MINERVA, M.O.V.	10 10

Extended Payments accepted.

OTHER GOOD BARGAINS.

4 h.p. ZENITH BICAR, free engine.....	£15 15
3½ h.p. ARIEL, M.O.V., low built	14 14
4 h.p. TWIN N.S.U., magneto	20 10
3½ h.p. QUADRANT (1907), spring forks ..	17 10
3½ h.p. N.S.U., two-speed gear.....	18 10
3½ h.p. REX (1907), black finish, magneto..	18 18
5 h.p. TWIN REX, Osborne four speeds ..	17 17
5 h.p. TWIN VINDEC (1907), magneto ..	29 10
4½ h.p. TWIN MINERVA, magneto	25 0
4½ h.p. TWIN MINERVA, spring forks....	18 18
5 h.p. TWIN G.B., magneto, very smart ..	25 0
6 h.p. TWIN ANTOINE (1908), brand new ..	25 0
3½ h.p. QUADRANT, magneto, brand new ..	32 10
4 h.p. ROC, magneto, Roc clutch	22 10
FOUR-CYLINDER F.N., magneto.....	19 19
4 h.p. ANTOINE, magneto, Roc two speeds ..	20 10
6 h.p. PHANOMEN, 2 speeds, shop soiled ..	47 10
6 h.p. TWIN REX and SIDECAR, 4 speeds ..	20 0

Cash, Credit, or Exchange.

SIX 2½ h.p. REX FEATHERWEIGHTS,

1908 models, nearly new, probably run 200 miles, low built, high tension magnetos, climb hills as good as some 3½ h.p. models, £19 19 0 each, or exchange.

FOUR 5½ h.p. REX-DE-LUXE,

1907 models, fitted with magnetos, Roe clutch, twin tyres, spring forks, spring seats, cost £50 0 0, ideal sidecar machines, handle starting, £27 10 0 each, or exchange.

SIX 5 h.p. TWIN REXES,

beautiful machines, fitted with spring forks, low built, 26in. wheels, will take a sidecar anywhere, £17 17 0 each, or exchange.

SEVEN 1906 3½ h.p. REXES,

low built, spring forks, 26in. wheels, Longuemore carburetters, climbs steep hills, very reliable, £15 15 0 each, or exchange.

TRICARS.

4 h.p. HUMBER, w.c., two speeds.....	£15 15
5 h.p. QUADRANT, two speeds, coach built ..	19 19
4½ h.p. RILEY, two speeds, coach built....	30 0
3 h.p. QUADRANT Tricycle, belt drive....	8 15

SIDECARS.

Shop-soiled MONTGOMERY, 1908	7 12
Twelve guinea MONTGOMERY, cane	6 0
British STANDARD, rigid	4 0



CORONET VARIABLE SPEED PULLEY.

14/- each.

Special Terms to the Trade. Standard makes can be had without sending old pulley for pattern.

The screwed flange is securely held in any position by a simple yet ingenious contrivance that distinguishes it as the most improved pulley made.

GRIPSKIN BELTING.

Scientifically made from selected parts of hides. An efficient belt at a popular price. Outlasts two rubber belts. Correct angle, perfect drive, non-stretching. We send on approval on receipt of P.O. 3in. 9d., 3in. 10d., 3in. 1/-, 4in. 1/1.

Special Terms to the Trade.

Booth's Motor Exchange, CORONET WORKS, WADE ST., HALIFAX. Telephone 198v.

MOTOR BICYCLES FOR SALE.

PERFECT Twin Ariel, without engine, coil, carburetter, exchange for single twin; cash adjustment; also 3½ h.p. Minerva (1907), spring forks, £15, or will buy engine.—Barrett, Barrow.

1908 N.S.U., 3½ h.p., in excellent condition, two-speed gear, free engine, magneto; cost £49 in June last, used very little; owner going abroad; accept £35, or near offer.—Atkinson, 72, Avenue Hill, Leeds.

£15.—1906 3½ h.p. Rex, perfect condition, new Palmer cord tyres and tubes, enamelled French grey, Lucas lamp, large horn, spare valve, pulley, belt, battery, bag, tools, etc.; any trial.—12, Cambridge Street, Sheffield.

6 h.p. Dot, Jap engine, built by H. Reed, dual ignition, Druid forks, Shamrock-Excelsior back, Palmer front, footrests, Brooks seat, complete, all accessories and numerous spares.—Seen and tried, 306, Deansgate, Manchester.

4 h.p. Roc, magneto, special Chater-Lea heavy frame, long torpedo tank, footboards, no pedals, 1in. Watawata belt, 2½in. Palmer cords, very long 62in. wheelbase, very low; £25 cash, no offers.—Clegg, 115, New Park Road, Salford.

31 h.p. 1908 Phelon and Moore, new Easter, spare tubes, Premier lamp, all spares, £36; also castor wheel sidecar, to fit same, new May, £8; particulars forwarded; together or separate.—Jack Thornton, 28, Springfield Mount, Leeds.

EXCELSIOR, 3½ h.p., handle-bar control, Longuemore carburetter, new Prested accumulator, and Fuller coil, non-skid tyres this season, good running order; owner going abroad; £11.—A. V. Holliday, Giggleswick School, Settle, Yorkshire.

1908 Twin Roc, 2½ Palmer cords, new pattern A.M.A.C. carburetter, two large Collier's silencers, new in July, £40; 1908 Motosacoche, new in April, numerous spares to each machine, £20; going in for car.—Ardsley House, Ardsley, near Wakefield.

YORKSHIRE.—5½ h.p. Twin Chase, 1906, just re-bushed and overhauled, handle-bar control, variable Greenwood, two puncture-proof bands each wheel, tyres good, spares, etc.; sacrifice £20.—Timmis, c/o George and Johling, 41, Blackwellgate, Darlington.

LIVERPOOL (Rex Agency).—Before buying your new mount come and have a look at our machines. The largest stock of new and second-hand machines for fifty miles round; anything taken in part payment.—F. C. Jones and Co., 3, Redcross Street, Liverpool.

31 h.p. 1908 Ball Bearing Rex, Palmer cord back tyre, cost 38 guineas, given away at £25, only done 500 miles; 3½ h.p. 1908 ball bearing racing Rex, 24in. wheels, Dreadnought tyres, as new, £25; 1904 3½ h.p. Rex, in good condition, £5.—Tidswell, Preston Street, Bradford.

4 h.p. Jap, Chater-Lea, long frame, and spring forks, Simms-Bosch H.T. magneto, Palmer cord and Grose non-skid tyres, splendid condition, nearly new; £25, or nearest offer; would accept good three-speed cycle in part exchange.—E. F. White, Little Urswick, Ulverston.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines. can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chester Road, Old Trafford.

31 h.p. 1908 Triumph, as new, £30; 3½ h.p. Zenith Bicar, 1908 model, free engine, two speeds, £26; 3 h.p. Vindec Special, 1907 machine, magneto, perfect condition, £18; 5-6 h.p. Antoine, adjustable pulley, very fast and low, £22.—63, Kirkstall Road, Leeds.

1907 3½ h.p. Rex, purchased brand new last April, run 500 miles, fitted with B. and B. carburetter, and handle-bar control, Goodrich non-skid, Brooks B105 saddle and bag, two belts, Lycett 1908 stand, free engine clutch, with variable pulley, spare valves, plugs, etc., guaranteed perfect, and in excellent condition; cash £27 or near offer; approval; or exchange for 1908 Triumph, with cash.—128, Coltman Street, Hull.

MOTOR BICYCLES FOR SALE.

VINDEC Special, 5 h.p., standard model, with Vindec two-speed gear, handle-bar control, B. and B. carburettor, etc., perfect condition; the only machine for side-car work; best offer above £42.—Full particulars, apply, No. 989, *The Motor Cycle* Offices, Coventry.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

3 h.p. Bradbury, very fair condition; £8 8s.—H. Fytton, Coave Street, Macclesfield.

3 h.p. R. and P., almost new condition; £12, quick sale.—Deaves, Newport, Salop.

TRIUMPH, 1907, magneto model, excellent machine; offers.—Moss, Bank House, Newcastle, Staffs.

5 h.p. Twin Rex excellent condition, 1907 machine; £17 17s.—H. Partington, 198, High Street, Macclesfield.

EXCELSIOR, 2½ h.p. M.M.C., long bars, footboards powerful machine; £9.—40, Tamworth Street, Lichfield.

2 h.p. Ariel, in perfect condition, extremely reliable, two accumulators; £10 10s.—Viggor, Moss Road, Winnington, Northwich.

6 h.p. Twin J.A.P., magneto, J.A.P. carburettor, Chater-Lea frame very low, footboards, long handle-bars, 26 by 2½ tyres on voiturette rims, very fast; 19 guineas.—Pinson, Bridge Street, Walsall.

VINDEC Special 1907, 3½ h.p., magneto, Truffaut forks, Whittles belt, magnificent condition throughout, been little used, lamp, horn, tools, complete; sacrifice £24.—R. Else, Leawood, near Matlock

3 h.p. Bradbury, magneto, bought new from works in July, in beautiful condition, not ridden 2,000 miles, marvellous hill-climber, fast, and perfectly reliable; cost £37, accept £20; any trial or examination.—Jack Noble, George Street, Altrincham.

WOLF Lightweight, 1½ h.p., 1908, condition as new, Shamrock-Excelsior rubber studded cover, also spare cover and two lamp valves, Bowden exhaust lift, stand, etc.; any trial; £16, complete.—Appl. Brookfield, Birmingham Road, Walsall, Staffs.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

ONE 2½ h.p. Rex Lightweight (new), magneto; £21 10s.—Main, Parade, Leamington.

ONE 3½ h.p. Rex (1908), very little used, magneto, excellent condition; £15.—Main, Parade, Leamington.

ONE 3½ h.p. Rex de Luxe (1908), two-speed, magneto, very little used excellent order; £25.—Main, Parade, Leamington.

2 h.p. 1908 Moto-Reve, twin-cylinder, magneto, very little used; £15.—Main, Parade, Leamington.

ONE 1½ h.p. Wolf Lightweight, new; £15 15s.—Main, 36, Parade, Leamington.

N.S.U., 5 h.p., twin-cylinder, only run few miles; £35, or nearest offer.—Barlow, solicitor, High Pavement, Nottingham.

3½ h.p. Excelsior, Longuemare, Clinchers, latest model, with all spares; £11.—Below.

4 h.p. Magneto Antoine, Dunlops, powerful and fast; £20.—Below.

5½ h.p. Rex de Luxe, magneto, clutch, Brooks seat, twin tyres, almost new, and with full touring equipment; £28.—Woodgate, 486, Coventry Road, Small Heath, Birmingham.

1906 3½ h.p. Rex, in splendid condition; £13 15s.; also trailer.—Holmes, Auctioneer, Leamington.

TRIUMPH, 1907, nearly new condition, perfect running order, fully equipped—sacrifice £30, bargain.—45, Parade, Leamington.

3½ h.p. Rex, splendid machine, very powerful, beautiful condition; absolute bargain, £17.—67, King Richard Street, Coventry.

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1907 Magneto TWIN REX, good	£19 19
4 h.p. ROC, magneto, Roc two speeds.....	£27 0
3½ h.p. TRIUMPH, magneto (September, 1907)	£29 0
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5½ h.p. TWIN REX, magnificent goer	£19 0
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2 h.p. MINERVA	£7 10
3½ h.p. CENTAUR	£12 0
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3 h.p. WHITELEY	£10 0
3½ h.p. "DUX"	£10 0
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3 h.p. M.M.C.	£12 0
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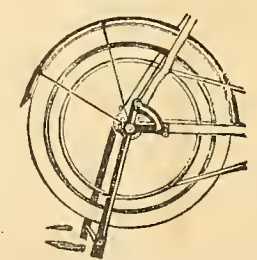
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TRIUMPH, 3½ h.p., 1908, last two of a tract; £48.—The Victoria Garage Electrical Co., Ltd., Coventry.

TRIUMPH, 1908, four weeks delivered, slightly soiled; £40.—The Victoria Garage and Electrical Co., Ltd., Coventry.

ZENITH Bicar, 3½ h.p., two speeds, chain drive; £25.—Below.

REX, 5½ h.p., twin, Roc clutch, two-speed; £28.—Below.

MINERVA, 3½ h.p., M.O.V., good condition; £14.—Below.

TRIUMPH, 1907, magneto, splendid order; 3½ h.p.; £30.—Below.

REX, 1905, 3½ h.p., good order; £10 10s.—Below.

NOBLE, 2½ h.p., very good condition; £10.—Below.

BUCHET, 2½ h.p., very low frame, good order; £9 10s.—The Victoria Garage and Electrical Co., Ltd., Coventry.

EXCELSIOR, 3½ h.p., footboards, chrome leather belt, tools, lamp, etc., spare 10 guineas.—F.D., Moat Farm, Hillmorton Rugby.

NEW Rex Motor Cycle, in crate, 3½ h.p., magneto, ball bearing engine, spring forks, etc.; £30.—Nicholson, caravan building Worksop.

3 h.p. Givaudan (1907), first-class condition, low frame, with accessories; first offer; £15, bargain.—Landor, 20, Colwick Road, Bridgford, Notts.

N.S.U. Motor Cycle, 3 h.p., splendid condition, Palmer back tyre, Lucas lamp, horn, stand; sell bargain. £16 10s.—12, F. Ring, Birmingham.

ROC, 4 h.p., 1908 Military Model, lately soiled only, £39 10s.; also a twin Minerva, second-hand, £18 10s.—Roc Motor Cycle Works, Birmingham.

2 h.p. Minerva, Eadie frame and fittings, good running order, recently spent on same; trial; offers.—Tutty, West View Headlands, Kettering.

1908 Rex de Luxe, 3½ h.p., two-speed gear, Roc clutch, ball bearing engine, perfect, as new; cost £55 13s. in July; £44 Vicar, Witham, Bourne.

CLEMENT-GARRARD, 2 h.p., grand climber, go anywhere; £6 10s., or exchange for h.p. Minerva, Quadrant, or Excelsior.—Pla Oxford Street, Leamington.

4 h.p. Roc, two-speed gear, free engine, clutch, 1907 model, magneto, Drum spring forks; £25, or nearest offer.—Barlow, 68, Jermyn Street, Leicester.

MINERVA, 2½ h.p., 1907, footrests and pedals, in perfect condition; £17 10s., or part exchange good 3½ h.p.—Laurence, 1, Cromwell Road, Peterborough.

£15.—2½ h.p. Noble and flexible sidecar, together or separate, new Bates tyre, money urgently wanted; photo, 4 stamps Roy, Chapel Bar, Nottingham.

A WELL-KNOWN Motor Cycle Racer wishes to sell 5 h.p. twin Peugeot and sidecar, or exchange lower power and cash 996, *The Motor Cycle* Offices, Coventry.

3½ h.p. Rex, winner Land's End to John Groat's, 1905, starts at walking pace and will climb anything; sketch and particulars.—Cripsey, Grimsby Road, Grimsby.

LATEST 1908 3½ h.p. Tourist Rex, ball bearing engine, brand new, and unriden accept £26, cash urgently wanted; approved.—Oswald House, Queen Victoria Road, Coventry.

TWIN-CYLINDER, magneto, free engine, Rex de Luxe, hardly soiled, perfect throughout; exceptional bargain, £24 10s., any trial.—Lloyd, Victoria Terrace, Leamington.

BRAND New 3½ h.p. N.S.U., in crate, from makers, magneto, enamelled green and gold, Shamrock belt, tools, stand; bought car; sacrifice £32.—Erin, 37, New Walk, Leicester.

5 h.p. Twin Alcyon, magneto, spring fork, spring seat-pillar, B. and B. carburettor, with handle-bar control, polished brass tank, lamp, horn, stand, and tools, machine finished French grey; £18.—E. Turner, Fish Street, Birmingham.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

AMFORD HILL.—5-6 h.p. twin Rex de Luxe, 1907, Roc clutch, H.T. magneto, back tyres, as new, property of doctor:

AMFORD HILL.—2½ h.p. Rex, B. and B. carburetter, excellent machine, in perfect condition, lightweight; £7.

AMFORD HILL.—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

AMFORD HILL.—1½ h.p. Quadrant Lightweight, Minerva engine, two brakes, all very good condition and perfect order: £5.

AMFORD HILL.—Light motor cycle, 2½ h.p., less wheels and saddle, 18in. frame, make nice light machine; £3 10s.

AMFORD HILL.—2½ h.p. Precision engined lightweight, in good running order, and very good condition; £6 15s.

AMFORD HILL.—Colossal sacrifice, 2½ h.p. Bradbury, perfect, complete, grand machine; £10 15s.—128, High Road, Tottenham.

h.p. New N.S.U. Motor Cycle, 1908, twin-cylinder engine, magneto; very low cash, £38.—Wauchope's, 9, Shoe Lane, Street, E.C.

h.p. Anglian, De Dion, Dunlop and Clincher tyres, Nilmelior coil, lamp, spare belt; £9.—187, Harlesden Road, Harlesden Green.

four cylinders, magneto ignition, new Palmer cord tyres; a bargain, £25. W. Leonard, 19, Clarendon Road, and Park, W.

U., 3½ h.p., magneto, excellent condition, powerful machine, many spares—10s., or near offer.—Connex, 17, Park, Forest Hill.

h.p. Minerva (1907), not been used this season, equal to new; can be seen or here any time; £15 10s.—Layzell, Ock, Romford, Essex.

h.p. Minerva, Chater-Lea, with art cane Liberty sidecar, excellent condition; several spares.—Langford, 57, Ellerdale, Lewisham, S.E.

EST 4½ h.p. Twin Minerva, spring forks, 2½ Dunlops, Chater-Lea through-just delivered; accept £23.—A. Soper, Clapham Road, S.W.

6 h.p. Twin, No. 6 Chater-Lea frame, Druid forks, 24 by 2½ wheels, Palmer back, footboards: cost £50, sell £25.—Goodwood, Sidcup.

h.p. Genuine De Dion Tricycle, in grand order, engine nearly new, good hill-climber; any trial or examination; £10.—Roy, Park House, Hitchin.

UMPH, 3 h.p., 1906, perfect condition, two spare S.G. belts valve, fork springs, etc., good condition, reliable.—Brad, Wealdstone, Middlesex.

h.p. Minerva, 1907, Continental and Palmer tyres, Advance pulley, Stanley excellent condition, guaranteed; £12 7s. High Road, Streatham.

h.p. Twin Chater-Lea Peugeot, engine, tyres, guaranteed new, spring forks, 3 spares; sacrifice £20.—Wooding, 27, High Road, Stoke Newington.

UMPH, 1907, 3½ h.p., magneto, perfect condition, new back tyre, Dunlops, spares, two belts; 30 guineas.—64, Aut Avenue, Forest Gate, E.

UMPH, 3½ h.p., 1908, standard magneto, splendid condition, Shamrock back: £33, no offers.—Miller, 44, Longfield, Wandsworth, London, S.W.

h.p. Twin (air) Antoine, boxes, coils, accumulators, carburetter, loop frame, wheels, belt and fittings; £12 10s.—B., Inkfield Road, Wood Green, N.

h.p. Motor Cycle, Clincher tyres, spring forks, in splendid running order; £12 12s., or best offer.—J. Chapman, 5, Street, Waltham Abbey, Essex

h.p. Roc, twin Peugeot engine, free engine clutch, magneto, excellent machine; £26 10s.—Garaged at Wauchope's, 9, Lane, Fleet Street, London, E.C.

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A few Shop-soiled REXES to clear at pounds below usual price. Write for list.

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3½ h.p. VINDEC SPECIAL, magneto, first-class condition	£23 15
3½ h.p. PHELON & MOORE, magneto, two speeds, 1908 model, gold medal winner ..	£42 0
5-6 h.p. F.N., latest model, Michelin non-skid, spring footrests, special foot brake	£45 0
3½ h.p. TRIUMPH, magneto, 1903 model, bargain	£37 10
3½ h.p. TRIUMPH, magneto, 1903 model, Mabon clutch, nearly new	£40 0
CASTOR WHEEL SIDE CAR, 1903 model, to fit Triumph	£9 0
MILLS & FULFORD, rigid, soiled, 1908 model ..	£8 0
6 h.p. LITETTE, magneto, Shamrock tyres rear, two speeds, hardly used	£65 0
9 h.p. RILEY CAR, two seats, special model, extra large radiator, lamps, horn, etc. ..	£100 0
3½ h.p. N.S.U., fine hill-climber, M.O.I. valves ..	£16 0
2½ h.p. BRADBURY, excellent running machine	£8 0
1½ h.p. MINERVA engine, light machine, for beginner	£5 0
2½ h.p. FAIRY engine, light weight	£10 0

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ROC CONVERSION.—Roc Two-speed Gear and Clutch, built up with wheel, complete, ready for fitting to Triumph. Usual price Ten Guineas. £9 17s. 6d.

FIT-ALL GEAR.—Two-speed Gear, complete, ready for fitting. £7 7s.

MABON CLUTCHES.—Prompt delivery for Minerva and Rex machines. Early delivery other standard makes. Prices from 55/- Fitted to machines to order.

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MOTOR BICYCLES FOR SALE

3 h.p. Motor Cycle, in good running order, must be sold. £8, bargain; also pair of Brooks non-skid motor cycle covers, 26 by 2½, new.—67, Wellington Street, Woolwich.

1908 Moto-Reve Lightweight, brand new; owing to cancelment and forfeited deposit, can be purchased for 27 guineas.—936, The Motor Cycle Offices, Coventry.

31-4 h.p. Bike and Sidecar, splendid order. 32 spring forks, Watawata, thumb slides, Dunlops, spares; trial; bargain, £18.—W., 70, Leathwaite Road, Clapham Common

TRIUMPH, 1908, new June, perfect condition, Clincher extra-heavy front, Dreadnought rear, unpunctured, spares; £38.—Letters to S.W., 27, Camden Road, N.W.

31 h.p. Minerva, spring forks, Palmers, £16; 2½ h.p. Minerva, £14; 2 h.p. Minerva, £12; each in perfect order and condition.—36, Stroud Green Road, London, N.

2 h.p. Fafnir, vertical engine, spray carburetter, in splendid running order, low built; must sell; bargain. £6 10s.—W. Lee, 217, Glyn Road, Lower Clapton, N.E.

LADY'S Motor Cycle, Phoenix Cob, 2 h.p., two speeds, chain drive, in perfect order many spares, starts like a car; £25, or offer.—Cooke, North Mymms, Hatfield.

1907 Triumph, 3½ h.p., magneto, all usual Triumph details, enamelling, plating, tyres, in new condition, handle-bar control, several spares; £32.—186, Peckham Rye, S.E.

LONDON.—Fafnir, 3 h.p., Chater-Lea, girder forks, footboards, Continental make tyres, low, light, long; come and try; £14.—H. Dew, 421, Battersea Park Road.

6-7 h.p. Chater-Lea Motor Cycle and sidecar, twin Jap engine, magneto ignition, spring forks, etc., practically new; £35.—D. Sullivan, 40, Hubert Grove, Stockwell.

2½ h.p. Scout, nearly new condition, flies up hills, light, smart, low, thoroughly reliable; £12, or near offer. — "Motorist," 7, Bodney Road, Hackney, London.

5½ h.p. 1907 Twin Magneto Rex, new last May, only ridden 400 miles; £24, or exchange rubber tyred Ralli car and cash.—W. Darlington, Hatfield Broad Oak, near Harlow.

VINDEC Special, 3½ h.p., Palmer tyres, new belt, spare inlet and exhaust valves, lamp, horn, etc., in good order: £12. — Smurthwaite, Alexandra Hotel, Kingston-on-Thames.

3½ h.p. Triumphs, 1908 (two), in perfect condition, new back tyre, all spares, tools; £36.—H. Brown, 32, Girdler's Road, W. Kensington, London. Two minutes from Olympia.

CHATER-LEA 2½ h.p. J.A.P., very fast and low, enamelled French grey, copper torpedo tank and cases, very smart machine, perfect order; £15, offers.—56, Streatham Hill.

2½ h.p. Minerva, enamel and plate in new condition, good tyres, and in good running order; trial by appointment; price £11 10s. — L. Bott, Galley Hill, Waltham Abbey, Essex.

3 h.p. Auto Bike, Chater frame, low, light, 26 by 2½in. tyres, F.N. carburetter, green and gold lines, good running order; £10 10s., or near offer.—Lampier, 67, Beckenham Lane, Bromley.

h.p. Magneto Bat, spring suspension, adjustable pulley, non-skid, clutch, grey lined green, practically new; £42; exchange 1908 Triumph and £6.—Brown, 27, Claremont Road, Highgate.

TRIUMPH, 1907, new engine and variable pulley, 1908, perfect condition, new tyre, new belt, Rich's tubes, cyclometer, lamp, horn, spares; 30 guineas.—Huxtable, 4, Maple Road, Surbiton.

21 h.p. Minerva Engine, Eadie fittings, Palmer tyres, stand, two belts, two pulleys, etc.; £18, or nearest cash offer; machine in splendid condition.—H.B., 265, High Street, Chatham.

23 h.p. Brown, excellent condition, recently re-bushed, B. and B. carburetter, two 15 amp. Lithanode accumulators, new Volt too coil, runs on two volts, most economical, X'all spring forks, Gripwell brake, Main-Hilton stand-carrier, with Acetyphot lamp, spare valves, etc.; £12; appointment.—51, Narcissus Road, West Hampstead.

MOTOR BICYCLES FOR SALE.

FAFNIR, 3½ h.p., Chater-Lea, Longuemare, Stanley-Dermatine, Clincher, Riches in back, Acetyphote, speedometer and spares; £16, no offers.—46, Chevening Road, Kensal Rise, N.W.

BARGAIN.—1907 2½ h.p. Minerva, spring forks, footrests, new Shamrock belt, spares, only ridden 1,800 miles, tyres very good; any trial; £15.—Morgan, Selwyn House, Broadstairs.

6 h.p. Twin Jap, No. 6 Chater frame, free engine and starting handle, perfect condition, not run 300 miles; £30, or offers; garaged at Wauchope's.—Hughes, Avenue Road, Winchester.

SIX 1904 Rex 3½ h.p. Motor Cycles, guaranteed in good running order; £6 10s. each; first cheque secures; subject to being unsold.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

SIX 5 h.p. Twin-cylinder Rexes, good condition and running order; £15 each, lowest cash price; first cheque secures, one with magneto.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

3 h.p. Quadrant, springs, Rich tube, handle-bar, Brown-Barlow, very low, highest grade machine; £10, or first close offer wants repair; genuine bargain.—32, Bartholomew Road, N.W.

TRIUMPH, 1906, 3 h.p., magneto, spring forks, in excellent running condition, fully equipped, spares, tools; £23 10s. cash.—Can be seen Cycle Shop, 66a, High Street, St. John's Wood, N.W.

1908 Triumph, perfect condition, complete with lamp, horn, tools, spares, new back tyre, Palmer cord just fitted, only ridden 2,300 miles; £40.—Grace, 7, Lawrie Park Road, Sydenham.

BROWN, 1907, 2½ h.p., handle-bar control, Mabon clutch and free engine, Clinchers, spring forks, two accumulators, spare valve, etc., splendid order; £16.—H., 14, Cambridge Park, Wanstead.

TRIUMPH, 3½ h.p., 1908, perfect order, running beautifully, with lamp, horn, spare valves, plug, and belt, spring saddle-pillar, two toolbags, etc.; £38.—J.H.P., 18, Knollys Road, Streatham, S.W.

BAT, bargain, brand new, 6-7 h.p., shop-soiled only, forfeited deposit, J.A.P. engine, specification as 1908 list; accept £40, usual price £52 10s.—Bat Motor Manufacturing Co., Kingswood Road, Penge.

N.S.U., 1907, magneto, 4 h.p. twin, fitted two-speed and free engine and sidecar, new Peter-Union tyres; 50 miles trial run given; price £35, or near offer.—Brown, 21, Ealing Road, Ealing, W.

5 h.p. Twin Vindec Special, Truffault, magneto, two-speed gear, free engine, sidecar, excellent condition; going cheap to quick buyer; any trial; bargain.—No 995, The Motor Cycle Offices, Coventry.

PALMER.—3½ h.p. Minerva Bike and Sidecar, £18; 2½ h.p. De Dion bike, £6 10s.; six 20 amp. fully charged accumulators, 7s. each.—L. N. Palmer, 190, Mellison Road, Tooting. Telephone. 208 Streatham.

TRIUMPH, magneto, dated November, 1906, excellent condition, very fast, splendid climber, belt and tube new, little used, best machine on road; first £25 secures.—Letters, Burgess, 26, Holloway Road, London.

3½ h.p. Minerva, also 3 h.p. Rover, both in excellent condition and running order, tyres good, new accumulator and coil to Minerva, spring forks on Rover; offers wanted.—Wormald, Pavilion Buildings, Brighton.

2½ h.p. Jap Lightweight, direct drive, V belt, magnificent condition, crawls in traffic, marvellous little hill-climber; £13, including all accessories; trial on hill.—Motor, 7, Bodney Road, Hackney, London.

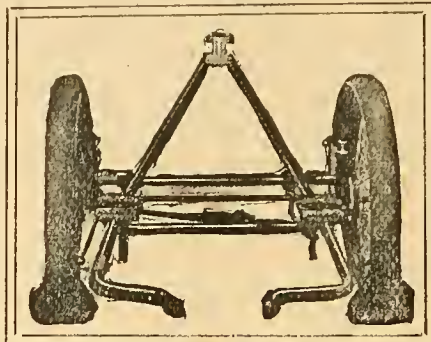
1906-7 2½ h.p. Kerry, practically brand new, everything in guaranteed condition, low, light, neat, magnificent hill-climber; lowest price £14, no offers of less; only wants seeing.—K., 86, Colvestone Crescent, Dalston, London.

1908 Almost Brand New 6 h.p., Chater-Lea (No. 6), twin Advance, hardly used, very low built, 2½ in. tyres, fires very slowly, has tremendous reserve power, reliable as clock, very handsome machine; thundering bargain, £29 10s., or lower power and cash.—"Motorist," 11, French Place, Shoreditch, London.

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2½ h.p. Jap, vertical engine, Longuemare carburetter, Continental tyre belt, perfect throughout, fast, powerf accessories; trial; particulars willingly gain, £8 10s.—76, Kerbey Street, Br London.

1908 Triumph, complete with Palmer tyres, lamp, generator, horn, Veeder Trip cyclometer, the whole machine not run 150 miles; what of £3,382, The Motor Cycle Offices, 20, Street, E.C.

BROWN, 3½ h.p., 1907, spring forks, carrier, footrests, new butt-end tinentials, two new P. and R. accum in excellent condition, very reliable anything; trial; £20.—S. Ablewhite, K Sevenoaks, Kent.

3 h.p. N.S.U., 1907, Shamrock Gloria, carrier, 2½ Continentals, new spare belt, unused, Bradbury spring rests, and accessories, absolutely re seen and tried any time; £20.—E. H. acres, Bell, Enfield Wash.

1908 3½ h.p. Minerva throughout, forks, torpedo tank, handle-bar control, footrest, 26 by 2½ Continental, horn, tools, spares, used 400 miles; offer.—A. Fort, 51, Whitfield Street, T ham Court Road, London.

£12.—2½ h.p. Brown, good running long handle-bars, spring forks, rich non-skid, B. and B. carburetter, bar control, New Departure coaster seen by appointment.—H.F.M., Heatl East Heath Road, Hampstead.

VINDEC Special, 3½ h.p., Truffault forks, magneto, new Shamrock s cover, separate generator headlight plete with horn, carrier, spare pulle excellent condition; £24, bargain.— Beauvoir Square, Kingsland, London.

3 h.p. Quadrant, spring forks, bran appearance, absolutely perfect tion, fine hill-climber, fires walking Longuemare carburetter, perfectly re easily taken upstairs; £12, or near Motor, 86, Colvestone Crescent, D London.

3 h.p. Falcon, low, 26in. wheels, magn condition, very smart, a fier up never gives the least trouble; £9 10s.; examination; convincing trial with g pleasure; greater bargain never offe "S." 86, Colvestone Crescent, Dalston don.

3½ h.p. N.S.U. Engine and carburet No. 6 Chater-Lea frame, in sp order, fast and reliable Clincher and Union tyres, complete with lamp, horn bag, etc.; £12 10s., cash, no offer; C.W.B., 94, Herbert Road, Plumstead 281, Woolwich.

VINDEC Twin, two-speed gear, 1909 and improvements, only deliver weeks, Montgomery sidecar, converti rigid, large number of refinement extras; cost £83, take £55; must sell abroad.—Bridgman, 1, Fieldsway Fieldsway Crescent, Highbury.

3½ h.p. Midget Bicar, 1907, 150 miles automatic carburetter, patent able induction pipe, spring forks, able pulley, long bars, plated brace bars to forks, low position, all sp condition; bargain, £19 or offer.—Ga Page, 162, Acre Lane, Brixton.

3 h.p. Motor Bicycle, Aurora engine, good going order, £11, or nearest 2½ h.p. motor bicycle, Jap engine, jus hauled by makers, surface, Rich's back wheel, tyres as new, two accum trembler; £10.—13, Cranbrook T Green Street, Enfield Highway, N.

WITHOUT Reserve.—3½ h.p. M.M.C., did engine, absolutely reliable silent, only tyres worn, 10 guineas; twin Rex de Luxe, Roc clutch, cor nearly as new, studded back, sim beauty, 25 guineas; best bid accep F.M., 42, Blenheim Crescent, Croydon.

LATE 1907 3½ Two-speed Vindec S magneto, spring forks, N.A.B. seat-pillar, horn, stand, and carrier, did kit tools, spare valves, fibre ri new, special silencer, magneto cover, wata belt, Vindec variable pulley, bar control, numerous refinements, 800; this machine is undistinguishabl new; tyres, plating, enamel unscra £23 10s.; seen any time.—188, South La Road, S.W.

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IDECARS AND 'FORECARS.

OAKLEIGH Sidecars Stand Alone. The only sensible sidecar at a reasonable figure; price £5, and five years' guarantee. Isn't it better to pay the few extra shillings and have the genuine article? If you buy from the inventors and manufacturers you get the finest quality possible. Remember we invented the sidecar. Ours is the only sidecar to prevent sideslip. — Oakleigh Motors, Ltd., West Dulwich.

MOTOR TRICYCLES.

23 h.p. Motor Tricycle, two armoured accumulators, going cheap; £6. — 37, Knight's Hill, West Norwood, London.

TRAILERS.

TRAILER, in splendid condition, Palmer tyres; best offer.—Carter, 139, Sneinton Boulevard, Nottingham.

TWO Motor Trailers, one cane, one wicker, large tyres and mudguards; best offer, or exchange.—Woodgate, 486, Coventry Road Birmingham.

TRAILER, strong and wide, upholstered green, 2in. A Won Clinchers, nearly new, unpunctured, perfect; £2 10s., bargain.—Kelham, Bourne.

QUADRICYCLES.

31 h.p. Auto Moto Quad, perfect condition; **32** trial; £15.—4, St. Paul's Road, Coventry.

QUADCARS.

31 h.p. Ariel Quad, two speeds, new tyres, perfect condition; £22. — Leeding, Fakenham.

PHENIX Quadcar, new April, 1907, four-cylinder, 12-16 h.p. Fafnir engine, car tyres, non-skid drivers, very fast, power hill-climber. — 70, Lower Essex Street, Birmingham.

CARS FOR SALE.

PALMER.—3½ h.p. De Dion Quad, water-cooled, two speeds, cane body; £12 10s.

PALMER.—4½ h.p. De Dion Libena, two-seater, two speeds, reverse, reliable; cheap, £17 10s.

PALMER.—6½ h.p. Darracq Two-seater, three speeds, reverse, more than smart, guaranteed do 25 m.p.h.; £35.

PALMER.—10-12 h.p. Gladiator, Aster engine, twin-cylinder, silent reliable car; bargain, £55.

PALMER.—16-20 h.p. Winton, 1907, side entrance, four-cylinder vertical engine, dual ignition; £100.

PALMER.—16-24 h.p. De Dietrich, five-seater, four-cylinder, magneto, guaranteed do 45 m.p.h.; £145.

PALMER.—24-30 h.p. Hurst and Lloyd, side entrance, long chassis, four-cylinder, cardan; £95.

PALMER.—16-22 h.p. Gladiator, side entrance, long chassis, four-cylinder, late type; £140.

PALMER.—7-11 h.p. Panhard Delivery Van twin-cylinder, four speeds, reverse; bargain, £29.

PALMER.—12-16 h.p. Panhard Chassis, ready, receive any engine, complete in every way; £15.—L. N. Palmer, 190, Mellison Road, Tooting. Telephone, 208 Streatham.

30 h.p. Four-cylinder Touring Car; 55 guineas.—J. May, 40, Hubert Grove, Stockwell, S.W.

PULLMAN Car, 4½ h.p., spring frame Bat, new tyres, splendid order; £16 10s.—67, Freedom Street, Sheffield.

STAR, two-cylinder, 7-9 h.p., two-seater, three speeds and reverse; £50.—Binsted, 96a, Mitcham Lane, Streatham.

ALLDAYS Traveller, seats three, first-class condition; £28.—Apply, D. B. Foulger, 241, Plashet Road, Upton Park, Essex.

LIGHT Two-seater Car, 4½ h.p. De Dion, three speeds and reverse; £28 10s.—H. Hicks, 27, Cleveland Road, South Woodford.

6 h.p., two-seater, two-cylinder, Palmer cords, wheel steering, perfect running three speeds; £26, or offer.—52, Perry Hill Catford.

Stanley Dermatine,

The Motor Belt of Merit.
BRITISH IS BEST.

TOURIST TROPHY RACE

Twin Class won on **Dermatine Belts.**

London to Edinburgh.

Land's End to John-o'-Groat's.

London to Land's End and back.

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71 GOLD MEDALS

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"Dear Sir,—I used your belt and fastener in the Tourist Trophy Race, Isle of Man, and won the twin class, and I am pleased to say that both went through without giving the slightest trouble.

"Yours faithfully,

"(Signed) H. REED."

Two years in succession first prizes in Isle of Man Races.

RESULTS TELL.

Hundreds of Testimonials. British Made.



NOTE THE PRICES.

½ in.	¾ in.	1 in.	1 1/8 in.	1 1/4 in.
1/2	1/4	1/8	1/11	per ft.

POST FREE.

The Stanley Detachable Fastener.
80,000 in use.



With Unbreakable Hook. Guaranteed. (Made under Simplex Patent.) In sizes ½ in., ¾ in., 1 in., 1 1/8 in., 1 1/4 in. each. Wholesale and Retail.

The **STANLEY DERMATINE**
MOTOR BELT CO.,

32, London Road, BROMLEY, KENT.
STANLEY WEBB, Manager.

¶ Readers who purchase, or contemplate purchasing, a new machine, should advertise their present mount in these columns. ¶ Experience has shown that "The Motor Cycle" is, in the majority of cases, successful in finding a purchaser. ¶ This applies also to accessories and spares. *

CARS FOR SALE.

5 h.p. Alldays, seats three, good condition, engine, gears, and tyres perfect; £20, or exchange with cash for tricar.—Dorrell, Baker, Croyley Green.

STAMFORD HILL.—5 h.p. Pieper small two-seater car, w.c., two speeds and reverse, fine running order, very good condition, nice little lot; £19.

STAMFORD HILL.—10-12 h.p. twin Pick, two-seater, new 4½ Colliers on back, two speeds and reverse, in excellent condition and perfect running order; £25, great bargain.

STAMFORD HILL.—10-12 h.p. Twin Pick, four-seater tonneau, three speeds and reverse, 760-90 equal artillery wheels, all in splendid condition and excellent running order, fast and powerful; £40; photos, further particulars, and trials with pleasure; exchanges.—128, High Road, Tottenham.

10-12 h.p. Airex, smart tonneau car, as new, two cylinders, cardan, equal artillery wheels, new tyres; £55, worth double.—98, Potternewton Lane, Leeds.

6½ h.p. Humberette, three speeds, reverse, seats two, artillery wheels, three lamps, Stepney wheel; £49 10s., or exchange.—Booth, Wade Street, Halifax.

10 h.p. Jackson Car, seats two or four, solid tyres, wood wheels, spare set for pneumatics, make capital van; bargain. £38.—98, Potternewton Lane, Leeds.

5 h.p. New Orleans Two-seater Car, two speeds, wheel steering, good tyres; price £22 10s., or Motosacoché bicycle exchange.—Riddelsell, Boxford, Suffolk.

FORD, four cylinders, two-seater, Mercedes red, two ignitions, excellent order; £130; take four-cylinder F.N., late model, part exchange.—M. J. Curtis, Blandford.

SWIFT Car, two-seater, 6 h.p., two speeds, solid tyres; sacrifice £25, or exchange; seen appointment.—Chauffeur, The Cottage, Melbourne Lodge, Queen's Walk, Ealing.

5½ h.p. Oldsmobile Car, seats three, with hood, lamps, spare tyre, perfect working order; any trial here; £25, or nearest offer.—Lawson, Burley Mount, Leeds.

£65.—Smart 6½ h.p. water-cooled Two-seater, three and reverse, direct on top, equal artillery, tyres as new; trial, exchange part.—Motorist, 21, Balfour Road, Ilford.

6-8 h.p. Pick, two-seater, two speeds and reverse, solid tyres, brass lamps, everything perfect condition; can be seen running; £19 10s.—73, Church Street, Camberwell.

£80.—7-11 h.p. Panhard-Centaure, Krebs, wheel control, side entrance body, hood, four lamps, etc., in perfect condition throughout.—Campbell, The Mansion, Sundridge Park, Bromley.

9 h.p. Single-cylinder Beaufort, magneto, new Dunlop tyres, tonneau body, seats four, three speeds and reverse, excellent condition; what offers? — Magneto, c/o Street's, 30, Cornhill, E.C.

SALE, Sunbeam-Maberley Car, genuine De Dion; £25, or exchange any form powerful tricar; 2½ h.p. Minerva, 1907, £12; 2½ h.p. Werner, £10 10s.; two Ariel Minerva, £7 10s.—8, Queen's Road, Doncaster.

AIREX, 9-11 h.p., 1908 model, twin-cylinder, side entrance body, hood, screen, side lamps, back lamp, pair headlights, all spares, very fast, silent, and reliable; any trial; £145.—Louis Davis and Son, Moseley, Birmingham.

ABSOLUTELY New 8-10 h.p. Jewel Runabout, two speeds and reverse, trembler coil, 4-30 miles per hour, hood, screens, and lamps, complete; can be seen in London; offers invited.—Power, c/o Streets, 30, Cornhill, E.C.

8-10 h.p. Darracq (single-cylinder), 1907, four-seater, swing seat, in every way as new, absolutely reliable, and extremely light on tyres and petrol; £140; trial and inspection with pleasure.—Toby, 9, Sydney Street, South Kensington.

ROVER Cars.—You never know what a skid means when you drive a Rover. Now the days of muddy roads are here are you not thinking of the pleasures that would be yours if you owned a car? Write us for the amount we will allow you for your skiddy mount in exchange for a Rover at £135.—Louis Davis and Son, Moseley, Birmingham.

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CARS FOR SALE.

£75.—6 h.p. Star (new), 1908 model, complete with lamps and horn, Dunlop tyres, 700 by 80, guaranteed faultless, suit doctor or commercial traveller; bought under forced sale; a rare bargain.—Carter, 60, High Street, Grays, Essex.

8-9 h.p. De Dion, L.B., five seats, long wheelbase, 760 by 90 Dunlops, Stepney wheel, wind screen, clock and all touring equipment; 85 guineas, or part exchange good motor cycle or tricar.—Woodgate, 486, Coventry Road, Birmingham.

8 h.p. M.M.C., three speeds, reverse, tyres excellent, new, painted and enamelled, new bonnet, £35; also 3½ h.p. Minerva bicycle, new June, 1908, magneto, spare belt, and butted tube, £26 10s.; both can be driven away.—991, The Motor Cycle Offices, Coventry.

6½ h.p. Humber Two-seater, side doors, painted, dust screen, recently overhauled, painted, and varnished, jack, lamps, 80 mm. Dunlops, spare cover and tubes, good hill-climber; £65, or accept Triumph motor cycle part exchange; trial.—G. Smith, 37, Northumberland Road, Coventry.

9 h.p. Riley Car, 700 by 90 grooved Dunlops, one outer, two inner spare tyres, under-screen, inside mudguards all wheels, Cape cart hood, large headlights and horn, double row radiator, Imperial odometer, extra toolbox and tools; what offers?—L3.383. The Motor Cycle Offices, 20, Tudor Street E.C.

10-12 h.p. Bouchet, twin-cylinder, powerful, and in splendid running order, smart looking car, side and back entrance, three speeds and reverse, tyres perfect, newly upholstered and painted green, carry four, tools, lamps, horn; £70; accept motor cycle or small car.—Fairfield, 2, Newarke Street, Leicester.

HOTELS AND APARTMENTS.

WHEN visiting London stay at Waverley Temperance Hotel, 17, Euston Square. Bed, breakfast, attendance, from 3s.

LOST AND FOUND.

LOST, between Grantham and Doncaster, large sized generator of motor bicycle acetylene lamp.—Capt. Bunbury 25, Mount Park Crescent, Ealing, London, W.

LOST, on Sunday, October 4th, between Epsom and Ripley, a leather tool roll containing about 18 tools. The finder will be suitably rewarded upon returning them to the owner, Davison, 27, Westwell Road, Streatham Common.

TUITION.

MOTOR Car Driving Taught in one month. —Particulars, 661, The Motor Cycle Offices, Coventry.

INSURANCE.

PLEASE send for full covering Motor Cycle Policy, from 19s. per annum.—Bass, Insurance Broker, Ongar.

INSURANCE Policies of every description for motor cycles are issued by Hugh J. Boswell, insurance broker, Norwich, at exceptionally low rates; fire or self-ignition, 2s. 6d.; third party, 7s. 6d.; accident to cycle, 15s.—Write for full particulars.

BUSINESSES FOR SALE.

CYCLE Depot (London), good position; any investigation; £100.—Box 949, The Motor Cycle Offices, Coventry.

MOTOR and Cycle Business, situate corner of four cross main roads, splendid position, and good paying concern, large stock of motor and cycle accessories; a bargain to immediate purchaser.—Apply after 6 p.m., 141, High Street, Merton, S.W.

ACCUMULATORS.

CASTLE Accumulator, 4 volts 25 amp.; cost 23s., cash 13s.—Dean, 42, Crondall Road, Fulham.

ACCUMULATORS Repaired promptly, any make; reasonable charges, best work; estimates given; full value for your old accumulator in exchange for our new "Mayfair" accumulators; special 15 amp., 10s. 6d.; 20 amp., 15s.; guaranteed one year.—Fellows, 49, Hertford Street, Mayfair.

Our "ALLWEATHER" MOTOR CYCLE COAT

Is Wind and Weatherproof.



IN GREY
YORKSHIRE
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Write for patterns and our New Motor Clothing List.

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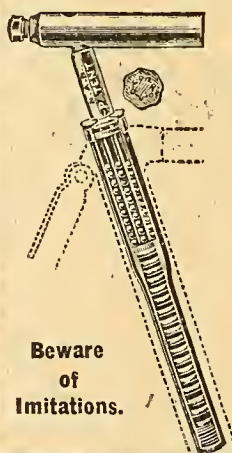
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If you find you've the hump,
Through the bicycle bump,
And you're sad—and, what's
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Try the real **N.A.B.**

You will hail it with glee,

And in comfort you'll ride
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CELLULOID Accumulator Repair Outfit useful for all celluloid repairs; full directions; post free 1s.—Below.

CHARGING Plant always running.—Below.

ACCUMULATORS, London made through out, and fully guaranteed; the best value at the lowest price; in the following sizes, 6 amp., 4½ in. by 1½ in. by 5 in., price 6s. 6d.; 10 amp., 2½ in. by 2½ in. by 5 in., 8 6d.; 15 amp., 4 in. by 2 in. by 5 in., 10s.; 20 amp., 4 in. by 2 in. by 5 in., 11s. 6d.; 40 amp., 4 in. by 4 in. by 5 in., 18s. 6d.—Osborne Works, Forest Hill, London, S.E.

VOLTOO Coils work on 2 volts; 2,000 miles on one charge with Ajax 20 amp. accumulator. Prices: Plain, 15s. and 21s. trembler, 30s.; send for lists. The famous Ajax accumulator, absolutely the finest is possible to make; special protection terminals; 20 amp., 6½ by 2½ by 4½, 17s. 6d.; any special size to order in 36 hours; send for lists of all electrical motor accessories. The Ajax Electrical Engineering Co., 29, High Road, Ilford, E.

CONTACTS.

JEBRON Contacts, registered 291-289, vastly superior to platinum; cures misfiring; is reliability and efficiency.

JEBRON, best contact obtainable for blades, screws, cranks, rockers, plungers, magnetos, coils.

JEBRON, prices 2s. 6d. each rivet fitted special trimmers, for polishing Jebro 9d.; remittance with order ensures prompt attention; write for particulars and testimonials; too numerous to publish.

JEBRON, Magneto Screws, complete for Bosch magneto, DA2 and DAV, will fit contact breakers 5a, 5b, 5c; 5s. 6d. pair; old screws refitted with Jebro. 2s. 6d. each equal to new.

JEBRON, the King of Contacts, fitted per return post; no delay; post free home or abroad; liberal trade terms.

JEBRON. — From the Inventor, J. Edwards Brown, 38, Herbert Road, Plumstead, Kent.

IRIDIUM Champion Contacts.—Any part fitted, returned same day, 1s. 3d. each warranted pure; special iridium trimmer 9d.; no filing required; magneto screw refitted, 1s. 3d. each.—Williams, 16, Wellington Street, Woolwich.

ENGINES.

BOOTH.—Water-cooled 5 h.p. Antoine, new £8 5s.; 5 h.p. Avon, £5 7s. 6d.; 2½ h.p. Auto, £3 5s.

BOOTH.—3 h.p. Alldays, £3; 2½ h.p. Noble £3; 2½ h.p. Noble, £2; 2½ h.p. De Dion £2 10s.; 4 h.p. Antoine, £5.

BOOTH.—New twin Antoine, £8 15s.; 5 h.p. Simms, magneto, £6 5s.; exchange entertained. — Booth's Motor Exchange, Wade Street, Halifax.

5 h.p. M.M.C., latest, M.O.V. pattern never used; £5 10s.—785, High Road, Leytonstone.

3½ h.p. 1908 Genuine Quadrant engine quite new; £6 19s. — Farrar, Squall Road, Halifax.

3 h.p. Quadrant Engine, perfect, accumulator and coil; £3 10s. the lot.—2, Upper Kennington Lane.

OSBORNE Four-speed Free Engine, new what offers?—Pritchard, Central Chambers, Newport, Mon.

2½ h.p. Enfield, less pulley, 50s.; 1½ h.p. Madison, less flywheel, 18s.—190, Burnley Road, Accrington.

2½ h.p. Vertical Gas Engine, complete, per feet order; £7 10s.—62, Cale Street, Sydney Street, Chelsea.

£5.—4 h.p. Twin, good order; exchange single or twin, any condition.—Magnex 31, High Cross Road, Tottenham.

2½ h.p. Princeps, inclined, in perfect order with B. and B. carburetter; £3 10s.—Hartley Clegg, Motors, Burnley.

5½ h.p. Twin Zedel, as new, coil, spares etc., £7 10s.; 5 h.p. water-cooled engine, no fault, £3 10s.—79, Bromley Road, Walthamstow.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

WANTED.

NORMAN Gear, cog wheel wanted, or buy whole gear.—Burton, 20, Fortune Green Road, West Hampstead.

1 IN. Stem for Ormonde spring handle-bars, or complete fitting, any condition.—72, Waverley Road, Bristol.

WANTED, F.N.'s, Triumphs, Vincacs, or any good makes for cash.—Rey, 5, Heath Street, Hampstead.

WANTED, for cash, Bosch magneto, latest pattern, to fit twin Rex.—Winwood, Montague Road, Smethwick.

HIGH Power Motor Cycle, good condition, and cheap, also sidecar wanted.—Dyke, 4, Stafford Road, Tonbridge.

WANTED, good motor cycle, Triumph preferred; exchange piano.—S. Hughes, St. Bart's Hospital, London.

REX Front Cylinder and piston rod wanted, must be in good order, and cheap.—Craig, Fox Street, Felling.

WANTED, motor cycle, up to date not a worn veteran; cheap; cash; approval.—Connell, plumber, Macduff.

WANTED, Riley or Singer tricar, 1908 model, cheap for cash, magneto preferred.—Thorp, Scorton, Lancashire.

WANTED, motor bike; exchange £28 Chater-Lea racing tandem; sell £10.—Best, St. James's Market, Bradford.

WANTED, Millford Castor Wheel Sidecar, 1903 pattern, in good condition; cheap for cash.—Bush, 2, Wells Road, Bath.

WANTED, motor cycle, up-to-date good condition; specify all details.—W. W. Blaylock, Upton-on-Severn, Worcester.

WANTED, second-hand 2½ h.p. De Dion air-cooled cylinder and head; cheap.—Thompson, King's Garage, Cambridge.

WANTED, a lightweight F.N. motor cycle, 1908 model, in good condition, cheap for cash.—W. W. Buncombe, Highbridge.

WANTED, 1½ h.p. Minerva, or 2½ h.p. Singer; exchange nearly new three-speed Swift.—7, The Campsbourne, Hornsey, N.

WANTED, a pair of small plated paraffin side lamps and tail lamp; state price.—108, Commercial Road, Newport, Mon.

SIDECAR or forecar wanted, in exchange for solid oak bureau of exceptional design.—Lewis, 23, Arden Road, Handsworth.

WANTED, Drummond, or other good treadle lathe and tools, exchange small car.—14, Zermatt Street, Chapeltown.

WANTED, 3½ h.p. Jap engine, as new, also handle-bar controlled carburetter; state price for cash.—Ledger, Staincross, near Barnsley.

WANTED, a Bozier two-speed gear, to fit Aster tricycle, old type.—Particulars to Cookson Bros., 511, Chester Road, Old Trafford, Manchester.

WANTED, motor cycle or lathe; exchange half-plate camera, Wray lens, background and accessories.—C. Taylor, Long Street, Thirsk, Yorks.

WANTED, 3½ h.p. Minerva, preferred; exchange lady-back tandem and gent's single, cash adjustment.—G.N., 2, Dovecote Avenue, Wood Green, N.

WANTED, 4½ h.p. Minerva, or 5 h.p. Peugeot, twin engine, in exchange for double gold albert, new; cost £10.—992, The Motor Cycle Offices, Coventry.

WANTED, tricar, in good condition, two-speed, free engine, coach-built body.—Fullest particulars and lowest cash price to G. Payne, Aratapu, Dunstable.

WANTED, tricar, good; exchange 3 h.p. M.M.C., and 2½ h.p. Stains motor cycles, or one motor cycle and other exchange.—Bert, 2, Bushey Road, Harlington, Middlesex.

WANTED, good motor cycle or tricar; exchange new high-class furniture, any description, valued wholesale, direct from works.—Furniture Manufacturer, 9, French Place, Shoreditch, London.

SIDECARS wanted; give new cycles, three-speed Sturmey-Archer gears, level exchange; wanted also Drummond or other S.C. lathe, gramophone, reasonable cash price given for good motor cycles.—Booth, Wade Street, Halifax.

"THE MOST SATISFACTORY ARTICLE I have ever bought through The Motor Cycle"

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Absolutely the best value ever offered.

Service 'Allweather' Suit.

JACKET AND LEGGINGS, 25/-

Guaranteed waterproof and dustproof.

Full Motor Clothing list on application.

Approval, Deposit.

State height and chest measurement. Fawn shade, double texture material, seams are stitched and solutioned, making the garments extra strong. Fitted with storm cuffs. Leggings are made to fasten with three buttons at the side, and strap under foot.

We have received many testimonials regarding the quality, fit, and appearance of these suits.

The SERVICE COMPANY, Ltd.,
292-293, High Holborn, W.C.

Jackets only, 16/6.
Leggings, 8/6.

IF YOU WANT

value and satisfaction, **TRY MYERS'**

SEARCHLIGHTS,

complete with generator and bracket exactly like the ones you pay 30/- for, price 22/6.

Smaller size lamp, bulls-eye lens and generator 15/6.
Exhaust valves for Triumphs 1907-8 3/2
Piston rings 1/2
Platinum screws (genuine) 2/6.
Watches with clip for handle-bar 6/-.
Wilburine Oil 2/3 quart tins, 6/6 gallon tins.

Cash will be refunded without a murmur if any of above do not meet with entire approval. Send for quotations for anything you require. Remember "Triumphs" in stock.

ERIC S. MYERS,
"NO WORRY DEPOT,"
62, Manningham Lane,
BRADFORD.

TRADE PRICES.

For Cylinders, Pistons, Rings, Connecting Rods, Shafts, Flywheels, Crank Cases, Buttes, Gear Wheels, Cams, Nickel Steel Valves, and Pulleys. See list on application.

CYLINDERS REBORED 14/-
Up to 76 mm. with new piston and rings.
Delivery in three days.

NOBLE & CO., General & Automobile Engineers,
9 & 11, Surrey Row, Blackfriars Road, LONDON, S.E.

WANTED.

WANTED, to purchase, for prompt cash, second-hand motor cycles, as Triumphs, F.N.'s, Vincac Specials, Phelon and Moores, Anglian, Roes, Rexes, Bats, Peugeotts, etc.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

TRIUMPH, 1908, or L.M.C., approval against post-dated cheque payable 3 days after receipt of machine; will pay all carriage; first-class condition necessary inside and out; state accessories, lowest offer.—Hall, Westfield, Ashington, Northumberland.

MISCELLANEOUS.

ENGINES Re-bushed throughout from £1.—Tufnell and Co.

CYLINDERS Re-bored from 5s.—Tufnell and Co.

PISTONS Supplied new from 7s. 6d.—Tufnell and Co.

RINGS from 9d.—Tufnell and Co.

CONNECTING Rods from 7s. 6d.—Tufnell and Co.

INLET Valves from 1s. 6d.—Tufnell and Co.

EXHAUST Valves from 2s. 6d.—Tufnell and Co.

PULLEYS for any motor.—Tufnell and Co.

TRIUMPH, Brown, Fafnir, 4s. 9d.—Tufnell and Co.

REX, Antoine, Kelecom, 5s. 9d.—Tufnell and Co.

DE DION, M.M.C., 6s. 9d.—Tufnell and Co.

ABOVE 4½ in. Diameter, extra 9d.—Tufnell and Co.

AXLES, cranks, spindles, handle-bars, seat pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed.—Tufnell and Co., 527, High Road, Leytonstone.

TRICAR Frame, with wheels, tanks, etc.; £7.—705, High Street, Leytonstone.

FOUR-SPEED 1908 Osborne, new, fit 3½ h.p. N.S.U.; £3 15s.—Eagles, High Street, Acton.

NEW Simms Low Tension Magneto, with plug; £2 10s.—Smith and Dowse, Isleworth.

QUADRANT Loop Frame, with front forks and 20 in. handle-bar; 32s. 6d. each.—Farrar.

LONG Motor Handle-bars, 21 in., 4s. 9d.; heavier gauge, 5s. 6d.; well plated, three sizes.—Farrar.

DOUBLE-TWIST Cow-voiced Horns, 4s. 9d.; large size, 6s.; new Lycett's B toolbag, 6s.—Farrar.

PREMIER Accumulators, Rex size, 12s.; send for price list; pounds saved.—Farrar, Square Road, Halifax.

TRY the Roc magneto plug, 4s. 6d., outlasts three ordinary plugs.—Roc Works, Birmingham.

WHITTLE Belt, ¾ in., not done 100 miles, perfect; 16s. 6d.—Hooker, Turner's Hill, Sussex.

VALVES, guaranteed, exhaust 1s. 6d., inlet 1s.; post 3d.—Tew, 79, Bromley Road, Walthamstow.

SHEDS for Motor Cycles, 45s.; portable.—Stevens, 82a, Leighton Road, Kentish Town, London.

FRAMES made to order, complete, £2 10s.; wheels, 17s. 6d. pair; also sidecars.—Millard, Belvedere.

EIGHT Pair Simplex Spring Fork Attachments; 9s. 6d. pair.—Mitchell, 22, Leghorn Road, Plumstead.

WHIPCORD Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, tailor, Longton, Staffs.

RUSEL Castiron Headed Valves, any engine; 3s. 6d.; postage 3d.—Broadhurst, 13, Stafford Street, Leicester.

WHIPCORD Motor Cycling Breeches; 8s. 6d., post free; patterns gratis.—Meredith's, Wearwell, Northwich.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

BOOTH.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

BOOTH.—Double-twist horns, deep tone, 4s. 9d.; large leather toolbags, 5s. 6d.

BOOTH.—500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget trembler coils, 17s. 6d.

BOOTH takes your old coil in part payment; part with troublesome coils.

BOOTH.—Fuller accumulators, 20 amp., 17s.; Rex type, 16s.; Minerva, 16s.; Midget, 16s.

BOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fuller's.

BOOTH.—50 pairs XI'all spring forks; immediate delivery; N.A.B. seat-pillar, 3s. 6d.

BOOTH.—Long motor cycle handle-bars, heavy gauge, best quality plating; 5s. 6d.

BOOTH.—Silent silencers, for engines to 5 h.p., very efficient, no back pressure; 3s. 3d.

BOOTH.—New Antoine frame, with wheels, belt rim fitted, two cable brakes, mudguards; £4 19s. set, low built.

BOOTH.—Gas lamps, separate generators, powerful light, well plated, 5s. 3d.; mica plugs, 1s. 1d.

BOOTH.—Pocket voltmeters, very handy and reliable, 4s. 1d., usually 10s. 6d.

BOOTH.—Motor frame, wheels, and tyres, suitable for 2 h.p. inclined engine; 40s.

BOOTH.—200 best quality magneto covers, 2s. 3d. each, usually 5s. 6d.; new L.T. magneto, 20s.

BOOTH'S Motor Exchange, Coronet Works, Wade Street, Halifax. Telephone, 198Y.

CAMEL Rubber Belting, grooved; the last word in rubber belts, 3in., 9d.—Booth.

CAMEL Rubber Belting, cut to a correct angle, beautiful grip, never slips, 3in., 1s.—Booth.

CAMEL Rubber Belting is made of the finest materials procurable; 3in., 1s. 3d.—Booth.

CAMEL Rubber Belting is of the highest class, and price is popular; 1in., 1s. 6d.—Booth.

CAMEL Rubber Belting has a strong canvas core, surrounded by specially vulcanised rubber.—Booth.

CAMEL Rubber Belting. — 3in., 9d.; 3in., 1s.; 3in., 1s. 3d.; 1in., 1s. 6d.—Booth.

CAMEL Rubber Belting can be had at Booth's Motor Exchange, Wade Street, Halifax, on approval.—Booth.

DAVISON'S Motor Cycle Tank, with petrol and oil gauges, oil pump, etc., brand new; 25s., or offer.—Lane, Bicester.

FOUR-CELL Charging Battery for charging accumulators, from 3s.—Pearce, 18, Repton Road, Brislington, Bristol.

GOOD Outer Cover, 26 by 24, beaded edge, 5s.; 7 feet 3in. Watawata belting, 6s.—Plummer, Fairfield, Ashford Middlesex.

NEW Kent Tricar Gear, three speeds, complete, in hands of makers; price £6.—Cloake, Rose in Valley Hotel, Chatham.

AUTOGENOUS Welding.—Send that broken casting to the Alvaston Motors, Derby. to be welded by patent process; metal reunited.

AUTOGENOUS Welding. — Costly castings saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, and a thousand other things.

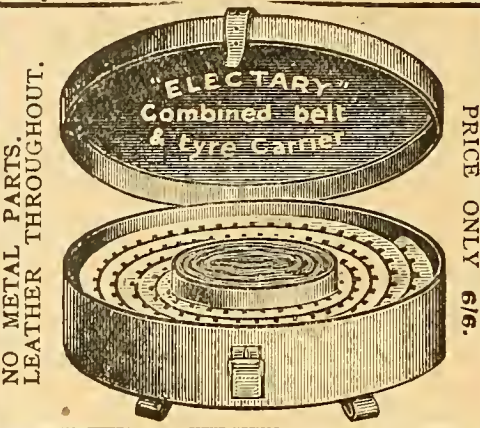
AUTOGENOUS Welding. — Wonderful results. Broken flanges, lugs, brackets, etc., all amenable to our process; send part to-day; quotations on sight.

AUTOGENOUS Welding.—Alvaston Motors, Derby. Telephone, 1, Alvaston.

BELT Rim Brakes, flexible cable hand applied, easily fitted, stop anything; 8s. 6d., usual price 15s.—Slack's Garage, Stockport.

YOU KNOW THAT

The ability to drive slowly is as important as the ability to drive fast. Now **WHITE'S ECONOMISER** enables you to keep going steadily at a walking pace, without misfiring. It enables you to throttle down to the extreme, and ensures an instant start at all times, in all weathers, without flooding Carburettor and without opening throttle more than for normal running. It therefore saves your petrol, and has, in fact, won first prize in recent consumption tests. It can be attached in half a minute to models E and H Longuemare, Rex, and Minerva-Longuemare, and /o8 Triumph Carburettors. Try one—it is so simple, and its price is only 4/-.

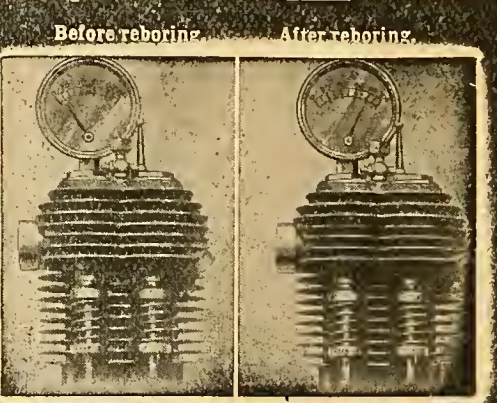


THE "ELECTARY" ADJUSTABLE FOCUS PROJECTOR, with GENERATOR (The finest motor cycle Searchlight extant), 30/- ORDINARY MIRROR LENS SEARCHLIGHTS, with Generator (as sold elsewhere at 30/-), 22/6

W. & R. JACOBS,

Electrical Engineers,
39c, King William Street,
London, E.C.

Compression means Power



We re-bore your cylinder and fit new piston complete with rings and gudgeon pin. Please send for our new repairs booklet, giving prices for this work.

The LAYSTALL MOTOR ENGINEERING WORKS, Ltd.
AUTOMOBILE REPAIRERS,
27 & 29, Laystall St., Rosebery Av., LONDON, E.C.
Established 1900. Tel. 12301 Central.

VALVES ALL SIZES 1/6
PISTON RINGS ALL SIZES 3/20
REBORING AND IMPROVED VARIABLE COMPRESSION SECURITY DESIGN
CYLINDERS 10/6 VARIABLE PULLEYS 8/6
GEARS CUT. REBUSHING. NEW PARTS.
PLEASE GET OUR LATEST LIST FREE
THE MARCH MANUFACTURING CO. CLIFFE ROAD, SHEFFIELD.

MISCELLANEOUS.

OBACH Dry Batteries, any size, highly recommended.—Below.

HIGH and Low Tension Cables, electrical lamps, any voltage, best quality only write for quotations.—Below.

HANS RENOLD Chains for motor cycle tricar, and cars.—Below.

LIBERTY Tyres, supplied (see comment last week's Motor Cycle).—Below.

AIR and Water-cooled Engines, any make supplied; state requirements.—Moor Electrical and Mechanical Engineer, 2 Curzon Street, Long Eaton, Notts.

CAPE Cart Hoods to order, two-seater, £3 10s.; tonneau, from, £5 10s.—Manufacturers, 35 and 37, Chestergate, Stockport.

GODFREY and Applebee.—2½ h.p. Minerva spray, Palmer tyres, good running order; £6 6s.

GODFREY and Applebee.—1908 Rex model at clearance prices; exchanges and gradual payments.

GODFREY and Applebee.—Tyres, tyre tubes; write and tell us your requirements; good allowances for old tyres.

GODFREY and Applebee.—The original Star belt fastener; 1s.; patent leather magneto covers, 3s. 9d.

GODFREY and Applebee.—A.G. adjustable pulleys supplied for all makes, 15s. Rex pulleys, 6s.

GODFREY and Applebee.—Write us for everything you want, we have it, or can get it quickly.—165a, Hoe Street, Walthamstow. Phone, 464, Walthamstow.

PULLEYS for any motor, from 4s.—Sander, 20, Manby Grove, Stratford, E.

SIMPLEX Five-pint Petroleum Brazing Lamp, new, for 25 by 2 beaded cover or sell.—18, Lugard Road, Peckham, S.E.

BARKER'S Iron Cement, for cracked cylinders, etc.; 1s. tin.—Oxford Road, Woking.

OWNERS of heavy powered machines.—The D—all adjustable belt fasteners will satisfy as no other shall.—Below.

D—ALL Adjustable Fasteners, the best yet produced; direct pull, frictionless with two lengthening links, post free, 1s. 10d.—Dall, Ladybank, Fife.

LUCAS Lamp, 5s.; adjustable pulley, and Autoclipse generator, 16s. — 33, Hill Avenue, Worcester.

GENUINE Chater No. 6 Frame, 3½ h.p. engine, pair 26 wheels, all brand new; £10s.—9, Parkholme Road, Dalston, London.

FORD Carburettor new, 6s.; dynamo, 1 amp., charging or lighting, weigh 10 lbs., good order, 15s.—A.L., 2, Hampton Villas, Chertsey Road, Woking.

OSBORNE Four-speed Pulley, with free engine, for sale, quite new and unused price £3 10s.—Crowe and Decuvel, Motor Engineers, 36, Willesden Lane, N.W.

TRICAR Frame, complete, less engine wheel steering, large basket seat, etc. cheap. — Hicks, 67a, High Street, Maldon Essex.

EVERYTHING made in Tanks and Radiators except a fortune.—Write for prices, A. Phillips, 112, Lynton Road, Bermondsey.

TWO-SPEED Gear for belt drive, 25s. small honeycomb radiator, 35s.; set of sidecar fittings, 35s.—J. May, 111, Lark hall Lane, S.W.

BOWDEN Valve Lifters, 6s. 9d., usual price 10s.; Vim stands (starts like free engine), 6s. 3d., usual price, 17s. 6d.—Slack's Garage, Stockport.

CLEARANCE Sale.—Millennium stands, 7s. 6d., usual price 20s.; Vim flexible cable rim brakes, 5s. 6d., usual price 12s. 6d.—Slack's Garage, Stockport.

SPLENDID Thing for Rubber Belts.—Ukantes belt pulley grips, keeps pulley correct angle always; 2s. 6d. box send original size of belt.—11, Mount Pleasant W.C.

LARRARD'S Motor Timer, 21s., quite new cost £3 3s.; leather motor kit, never been used, 15s.; inner tube, 26 by 2, 7s. 6d.; good condition.—73, Church Street, Camberwell.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

MAUDE'S.—Genuine Stanley-Dermatine 1in. belts, 8ft. 6in., guaranteed and genuine; 12s. 6d. each.

MAUDE'S.—Osborne four-speed, very good order; £2 17s. 6d.

MAUDE'S.—Genuine De Dion engine, 2½ h.p., perfect order; £3; approval.

MAUDE'S.—Why not try a latest Brown and Barlow carburetter, with handle-bar control; only 30s.

MAUDE'S.—Will allow you 10s. on your present one, no matter what make, in exchange; immediate delivery.

MAUDE'S.—Amac carburetters, latest pattern, 29s., or your present one and 20s. secures; any model.

MAUDE'S.—Mabon clutch, fits Minerva, good condition; 32s. 6d.

MAUDE'S.—Longuemare spray carburetter, 15s.; Brown and Barlow, 15s.

MAUDE'S.—High tension wire, best quality, 9d. per yard; low tension, 6d.

MAUDE'S.—Rubber goggles, latest pattern, sold elsewhere at 4s. 6d., our price 1s. 9d.

MAUDE'S.—Albion free engine pulley, brand new; 30s.

MAUDE'S.—Stratex belting, ¾in., 8ft. 6in. lengths, 10s. 6d.; voltmeters, guaranteed, 3s. 9d.

MAUDE'S.—Middlemore padded Rideasy saddles, your old one and 12s. 6d. secures, guaranteed, exactly as on Triumphs, splendid value.

MAUDE'S.—C.A.V. accumulators, guaranteed twelve months, Humber size, 15s.; Rex size, 16s. 6d.; Ariel, 15s. 9d.; Minerva, 17s.

MAUDE'S. allow you 5s. on your old accumulator in part payment; approval of course.

MAUDE'S.—Treble twist horns, the finest horn ever made; try one on approval: best plating throughout; only 7s. 6d.; double twist, 4s. 6d.

MAUDE'S.—Latest pattern headlight, divided glasses, guaranteed, and exactly as sold by others at 30s. and 22s. 6d. respectively; our price one guinea; approval.

MAUDE'S. the Fair Factors, Powell Street, Halifax. Tyre catalogue ready shortly. Register your name for one.

11ft. ¾in. Shamrock Belt. good condition, 7s. 6d.; 26in. by 2in. Michelin cover, beaded, brand new, 16s. 6d.—16, Northumberland Avenue, Wanstead.

BRAND New Beaded Cover, 26 by 2½, sacrifice 21s.; Premier searchlight, used only once, 21s.; leather coat, as new, fit 5ft. 9in.; accept 15s. 6d., bargains.—45, Parade, Leamington.

DYNAMO, 5 volt 20 amp., by Canning, complete with switchboard, volt and amperemeters, practically new; £7.—Glendower Co., 3, Glendower Place, South Kensington.

BROWN 20 amp. accumulator, as new, 10s.; 30 amp. armoured accumulator, perfect, 10s.; Lucas Acetyphote, 7s.; four-cell charging battery, 6s.—Alf Harden, Ham street, Kent.

ATLAS Spring Fork Attachment.—Motor cycling a pleasure; no side play, no vibration, polished, rustproof; 13s., carriage paid.—Atlas Engineering Co., 115, Victoria Road, Charlton, S.E.

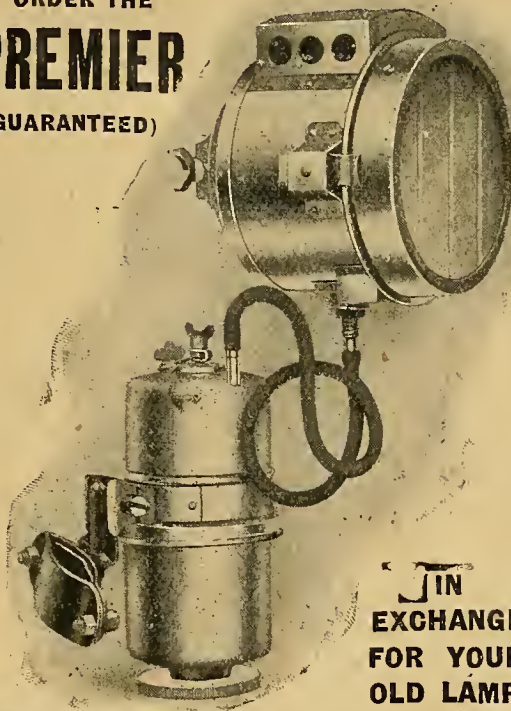
PUNCTURES.—B. and S. leather bands stop these and help stop a burst. 2½in. wide, and placed inside cover with ordinary rubber solution; 2s. each.—Barton, Meeting House Lane, Peckham.

DEFIANCE Gear, practically unused, fits on engineshaft, any ratio from 3 to 9 to 1; cost over £4, sacrifice 30s.; also two good plain coils, 7s. 6d. and 4s.—Pond, 349, Vest End Lane, N.W.

JACKETS, overalls, latest style, double texture, waterproof, windproof (best value in the trade); overalls, 7s.; jackets, double-breasted, 14s.—Manufacturers, 35 and 37, Cheshamgate, Stockport.

PAIR Brass Side Lamps, 8s. 6d.; Brown-Barlow carburetter, new, 12s. 6d.; round vulcanite coil, new, 12s. 6d.; De Dion timing gear, 5s.; Brown motor cycle, £11.—A., 8, Herndon Road, Wandsworth.

ORDER THE PREMIER (GUARANTEED)



**IN
EXCHANGE
FOR YOUR
OLD LAMP.**

The Genuine Premier with its guarantee and its unapproachable reputation. **THE PREMIER SEARCHLIGHT** is made by the Premier Company and sold by them and their agents only. The flimsy "exactly like" and "just as good" sort are imitations. Send your lamp (any sort) and we will offer liberal allowance in exchange.

Complete 30s.; Lamp only, 24s.; Generator only, 6s

The PREMIER MOTOR Co., Ltd.,
ASTON ROAD, BIRMINGHAM.

"PEUGEOT"

2½ and 3½ h.p. SINGLE CYLINDER
3½, 5, and 7 h.p. TWIN CYLINDER
ENGINES.

Specify a PEUGEOT Engine to be fitted to your motor bicycle, and refuse all IMITATIONS.

Full particulars, with list of GENUINE SPARE PARTS, and a P.P.C. of Tourist Trophy winner, on application.

J. TAYLOR, 318, Percy Road,
BIRMINGHAM.

G. T. RICHES & CO., LTD.,

19, STORE STREET, LONDON.

RICH DETACHABLE AIR TUBE.

24" x 2"	13/6	26" x 2½"	14/6
24" x 2½"	14/-	26" x 2½"	15/6
24" x 2½"	15/-	26" x 3"	22/-
26" x 2"	14/-	28" x 2"	14/6



Please write for Special List, with full prices and particulars of all sizes, together with instructions and hints. Your OWN TUBE CONVERTED. Write for price.

ADVERTISERS—Please note that Friday is the latest day we can receive advertisement copy for the following week's issue.

MISCELLANEOUS.

NEW Torpedo Tank, for oil and petrol; 15s., or exchange.—Kendall, 235, Crystal Palace Road, S.E.

F.N. Carburetter, 3½ h.p., complete with levers, almost new; 12s. 6d.—20, Addison Place, Arbroath.

26 by 2½ Cover, 5s. 6d.; large square Bleriot generator, perfect, 12s.—Sydney, 34, Bedford Square, London.

BROOKS B90, 10s.; Bowden belt rim brake, 15s.; Bradbury stand, 10s.; two Dunlop wired covers, 26 by 2½, 28s. 6d.; carrier, 4s. 6d.—Sommerville, Linden Avenue, Newport, Fife.

TORPEDO Tanks ordinary tanks, in brass, copper, and tinued steel; swan-neck saddle-pillars; long handle-bars; anything to specification.—Arrow Motor Works, Victoria Road, Peckham.

X L'ALL Spring Forks, new, 14s.; tail lamp, for car, 7s. 6d.; good voltmeter, 3s. 6d.; good saddle, 4s.; Kelecom engine, complete, except cylinder, 15s.—S. Williams, 238, Waterloo Street, Burton-on-Trent.

CARBURETTER (Longuemare), with throttle, 12s. 6d.; pair 28 by 2 tubes new, never used, 4s. each; 26 by 2 Clincher beaded, 8s. 6d.; footrests, 4s. 6d.—134, Highgate Road, Kentish Town.

LONG Handle-bars, 4s.; swan-neck saddle-pillars, 2s. 6d.; frames, tanks, wheels, etc., all to your own requirements; smart delivery speciality.—Green, 14, Avondale Road, Peckham, S.E. Works, McDermott Road.

THREE-SPEED Free Engine Pulleys, positive, reliable action, most simple to fit, light, neat, durable, no end thrust, guaranteed, patent applied for.—New Nonpareil Motor Fittings, Ashtree Road, Starchley, Birmingham.

CASH Bargains.—Prested 12 amp. accumulators, 9s. 6d.; two-way switches, 2s.; J.B.D. Silencer, 4s. 6d.; searchlight lamp, with separate generator, 22s.; volt or amperemeters, 4s. 6d.; large double-twist horns, 5s. 6d.; belt fasteners, 8d.; belt punches, 1s. 3d.; ratchet plated control levers, 1s. 6d.; double with clip, 5s. 6d.; motor cycle two-speed hubs, 50s.—Bastone, see below.

CLINCHER A Won Motor Cycle, B.E., 28 by 2½, 21s.; Clincher heavy car covers, 75d by 85, T4, 45s.; T3, 43s.; 700 by 65, T1, 26s.—Bastone, see below.

MOTOR Cycle Covers, wired edge, 26 by 2, 2½, and 2½, 11s. 6d.; 28 by 2, 2½, 12s. 6d.; beaded edge, 2s. extra; Clincher motor cycle tube, 26 by 2½, 6s. 9d.; Macintosh tubes, 26 by 2½, 28 by 2, 6s. 9d.—Bastone, see below.

BELTING, best quality leather, V, ½, ¾, 8d., 10d., and 1s.; rubber and canvas, 1in., 1s. 2d. per foot; approval against cash.—Bastone, 215 and 217, Pentonville Road King's Cross, London, N. Telephone, 2481 North.

CHATER-LEA Frame, with plated wheels, tank, brakes, etc., all complete, brand new, 30s.; 26 by 2½ Calmon beaded cover, new, 12s.; ditto slightly used, 9s.; 9ft. ¾in. new leather belt, 7s.—7, Blair Grove, Southport.

HALIFAX.—Osborne four-speed gear, fit Rex, £2 10s.; Chapman two-speed gear, fit Rex, 25s.; coach-built forecar, to fit Rex, £4 10s.; new 28 by 2 tubes, 4s. 10d.; 24 by 2½ Peter Unions, 5s. 6d.—Halifax Motor Exchange, Westgate, Halifax.

AMATEUR Photographers.—Superior enlargements (bromide), from your negatives, 8 by 6, 9d.; 10 by 8, 10d.; 12 by 10, 11d.; 15 by 12, 1s. 1d.; cash; from prints 6d. extra.—Greame, Wellesley, Whyteleafe.

READERS having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium; ½d. per word, minimum 9d.—Address, "Photography and Focus" Offices, 20, Tudor Street, London, E.C.

FRAME, with handle-bars, tank, pedalling gear 21s.; 2½ h.p. engine, with Longuemare carburetter, 45s.; 26 by 2 wheel, with tyres, 12s. 6d.; stand-carrier, 4s. 6d.; lathe, 60s.; trembler coil, 12s. 6d.—Darke, draper, Sutton.

26 by 2 New Dunlop Wired Cover, two tubes, same size, repaired, switch handle, Main-Hilton pattern stand-carrier. Mason-Brown one-way switch, new, ¾in. leather Pollin belt, offers.—Canham, Cecil Terrace, Stamford.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

FOR Sale, Fit-all two-speed gear, guaranteed perfect, everything complete, £3 15s.; back Bowden brake, new, cost 18s., take 13s.; wanted, good steel studded covers, beaded rim, 26 by 2½—Jones, 5, Hanbury Road, Clifton, Bristol.

PULLEYS for any motor.—De Dion, M.M.C., 6s. 6d.; Antoine, N.S.U., Kelecom, Roc, F.N., 5s. 9d.; Peugeot, Brown, 5s. 6d.; Triumph, Fafnir, Sarolea, Minerva, 4s. 9d.; plated, guaranteed, carriage paid.—J. Perkins, High Road, Leyton, London.

31 h.p. Engine, running order, frame, tanks, saddle, exhaust, Longuemare spray, 26in. wheels, £2 5s.; pair 28 by 2 wheels, belt rim, 5s.; one 28 by 2 Continental cover, perfect condition, 5s.; £2 10s. lot.—4, Westbeach Road, Noel Park, London.

LONGUEMARE Carburetter, suit 3 h.p., two 24in. wired covers, ½ h.p. electric motor, General Electric Co. make, 1,700 revolutions, 100 volts, would drive lathe, gent's Enfield push bike; exchange good make magneto, motor clothing.—Kloth, hairdresser, Manor Park, E.

"I WRITE to tell you I am delighted with the lens. It makes motoring at night equal to daylight." Why not you try one? Plano-convex lenses, 3in., 3½in., 3¾in., 1s. 9d.; 3¾in., 2s.; 4in., 2s. 6d.; 4½in., 2s. 9d.; 4¾in., 3s.; 4¾in., 3s. 6d.; 5in., 4s. each.—Payne, Metchley Lane, Harborne.

ACCUMULATOR, needs slight repair, 1s. 6d.; Minerva plain coil, perfect, 6s.; Main-Hilton carrier-stand, 2s. 6d.; long motor handle-bar and grips, ¾in. stem, plating perfect, 2s. 9d.; P. and H. tail lamp, nearly new, 6s. 6d.; Brooks B90 saddle, 4s.—Harding, Halberton, Tiverton, Devon.

16 h.p. Twin-cylinder Engine, will run on gas, petrol, or paraffin, complete with Longuemare carburetter, coils, accumulator, petrol and paraffin tanks, etc., very powerful; can be seen at work by appointment; price, complete, £25, or exchange 1903 Triumph.—T. Harris, 41, Albert Road, Stratford, E.

5,000 Government Gauntlet Gloves, 2s. 6d. pair; 500 leather belts, 1s. and 1s. 3d. each; leather leggings, 2s. 6d. and 3s. 6d. pair; Bedford cord riding breeches, 4s. 6d. and 5s. 6d.; Government all-wool military socks, 10d. pair; police capes, 4s. 6d. and 5s. 6d. each.—Anscomb, Government Contractor, 14, London Road, London, S.E.

FOR Sunshine and Showers.—The Albany waterproof jackets, in double texture paramatta, in fawn, also new grey-green, wind and rainproof, stock lengths 38in. and 40in., chest measures, 36, 38, 40, and 42, with storm cuffs, new collar, with attached flap. We guarantee every jacket, price 15s.; extra heavy at 18s. 6d.; send length desired and chest measure; overalls at 7s. 6d. and 8s. 6d. We pay carriage.—G. Raws and Sons, India-rubber Manufacturers, The Albany, Oldhall Street, Liverpool.

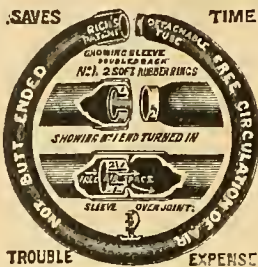
BELTS, genuine Lycett leather, two pieces, ¾in., 7s. 6d.; ¾in., 8s. 6d.; ¾in., 10s. 6d.; 1in., 15s., with fasteners; there's nothing like leather; B. and B. carburetter, brand new, 19s. 6d.; Rex, 3½ h.p., 1907 pattern, 15s.; Garrard two-speed gear, complete, fit Ariel, £2; several Garrard pulleys, 2s. 6d. each; large horn for dashboard, 7s. 6d.; G.B. vulcaniser, nearly new, cost 50s., accept 30s.; Rex 1905 front brake, complete, 3s. 6d.; plugs, 6d.; and other bargains.—Woodgate, 486, Coventry Road, Small Heath, Birmingham.

STAMFORD HILL.—40 amp. Peto and Radford accumulators, new, 16s. 6d.; Michelin tyres, 25-2, 18s.; 25-2½, 20s.; 26-2½, 26s.; Michelin butted tubes, 2, 2½, 10s. 6d., 11s., 12s.; leather D.B. jackets (new), 10s. 6d.; two-speed and reverse gearbox, 37s. 6d.; motor cycle tanks from 6s. 6d. each; 28 by 2½, 21s.; splendid V belting, from 8d. foot; carburetters, Longuemare H., 18s. 6d.; 3½ h.p. spray, 12s. 6d.; 2 h.p. ditto, 9s. 6d.; 3½ h.p. Whitley, 13s. 6d.; twin Kerry, 16s.; Midget plain coils, twins, 10s. 6d.; single, 6s. 6d.; 2½ h.p. Rex engine, £3 18s.; Clincher inner tubes, 6s. 6d. each; latest motor cycle searchlight, new, complete, 25s.; 4in. steel mudguards, 1s. 9d. pair; tricar wing mudguards, 6s. 6d. pair; very large, 9s. pair; long handle-bars, dropped ends, 7s. 6d.; over-back seat-pillars, best plating, 4s.; list just ready, free.—128, High Road, Tottenham.

The RICH DETACHABLE

AGAIN IMPROVED IN MANUFACTURE.
THE ONLY PERFECT DETACHABLE AIR TUBE.

		Extra Thick	
26in.	28in.	26in.	28in.
1½ 8/6	9/-	2½ 20/-	22/-
2 14/-	14/6	2½ 25/-	27/-
2½ 14/6	15/6	3 35/-	38/-
2½ 15/6	16/6	3½ 38/-	40/-
3 22/-	28/-	24in 6d. less.	



PATENTED AT HOME AND ABROAD.

Your own tubes converted.

CAUTION TO THE PUBLIC.

We do not guarantee Tubes with our official numbers (prefixed by O) erased.

Any defective joint replaced or repaired free of charge within 9 months of purchase.

Write for Booklet.

The Rich Detachable Air Tube Co.,
Patentees, CRAWLEY, Sussex.



Invaluable to
Motor Cyclists
when Touring
or Planning a
Tour.

"The Autocar" Folding
Map, Style 3.....

"The Autocar" Folding Map occupies but little space on the motor cycle, as when folded up, in its case, it only measures 7½ x 9½ in. It is well printed on strong linen, all the main roads are marked in red and the distances between all important towns are shown.

Price 8/10 carr. paid

from the offices of
"THE MOTOR CYCLE,"
20, Tudor Street, London, E.C.

MISCELLANEOUS.

ONE 28 by 2 Beaded Edge Cover, Clinche pattern, quite new, 12s.; one Brook pan seat, almost new, £1; Millennium tri-car jack, 7s. 6d.; Guenet two-cylinder trembler coil and switch (two-way), in perfect order, £1 1s.; one brass Python horn, complete, with four feet flexible tube, bulb, etc., quite new, £1 5s.; one 3½ h.p. Minerva pulley, 4½in., new, 4s.; any of above sent carriage free on receipt of P.O.—Motor Works, Liphook, Hants.

PALMER Cord Cover, 28 by 2, beaded, wants repairing, 9s. 6d.; two Dunlop inner tubes, 26 by 2, wants repairing, 2s. each; pair 28 by 2 plated wheels (beaded), near new, with G. and H. coaster hub, 25s.; pair 28 by 2 wheels (wired), 10s.; Chapman's two-speed gear, complete with rim, etc., offers pair 26 by 2 Dunlop covers, good order, 9s. 6d. each; Chater No. 5 tank, with three ratchets, and oil pump, 10s.; Enfield tank, 2s. 6d.—Taylor's Motor Works, Edmonton.

BARGAINS.—Watawata belt, 7ft. 6in., b ¾in., 7s. 6d.; two Nilmelior tremble coils (circular vulcanite cases), good order, 11s. each; spring saddle pillar, ¾in., 5s. 6d.; Minerva 3½ h.p. valve, new, 3s. 6d.; motor cycle frame (Chater), 15s., sound; also offered for 28in. by 2in. wheels (front and rear, with belt rim) and tyres in good condition, Bowden back rim brake, handle bars, pedals, chain wheels, cranks, etc. Humber large free wheel, and small ditto. Motorist, 7, Evington Street, Leicester.

TRADE ADVERTISEMENTS.

LOOK—Adjustable pulleys, 4½in., 8s.; 5in., 9s.—Lee, engineer, 18, Somerset Road, Edmonton.

N.S.U. Two-speed Gear and Free Engine. We can now fit this gear to Peugeot and Vindec machines for £5 15s.; recommended for sidecar work and winter riding.—Eagle and Co., N.S.U. Agency, Acton. Telephone 556, Chiswick.

WHO would have solid value for his cash will at once write p.c. for June motor cycle and cycle accessories list, 2 illustrated pages; lowest prices in the trade; all latest novelties in lamps, swan neck seat pins, long handle-bars, footrest, free engine pulleys, spring forks, belt tyres, covers, etc.—Metropolitan Machinist Co., Ltd., M.C. Dept., 75, Bishopsgate Street Without, London, E.C.

TWENTIETH Century Motor Co., Ltd. Padua Road, Penge, S.E.—Carburetter new, from 8s.; control levers, new, from 1 3d.; oil pumps, new, 3s. 3d.; circulating pumps, new, 15s.; distribution wheels, new, 4s. per pair; trembling coils, from 7s. 6d.; Guenet twin trembling coil, 12s.; two-way handle-bar switches, new, 1s. 6d.; piston ring, and pulley castings; approval through The Motor Cycle, or on receipt of cash; Humber motor bicycle, £5 10s.; send stamp for list of other goods.

Comfort
& Safety

are ensured by the

DRUID SPRING FORK

Have you ever considered the risk you run if your forks are not strong enough, and what happens when forks break?

Why risk an accident when the DRUID SPRING FORK would ensure your safety and increase the pleasure and comfort of riding.

Let us send you particulars.

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THE MOTOR CYCLE



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ADDRESS—20, TUDOR STREET, LONDON, E.C.

Which is the Best Sidecar?

By B. H. DAVIES.

I DO not personally believe there is a plain and unqualified answer to the question of my title, since, as sidecars are theoretically stupid and unmechanical attachments, each has some bad points in actual riding practice. The question is further complicated by the fact that each type of sidecar has advantages of its own as compared with any other, and these separate drawbacks and advantages are bound to appeal with varying force to riders of different types and temperaments. However, the silly season of motor cycling is fast approaching, when about half of our number will lay their machines aside for the winter, and begin to spout columns of infuriated opinion on various questions connected with the pastime, so here is an admirable topic of discussion ready made to our hand. A very interesting letter received some months ago from R. G. Booth, of the M.C.C., has led me to make a start in it. My own answer to the question I propound is curious indeed, since of the four types of sidecar I have driven the one which I on the whole prefer to the rest is no longer made.

The Rigid Sidecar.

The special advantage of the rigid type is that it never under any circumstances side-slips, and this is certainly a point of huge weight. Its steering almost coincides with that of the De Dion tricycle, and the sole point where care is required is when returning off the camber of the road on to the crown in a hurry; jerky steering under these circumstances sometimes makes the front wheel hop, and it then loses its direct-

ing power, and allows the machine to remain down on the camber, or even to continue in its former direction and to go towards the ditch.

The only two real drawbacks of the rigid type of sidecar are that the passenger is carried too far back for real sociability, for if the chair be moved forward there is too much overhanging weight, and that the machine is rather dangerous to drive without a passenger, while detachment and attachment are rather lengthy processes.

The Flexible Type.

The flexible type possesses two great special advantages. One is that the steering is practically identical with the steering of a bicycle, and the other is that the sidecar can be whipped on and off in a few minutes or safely ridden with the chair empty. It does not side-slip appreciably if studded tyres be employed, and it is claimed that a fitting is now incorporated in it which prevents sideslip with smooth tyres, but as I have only ridden with this fitting for two hundred miles I am not qualified to pronounce upon that point. With this type of sidecar the bicycle is never ridden strictly vertical, but has to be allowed to slope away a trifle from the sidecar. This is a defect in sudden alterations of steering on very highly cambered roads. For instance, one meets a cart on a highly cambered lane, and has to go down the camber towards the left-hand ditch, to give it room; the sharp turn thus required compels the driver to let his bicycle lean over towards the sidecar. As soon as he has got down the camber he has to pull

his machine over away from the sidecar again to keep the combination vertical. If there is another cart down on the camber just in front he has to wrench the bicycle over violently to get off the camber again, and pass this cart by descending to the other camber, *i.e.*, that on the right. Some strength, address, and confidence are needed for accurate steering under these circumstances. Again, very sharp turns towards the side on which the car is fitted are difficult to make, because the presence of the car on that side limits the amount to which the driver can "lie over" towards that side, and if he is not careful his thigh may get nipped gently between the tank and the sidecar. On really good roads this sidecar is delightful to handle; on very twisty and highly cambered roads it requires some practice to make the driver really comfortable.

The Castor Wheel Type.

The castor wheel type is a very excellent device indeed. Its wheel is well forward, and puts the passenger in the most sociable position imaginable, while the steering with the car laden is perfect, and allows very sharp turns to be taken at a high speed without discomfort or danger—in fact, taking into consideration both good and bad roads, cambered and flat surfaces, low and high speeds, I should give this form of sidecar a pre-eminent place on steering grounds. I rode it for the first time with the chair empty, which is a point in its favour. It is far less easy to attach and detach than the flexible type so far as the time occupied is concerned, but there is no difficulty in its adjustment—it is simply a matter of attaching joints, not of finding the correct position, as one has only to see that the sidecar is vertical. On the other hand, it is no preventive of side-slip. The sidecar wheel merely trails, and if either wheel of the bicycle skids the sidecar wheel obediently trails after it. It is of advantage in mild skids, since it prevents the bicycle from lying down. It might render a very bad skid worse, and accentuate it. In riding practice I have had no skidding troubles while using an armoured tread on the rear tyre of the bicycle; this precaution I have found to reduce all skids to that mild order where the divergence from track is not serious, and the presence of the sidecar prevents the bicycle from lying down. I should like to see one point in its design altered, though I may

be hypercritical. The sidecar wheel is carried in double forks of V shape. But there is only one single lug to take the whole of the weight and leverage at the point where the sidecar is joined to the vertical column to which these double V forks are attached. I should think that in prolonged usage there must be some slight fear of a breakage at this point. Otherwise if used in conjunction with a studded tread I do not see what disadvantages can be urged against this type of sidecar.

The Duplex Steering Sidecar.

I believe I am right in saying my very first experience of driving a sidecar was with one of Mills and Fulford's old side steering pattern, in which a steering bar coupled the sidecar wheel to the steering wheel of the bicycle. This type for some hidden reason is now missing from the market, but R. G. Booth and myself concur in claiming for it the following advantages:

1. No side-slip whatsoever, even with plain tyres.
2. Perfect sociability.
3. Takes any corner safely at speed, to right or left.
4. Will always come up on to the crown of the road off the camber quite obediently.
5. A minimum of side pull, hence minimum of power required to pull it.
6. Safe to ride solus, or easily driven from chair.

Two points only count against it—that it is more costly to make than the simpler patterns, and that the correct adjustment takes some finding. When found, the side tyre will run thousands of miles; until found, the side tyre will wear out in 500 miles.

In conclusion, I notice one very bad point about practically every sidecar combination I have ridden, and that is the weakness of the brakes. As I go everywhere, and hate any anxiety about hill-climbing, I confine myself to a chain drive and two-speed gear for sidecar work; and I had never arrived at a combination of this type with efficient brakes until I got the Advance Co. to work out a hint given in *The Motor Cycle* for me, and fit a special belt rim solely for braking purposes on the opposite side of the rear wheel to the sprocket. I had previously tried every other type of brake, including rim and band patterns, and had never felt or been safe for long at a time. This belt rim brake is immensely powerful, and remains so for indefinite periods.

"THE AUTOCAR" LECTURES.

THE series of weekly lectures on the motor car which have been organised by *The Autocar* throughout the country commenced at the London centre on Tuesday, October 13th, in the small hall of the Queen's Hall, Langham Place, W. The complete list of dates at the various centres is as follows:

LONDON.—Queen's (Small) Hall, Langham Place, W. Tuesdays, October 27th; November 3rd, 10th, 17th, 24th; and December 1st, at 3.30 p.m. and 8.30 p.m. (tickets available for either afternoon or evening).

BIRMINGHAM.—The University, Edmund Street, at 7.30 p.m. Wednesdays, October 21st, 28th; November 4th, 11th, 18th, 25th; and December 2nd and 9th.

LEEDS.—The University, College Road, at 7.30 p.m. Thursdays, October 22nd, 29th; November 5th, 12th, 19th, 26th; December 3rd and 10th.

MANCHESTER.—Geographical Institute, The Parsonage, Deansgate. Fridays, October 23rd, 30th; November 6th, 13th, 20th, 27th; December 4th and 11th, at 4 p.m. and 7.30 p.m.

NEWCASTLE-ON-TYNE.—The Armstrong College. Mondays, October 26th; November 2nd, 9th, 16th, 23rd, 30th; December 7th and 14th.

There will be a discussion after each lecture, and the lecturers will deal with any special points desired by those who attend. We cannot too strongly urge our readers not to miss the opportunity these lectures offer for the obtaining of a sound practical knowledge of motor matters. They will prove of especial value to motor cyclists who hope one day to be car owners, and also to riders who have no intention of taking up the costlier vehicle.

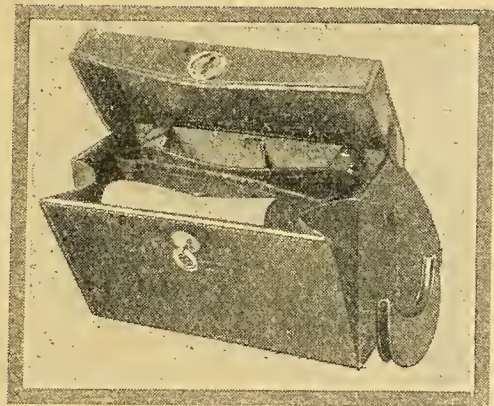
The lectures are an educational effort on the part of *The Autocar*, and the fee (£1 1s. for the course) is fixed as low as possible. Affiliated members of the M.U. may obtain tickets for the course at 12s. 6d. each. Applications for tickets should be made immediately to the Lecture Secretary, *The Autocar*, 20, Tudor Street, London, E.C.

ACCESSORIES.

A FEW OF THE LATEST ACCESSORIES FOR MOTOR CYCLES.

Among the numerous motor cycle accessories marketed by J. B. BROOKS AND CO., LTD., Great Charles Street, Birmingham, is the toolbag No. 9,367.

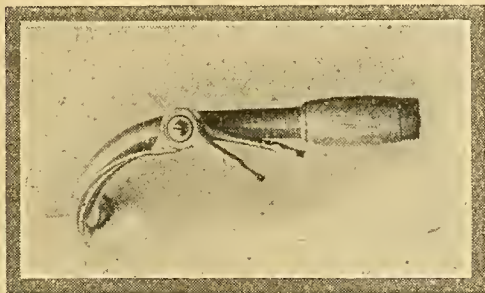
This is a bag with rearward extension specially designed to utilise the space which exists between the coil springs of the Broo and Bro5 Brooks saddles. In this manner a separate compartment is provided fitted with pockets for spares. It is almost superfluous to add that the bag is



A useful toolbag made by J. B. Brooks & Co., Ltd.

constructed of best quality leather, hand sewn, as all Messrs. Brooks's saddles and bags can be relied upon to be of good quality. As shown in the illustration, the bag has a gusseted fall front, large pocket, loops for repair outfit and oilcans, a small loose bag for sundries, and an outside pocket for a paraffin tin.

Handle-bar control is now so firmly established in public favour that few motor cycles will be found at the approaching show not fitted with this control in one form or another. The pioneer firm in connection with this improvement is undoubtedly the E. M. BOWDEN'S PATENTS SYNDICATE, LTD., Baldwin's Gardens, Gray's Inn Road, London, W.C., who have persistently advocated its advantages for several years, and whose system with minor modifications is so largely in vogue. The latest form of the Bowden handle-bar control—a new introduction



A new Bowden Patent Handle-bar Control.

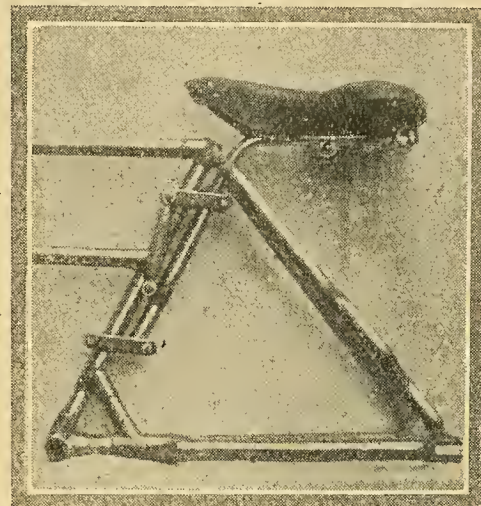
for 1909—is particularly neat, as will be seen by the accompanying illustration. This shows a neat pair of all-metal levers arranged on a single stud, commonly used for operating the gas and air valves or slides of the carburetter. The under lever measures $3\frac{7}{8}$ in., and the top one 3 in., from centre to tip in each case, the drum portion being $1\frac{1}{4}$ in. in diameter. Either lever will give a pull of 2 in., and each is independent, that is to say, either can be moved without altering the position of the other, and they will hold their position against vibration or the pull of a strong spring. They are made for both right and left-hand, and can be had with a clip to suit any diameter of bar, or with a circular plate for attaching to woodwork.

Champions of the rubber and canvas belt will be interested to hear that the HANOVER RUBBER CO., 29-31, Old Street, E.C., makers of the Shamrock-Gloria belts, have introduced a $1\frac{1}{8}$ in. size for high powered machines and for use with sidecars and tricars. These belts are being made under a process

which ensures the correct position of the canvas core and an equal distribution of indiarubber at the sides. It is worthy of note that J. Marshall used one of these belts in the Tourist Trophy Race, as did Gordon Gibson, the winner of the race at Brooklands on the 3rd inst., and C. R. Collier on his world's hour record.

W. W. GENN, 10, Wimbledon Park Parade, Gap Road, Wimbledon, has sent us particulars of a spring seat he has introduced for motor cycles, which can be fitted to most existing models. Reference to the illustration shows that

the ordinary seat-pillar is extended down, at the rear of the fixed seat tube. Connected to it are two pairs of shackle plates, one of which is connected to a coil spring arrangement which allows a certain amount of rise and fall of the frame and wheels beneath the rider without affecting his horizontal position. It is claimed that this



W. W. Genn's Spring Seat-pillar.

spring seat-pillar absorbs all road shocks, and as it can be fitted without much trouble, there should be an extensive demand for it.

Whatever our readers opinions may be with regard to the tambourine road clearers there is no question of doubt that they are effective. The one sold by LEO RIPAULT AND CO., 64a, Poland Street, Oxford Street, London, W., must not be confused with the parchment affairs used on pedal bicycles. For motor cycling the "Tambourong" has been introduced. This is made of metal, and is the subject matter of letters patent which Messrs. Ripault inform us they believe to be prior to any other.

THE UNITED MOTOR INDUSTRIES, LTD., 45-46, Poland Street, E., have a new line in tool rolls for motor cycle tool cases, which we illustrate. The roll, which we have examined, contains most excellent implements well adapted to the use of motor cyclists.



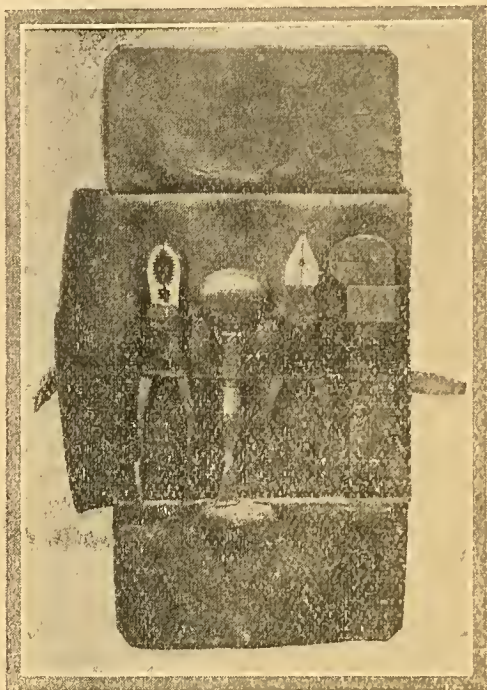
A useful tool roll sold by the United Motor Industries.

There are two adjustable spanners (one large and one small), combined pliers and wire cutters, pipe grips, engine spanner, steel punch, screwdriver, file, and last, but not least, a belt punch. At one end is a

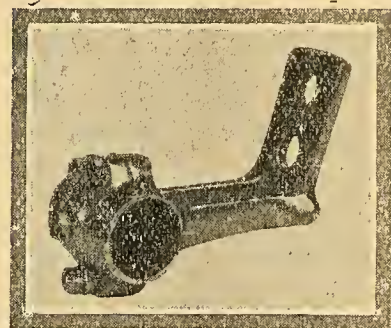
Accessories.—

pouch for very small files or other articles which might be carried, also license if so desired. It is made of black leather, with stout buckle, and is sold at a reasonable figure.

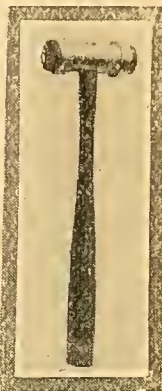
HUNT'S STORES, 104, Newgate Street, E.C., have laid themselves out specially for dealing in motor cycle accessories, and have in their excellent catalogue a number of articles which are of interest to readers. First and foremost is a small tool roll (which we illustrate), containing gas and cutting pliers, spanner, and turnscrew. It does not take the place of the tool rolls which contain a more multitudinous array of implements, but it is nevertheless a handy little wallet, particularly for those riders who do not wish to encumber themselves with too much weight.



A small Tool Roll sold by Hunt's Stores.



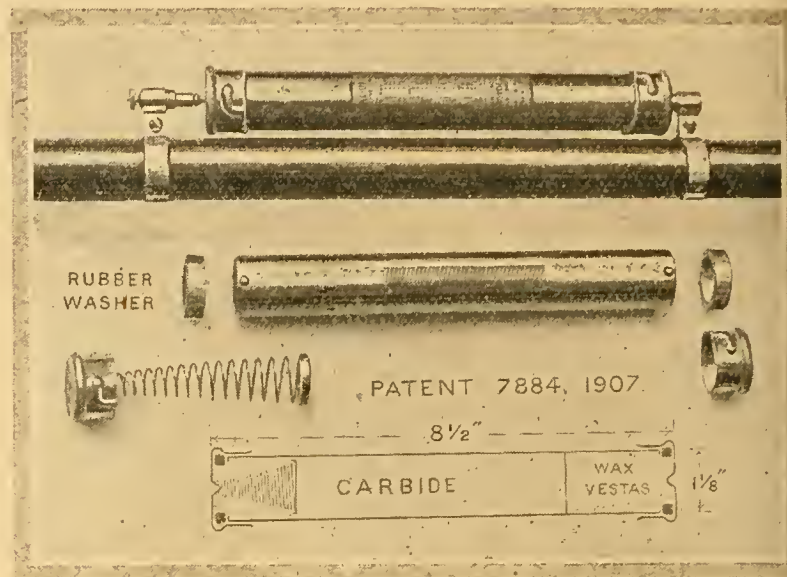
repairs. Nickel plated nuts, bolts, and other parts are very often damaged by blows with an ordinary steel-faced hammer, and the fibre-faced hammer



has been introduced to prevent this. It is really a most useful tool, and quite supersedes the old style copper-faced hammers for similar work. In lamp brackets a new model has been introduced which can be attached to the crosspiece of a handle-bar, and will be found useful for carrying an extra lamp or even a generator.

An exceedingly useful accessory has been brought out by the Novdel Co., 92, Bexley Road, Northumberland Heath, Belvedere. This consists of a carbide container and matchbox, an illustration of which accompanies this description. The whole device is small, compact, light, and thoroughly practical. It will be seen that it holds sufficient spare carbide to fill an ordinary lamp, and has also a spacious receptacle for wax vestas. It is provided with a roughened portion on which to strike matches on one side, and has a lighting up table on the other. The only point in which we can suggest an improvement is that the matchbox and carbide container ends should be marked to show to which they belong. The fact that

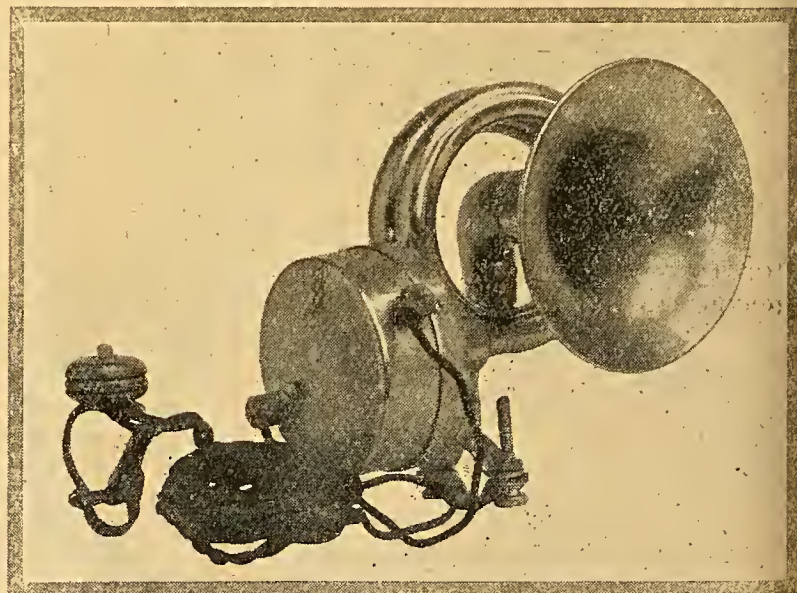
it can be carried on a pair of pump clips is an extremely important one, as it allows the container to be stowed



A neat and practical Carbide Carrier made by the Novdel Co.

away neatly and to be readily accessible when required. It is sold at quite a moderate price, and can be obtained in London from the Service Company, Ltd., 292, High Holborn, W.C.

THE PREMIER MOTOR Co., Aston Road, Birmingham, have sent us one of their latest road clearers—an electrically-operated horn—together with their stand and luggage carrier. The apparatus consists of an electric buzzer worked by a tiny dry battery, with wires and press button ready to attach to existing motor cycle horns, or the horn can be obtained complete. The great advantage of an electrically-operated horn is that it can be operated without removing the hands from the handle-bar, and the note of warning continued as long as the press button is depressed. For those riders who employ battery



The Premier Electric Horn, with push-button for handle-bar. It can be worked with a dry battery.

ignition this will be found a useful accessory, as the buzzer can be connected to one of the accumulators without trouble. In the case of magneto-ignited machines, a special dry battery can be carried in a separate case. This should be as large as possible, as most electric horns are somewhat wasteful of current, and it is awkward to find the battery discharged.

(To be continued.)

OCCASIONAL COMMENTS.

By "IXION."

Some T.T. Jottings.

The T.T. Race brought out one point distinguishing the amateur from the trade rider, to wit, that a man will sometimes take risks in the interest of his profession which he will not take for sport. It is not necessarily the fastest machine that wins in the Isle of Man, but the best combination of machine and man. For instance, on the bottom of Glen Helen there is a nasty corner. Here all the riders with a single exception switched off their power for a few yards; the solitary exception, who kept his engine running, saved a good ten seconds on each of the ten circuits, quite apart from the time he gained through starting a climb with his engine already on the pull. Thus he snatched a two minutes advantage over all his rivals at this corner alone, and the name of the corners on the course was Legion.

The preliminaries and after proceedings were by no means devoid of fun. One rider imagined the regulation about efficient silencers was intended as a pious fraud on the public, and as the lower half of his silencer was invisible, thanks to its position, he drilled it out into a mass of holes held together by thin segments of metal, leaving the top half—against which no gases were deflected—deceitfully intact. It was rather a shaker for him to find that in a preliminary parade he was expected to flit past the judges at a high speed as noiselessly as possible on full throttle. However, he got up steam, and quietly snicked his handle-bar throttle shut as he neared the judges' stand, with the result that he was passed, and able to continue a Gatling gun-like progress in the actual race.

"The Deal was Off."

After the race, one of the riders had some fun with a group of dust-begrimed riders, who attacked him on the ground that his machine was not standard. Of course it was not standard—the regulations did not require that it should be. However, for the sake of peace, he bluffed them with an offer to sell it at catalogue price, after taking in his interlocutor's appearance, which did not bespeak great wealth. His tormentor promptly produced a sheaf of notes, and it was amusing to see the rider drag the man of means aside and earnestly whisper, "Look here, old man, you may have this machine if you like, but I wouldn't if I were you. I've raced it to death since I've been over here. The bearings are all worn and the piston's cracked. You wouldn't like it; you wouldn't really!" The "deal" was off!

Small Engine Pulleys.

From time to time I receive enquiries for advice respecting machines with very small engine pulleys fitted to engines of extremely low power. The entire efficiency of these machines depends first and foremost on a suitable belt. Solid belts, whether rubber or leather, which give entire satisfaction on ordinary types of mount with 4in. or 5in. pulleys will crack up in the most heart-breaking fashion on a 3in. pulley. The only belts calculated to give decent results on these tiny pulleys are those which attain flexibility not only by material, but by design. A case in point was the 2 h.p. New Hudson motor

bicycle introduced about 1903, if my memory serves me rightly. It was fitted with a beautiful little engine made by the De Dion people, but it only sold in small numbers, and the New Hudson Co. abandoned the motor cycle trade in consequence. The sole serious defect of these machines was belt-slip, due to the use of solid belts on a tiny pulley. One friend of mine bought one of these machines, attracted by the merits of the engine, and, in spite of frequent belt troubles, was dogged enough to keep it till the days of the Watawata belt. He soon discovered that the fitting of a belt which attained flexibility by design as well as by material transformed his quondam aggravating little jigger into a most reliable steed. There are a number of riders suffering in a similar manner to-day. I think all of them would find trouble ended if they purchased any of the belts constructed on a flexible system, prominent amongst which stands the Watawata type. Personally, I refuse to employ any solid belt on a lightweight.

The Knight Engine.

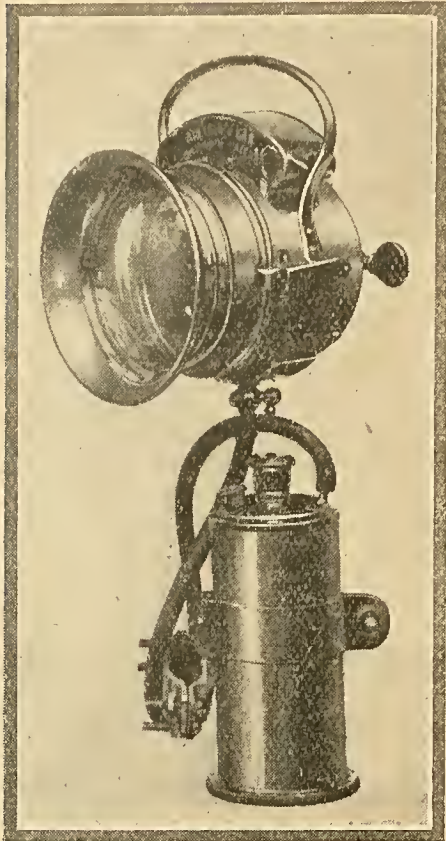
Several friends have asked me which motor cycle firm has obtained the license of the revolutionary Knight engine adopted by the Daimler Co. for their 1909 cars. I am unable to hear that Mr. Knight has yet granted a licence to any motor cycle manufacturer in any country. It seems to me rather doubtful whether any manufacturer will care to fit this engine to a motor cycle. The absence of water cooling alone will make a great difference to its efficiency, or so I should opine as a matter of theory, and, further, it will require very exact lubrication, and, knowing the eccentricities of many motor cyclists in that respect, it is doubtful whether an already successful maker would dare to fit it. At any rate, there will be no hurry about it, though I certainly hope we may eventually see this type of engine on motor bicycles. For the benefit of readers who have not seen the drawings of it in *The Autocar* I may add that the innovation on this engine is the substitution of slide valves for the ordinary poppet or mushroom-headed type. There is no valve box, but ports for the inlet and exhaust are cut in the walls of the cylinder, and are opened and closed at the proper moments by two concentric cylindrical sleeves fitting inside the main cylinder. The piston slides within the interior sleeve, and does not touch the wall of the main cylinder at all. These sliding sleeves are operated by short connecting rods, extending from eccentrics on the camshaft to brackets cast on the lower rim of each sleeve. Lubrication is maintained by splash from the crank case, capillary action, aided by spiral grooves in the surface of the sleeves, keeping a constant film of lubricant between the cylinder and sleeve No. 1, between sleeves No. 1 and No. 2, and finally between sleeve No. 2 and the piston. Three main claims are made for the engine, viz., greater power than can be got out of the same cubical capacity when poppet valves are used, greater flexibility, and greater silence.

When C. R. Collier broke the world's motor cycle record by covering 70 miles 105 yards in the hour, he used Pratt's motor spirit.

MOTOR CYCLE LAMPS.

(Concluded from page 800.)

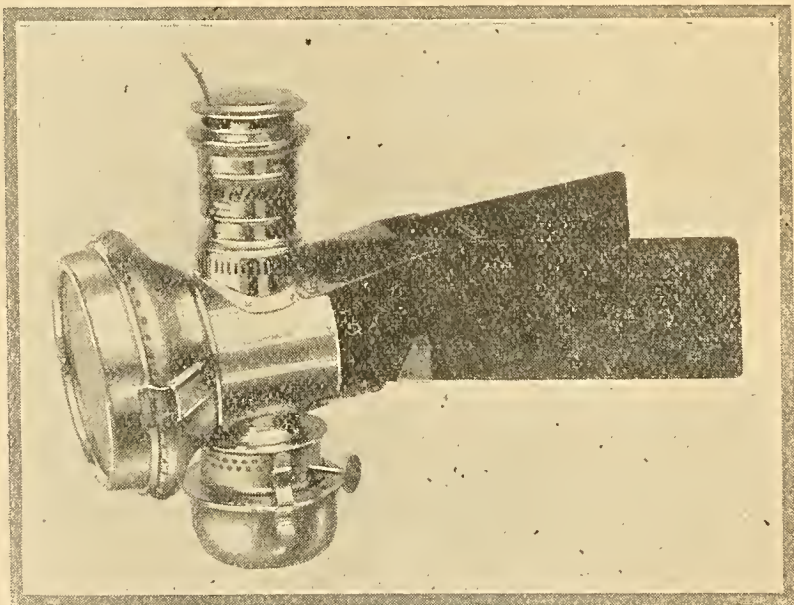
WORSNOP AND Co., The Carlton Lamp Works, Halifax, are the manufacturers of the Fifax petroleum motor cycle lamp, which provides a novel system



Worsnop's Acetyloid Headlamp with separate generator.

of illuminating the numbers. It will be noticed on reference to the illustration that the lamp is provided with a back glass and a double number plate arranged in the form of the letter A. The apex of the letter A divides the back light into two streams, which illuminate the registration numbers and letters painted on the one side of each plate. The lamp burns paraffin oil, and is provided with a round wick and glass chimney, the latter being held upright by means of a special spring wire attachment which passes through the top of a detachable cowl provided with

a bayonet joint. These lamps, it is claimed, give ten times the light of the ordinary oil lamp, being fitted with a scientifically constructed burner with a proper wind-up arrangement for the round wick. Provided the lamp glass will stand the vibration on a motor cycle, we see no reason why these paraffin lamps should not be successful, although we

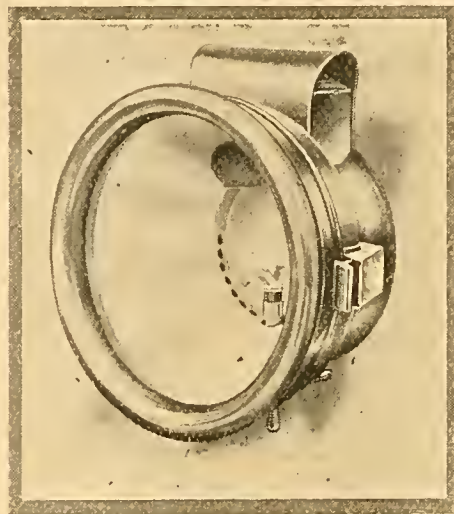


Worsnop's "Fifax" Paraffin Headlight with number plates.

must admit that we have not tried one ourselves. It certainly has advantages in the shape of simplicity and cheapness of fuel. We hope to give one of these lamps a trial very shortly, and if it comes up to our expectations we shall have something further to say

about it. In addition to the above petroleum lamp, Messrs. Worsnop and Co. make an acetylene gas lamp with separate generator. The lamp is fitted with a silvered reflector, stout lens, and is well finished in polished brass. It can also be supplied with the body of the lamp shaped on the lines of the Rushmore with mirror lens. Customers are given a choice of generators, viz., diving bell, percolator, and drip feed system. The lamp is provided with a tap for shutting off the gas when not required, and it goes by the name of the Acetyloid gas lamp.

ANDRE GODIN, 1, Red Lion Square, W.C. The above firm does not make a speciality of motor cycle

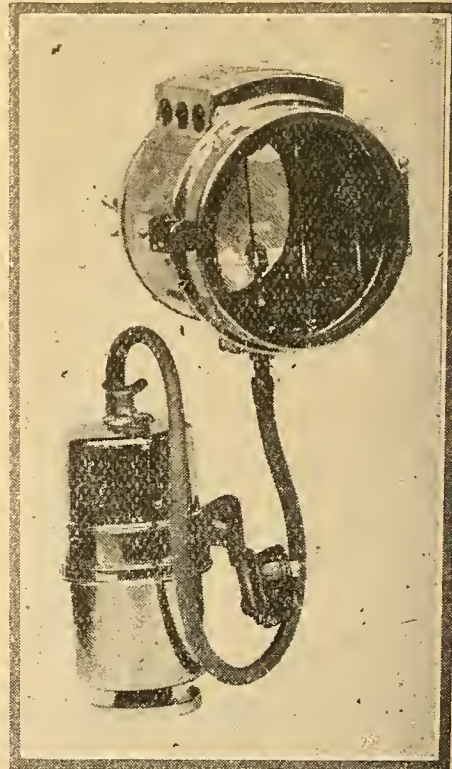


A new headlight sold by Andre Godin.

lamps, but sells a small car lamp with separate generator which would serve admirably on a tricar. The lamp is well made, and should give a good light. Two distinct different kinds of generators are supplied, so that a purchaser can select whichever of the two he prefers. One is on the drip feed system, while the other works on the diving bell principle.

THE PREMIER MOTOR Co., LTD., Aston Road, Birmingham, have had their Premier searchlight

before motor cyclists since last winter. This lamp and generator are British made, constructed of brass throughout, and finished in polished brass or nickel plated. A mirror lens curved to the correct angle projects the light 200 feet ahead. After a careful examination of the Premier searchlight we are of the opinion that it is equal to anything of the kind sold for motor cyclists' use. There is nothing flimsy about it, and, while being strongly and substantially made, it is not particularly heavy. The dimensions of this lamp are: Height over all, 6½ in.; length, 5¼ in.; diameter of face, 4¾ in. The front glass is dissected, and where it fits into the frame of the door it is packed with some soft material to prevent rattling of the



Premier Searchlight, with separate generator.

Motor Cycle Lamps.—

glasses. From personal observations we have proved that this lamp gives an excellent light, projecting in one circle a long distance ahead of the machine without causing dangerous and objectionable glare at close quarters. The generator, which is of the ordinary drip feed pattern, can be attached to any fork, and when fully charged gives five hours' continuous light. One of the special advantages offered by the company is a three days' trial of this lamp.

The name of C. A. VANDERVELL AND Co. is obviously associated with electric lamps, two patterns of which we illustrate. The head light for motor cycles is called the Model C, and is fitted with the new four-volt C.A.V. metallic filament bulb, manufactured especially for them by Edison and Swan. This lamp gives an extremely brilliant light, carrying its rays a considerable distance with a current consumption said to be as low as .56. The Model D electric lamps are for side lights on tricars, and are provided with a side red light so that it shows a red warning light to the rear as well as on both sides of the machine. This lamp is also fitted with the same bulb as the Model C, and, in addition, the Model C head light can be supplied in pairs for tricars when a particularly brilliant light is desired. Suitable accumulators, put up in any style or shape, are supplied according to the desires of the purchaser. The address of C. A. Vandervell and Co. is Warple Way, Acton Vale, London, W.

The X-Ralite headlight and generator is a two-unit lamp sold by the PERCY CYCLE Co., LTD., St. Andrew's



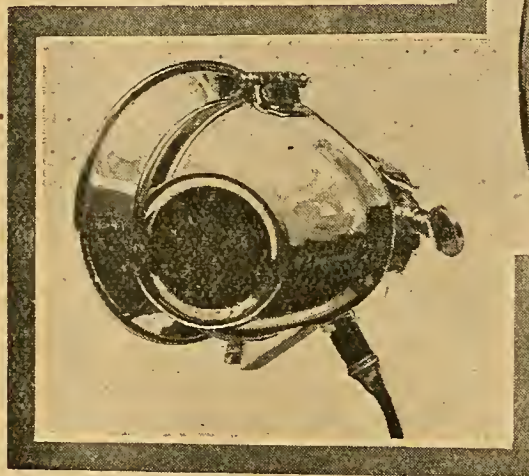
X-Ralite Headlight (with bull's-eye lens) and Generator.

Place, Northumberland Street, Newcastle-on-Tyne. The lamp is light in weight and fairly strong. The lens is carried on a wire frame, and is placed very close to the burner inside the lamp, the front being protected by the usual glass, which is about 4½ in. in diameter. As will be noticed, the door is fitted with a double hood, the top extending a little further forward than the bottom. The burner socket is provided with a small shut-off tap, and the bracket at the back will fit practically any lamp iron, and is provided with a thumb-screw and lock-nut adjustment. A good point about the generator is that it has a patent cleaning needle for the water drip. This is a handy device, for, as users know, the valve occasionally becomes choked.

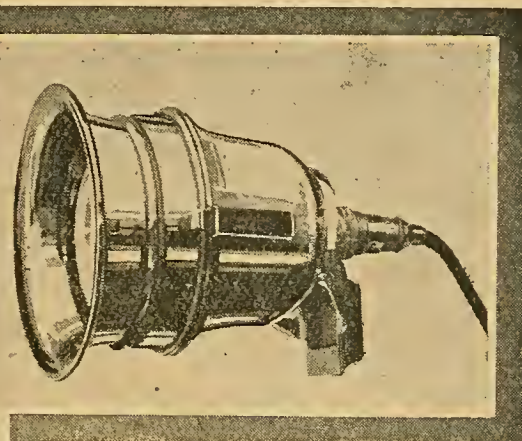
The question of producing a good motor cycle lamp has not escaped the notice of MESSRS. A. DUNHILL, LTD., Euston Road, as they have a very complete assortment of headlights. Three of these are designed

for motor cycles. One is a lamp fitted with a combined generator and a specially strong bracket; the second is a lamp with a separate generator designed to fit on the forks of the machine; while the third is a well-constructed lens mirror headlight of a type which has become popular of late. This lamp, which has a separate generator, is known as the "Hella." The last of the series is a set of two tricar lamps supplied by one generator, capable of generating gas for six or eight hours. These lamps are well made, and have a special internal reflector designed to project the rays of light on the principle of the condenser lens largely used by many lamp makers.

C.A.V. Model D Electric Sidelight for tricars, with red light shining partly to the rear.



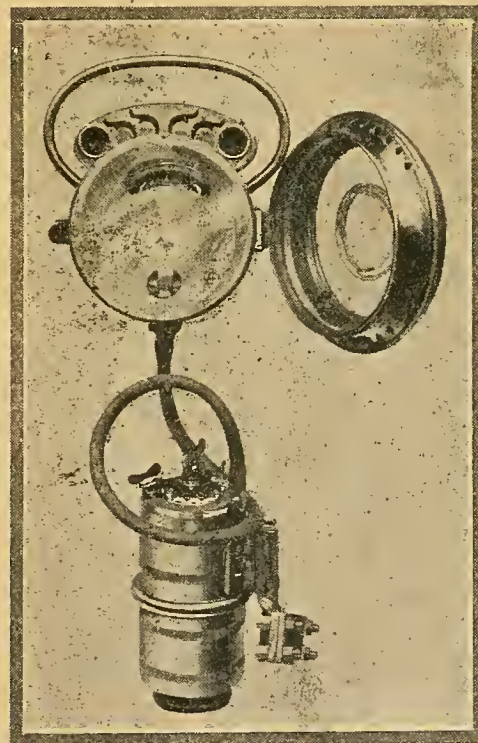
C.A.V. Model C Electric Headlight, fitted with the new four-volt C.A.V. metallic filament bulb.



An article on motor cycle lamps would be incomplete without a description of the latest Frank motor cycle headlight with separate generator. All the latest

Frank lamps are provided with bull's-eye lenses fitted in the centre of the ordinary front glass. The projector is of polished aluminium, and the general finish and outline of the lamp is very handsome. The particular one illustrated is fitted with a bail handle of stout dimensions and an adjustable back bracket, which is quite the best type used on motor cycle lamps. Provided the lamp iron does not exceed 1½ in. across, the bracket will fit all thicknesses of lamp irons from ¼ in. downwards.

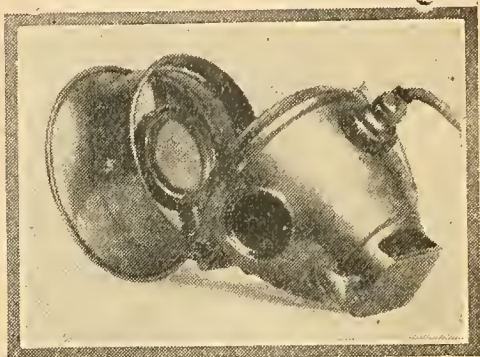
The bracket for attaching generator to the forks is substantially made, and if the clip is carefully screwed up the generator cannot jump off, although the bracket is liable to slip. Mr. E. J. HARDY, Bishop Street, Coventry, is the wholesale agent for Frank lamps.



The latest Frank Tricar Gas Lamp, with bull's-eye lens and separate generator. The bicycle size is slightly smaller, and has no bail handle.

Motor Cycle Lamps.—

J. C. FULLER AND SONS, Woodland Works, Wick Lane, Bow, London, E., have sent us a sample of their motor cycle electric headlight. This lamp is provided with a duplex lens, and is made on substantial lines, similar to the motor car electric headlight which is manufactured by the same firm. It has a green glass on one side and a red glass on the other. The lamp bracket is supplied suitable for fitting the standard Lucas and other lamp irons.



The Fuller Electric Headlight showing the bull's-eye lens.

A COMPLETELY PROTECTED MACHINE.

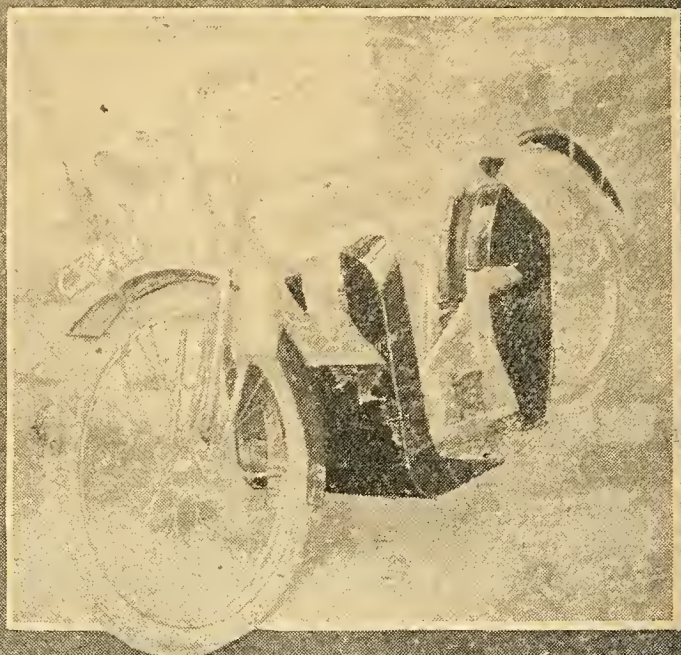
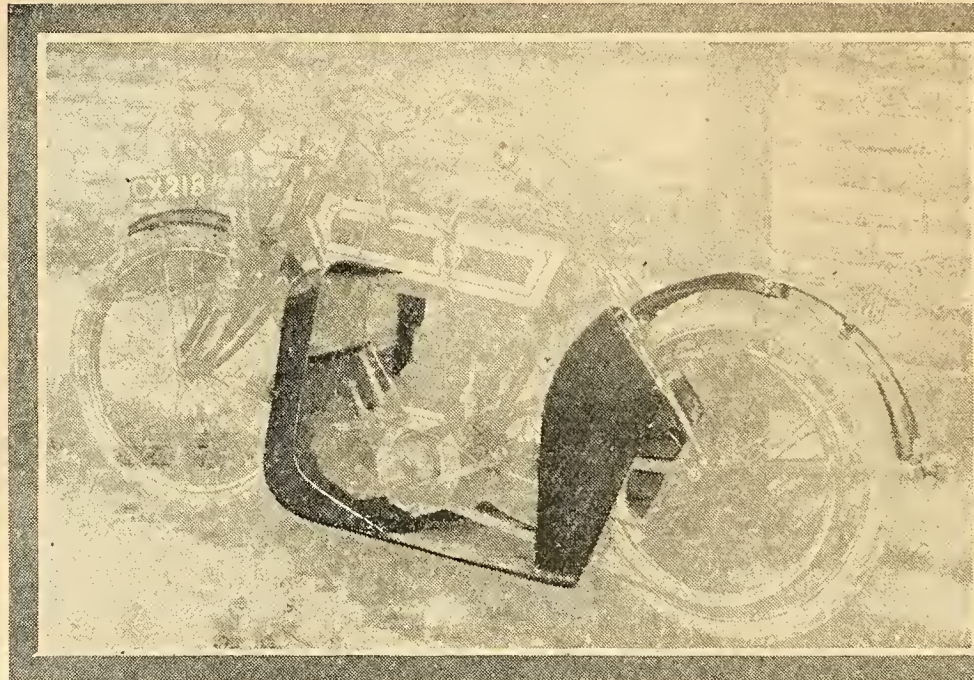
THE following particulars are of an improvement just patented by Mr. John A. Miller, Brentwood, Brighouse, Yorks., having as its object the keeping of rider and engine dry and clean in wet weather. The patentee says:

"I tried several plans, but got very little satisfaction from large front flaps and mudguards arranged with

trated in the annexed photographs, embodying complete protection for the feet, knees, engine, and magneto combined with a wind scoop for the cylinder. The shield is, of course, readily detachable.

"I rode from Huddersfield to Glasgow, Edinburgh, and back, through four days' rain, on September 20th, 23rd, and this fully satisfied me that dirty weather riding can be made much more comfortable, as during the four days I had not a wet boot or sock, although I discarded the general clothing equipment for touring. Nor at the end of any day's run was I unpresentable through mud, and, finally, I had not one stop through the interruption of the spark, although many of the roads were swimming in water, and I rode during some very heavy falls of rain, when even carters on the roads left their carts to seek shelter. Although I received the congratulations of many motor cyclists, some thought it would cause too much wind resistance, but as the guard is only the same width across as the rider's body while sitting in the usual easy position I think it will be seen that for any purpose, excepting perhaps racing, any little extra resistance is negligible; at least I found it so with my weight of 15 stones, including luggage.

"An angle-shaped guard, not shown, fitted around the belt circumference, and outside the main guard completes the protection of the rider and engine. Thus equipped one feels a pride in travelling at an even pace, indifferent to the filthy condition of the roads, knowing that one will arrive at one's journey's end in a clean state. Surely, too, the engine will be better



For winter riding on very muddy roads, something more than the ordinary mudguards are required, and the above is a praiseworthy effort by J. A. Miller to keep engine and rider clean. The arrangement is described on this page.

sides carried well round the wheels, as once put forward by a contributor in *The Motor Cycle* for a winter machine.

"Again, when caught in very heavy rainfalls, apart from getting into an awful mess, my machine would stop on account of the water on the high tension terminal and the magneto plug, which would then require wiping with a dry cloth. This trouble would sometimes arise, too, from running through big puddles of water at even slow speed.

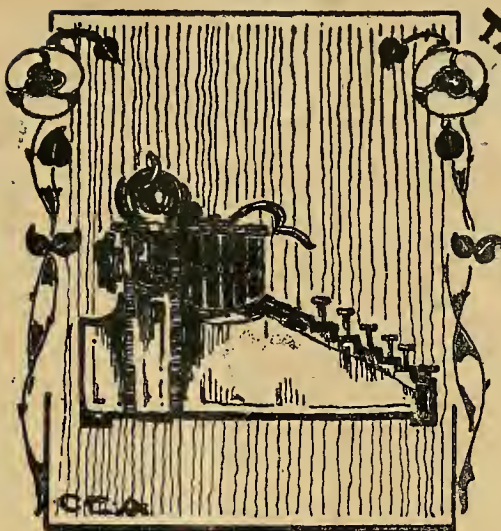
"Setting to work again in another endeavour to do away with the disadvantages of winter riding, I at last hit upon the idea of a shield and undershield, as illus-

for the absence of what would otherwise cover it in the form of a grinding solution, free to penetrate the bearings, valve guides, etc.

"Features not to be overlooked are that the general accessibility and pedalling are in no way interfered with, and the pedals and the chain are not choked up with mud, as is usually the case."

Readers who wish to communicate with the makers of the Fit-all and Powell's hub two-speed gear, previously manufactured by the Burgess Eng. Co., Leicester, should note that the sole address is now A. D. Powell and Co., 3, Aylestone Street, Leicester.

LETTERS



THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

The Lubrication of Engines.

[3606.]—Referring to the lubrication of motor cycles mentioned recently in these pages, what objection would there be to fixing a second oil pump on the opposite side of the tank, to supply a sight feed lubricator for normal running, retaining the original pump for hill-climbing or low speed gear work where an extra amount of oil might be required?

W. E. S. M.

Motor Cycle Finish.

[3607.]—Having used Robbialac on my tricar, I can assure your readers that it is a complete success, and does not require stoving. I gave two coats of French grey, allowing thirty-six hours between each coat. The result is all that can be desired, the paint drying out perfectly hard and smooth and equal to the best stoved enamel. I think your correspondent who complained recently must have made some mistake in applying the composition. A flat varnish brush should be used, and great care taken to have the surface clean. Original enamel need not be removed. ID 23.

The Life of Pneumatic Tyres.

[3608.]—With reference to rubber studded tyres, can users of these beat the following: 2,235 miles on back wheel of machine weighing 224 lbs., rider $13\frac{1}{2}$ stones, no punctures, bursts, damaged fabric, or side-slips? I accomplished this distance with a Brooks steel-studded tyre, and 132 miles of this with an additional $11\frac{1}{2}$ stones passenger on carrier!

There has been some correspondence in your paper to the effect that one set of rubber studs will outlive two and even three steel-studded bands. If this be the case, the tyre problem is certainly solved once for all. It might be interesting to hear of a few comparisons with weights of machine and rider stated.

C. A. CROW.

The Efficiency of Dry Batteries.

[3609.]—With reference to the discussion in your paper about a year ago *re* the efficiency of dry batteries, I am now in a position to give exact figures as to the working of a Hellesen flash cell on my $3\frac{1}{2}$ h.p. Minerva tricar, plain coil. I ran this cell for 1,688 miles, when it became completely exhausted. Up to the last five miles I had no misfiring, and could detect no falling off in power. However, as soon as misfiring began, the cell became very rapidly exhausted. This means that the battery in question fired my machine at full efficiency for 1,683 miles. I have had no ignition troubles since using these cells, now over three years.

T. E. CALLAGHAN.

Has the Tricar a Future?

[3610.]—With your permission I should like to say a word on this subject, my experience being 20,000 miles on a $3\frac{1}{2}$ h.p. Phoenix Trimo, 1,000 miles on another tricar which shall be nameless, and 1,359 miles on my present machine—a $5\frac{1}{2}$ h.p. Phoenix Trimo—which I mounted last August for the first time. I am exceedingly pleased with this machine, and have found very little adjustment has been required anywhere—high or low gear, clutch or chain. The chain of steering gear in my case gets a little dust, but no mud from the road. It has not at present required cleaning. The driving chains are all that could be desired, and good as new now, and never broken, or, so far as I can see, stretched. Any swing or whip of back seat has so far escaped my notice, and I am pleased to say it is a wonderful hill-climber with passenger, and luggage enough for a whole family for a fortnight. It is also most luxurious to ride, not

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

only on the crown of the road, but any part thereof, always provided it is driven at a pace suitable to the conditions of the road. I can drive on the greasiest of roads near the gutter with ease without non-skid, but I have to accommo-

date my pace to the condition of the road.

The springing of the back wheel is, in my opinion, a necessity, and I will never have another without. I intend this winter to have a non-skid fitted, not because I cannot run it without, but because it will allow me to travel quicker.

In my opinion the gear and clutch are perfect. The back wheel might, and in my case will, be made to remove with less trouble.

I will not further enlarge on the excellent qualities of this machine, but simply say I am satisfied.

ALFRED MEIGH.

[3611.]—Is it not possible for the makers to place a machine on the market similar to that shown in your issue of June 10th last, page 460? the only improvement being wheel instead of tiller steering, and perhaps a 5-6 h.p. engine. The objection chiefly raised to the present type of tricar is that of unsociability—one has sometimes to yell one's self hoarse to converse with the occupant of the front seat—not to mention the dislike of our lady friends at being perched out in front and meeting the oncoming traffic—cows, etc. A machine of the above type would be more comfortable for passenger and driver; the only questions arising are those of stability in grease, ease of rounding corners, etc. Perhaps the owner would give his experiences upon this point.

FJ 9.

[The machine in the issue quoted was a two-seated, side-by-side, double-driving tricycle, with tiller steering.—Ed.]

The Handicapping of Motor Cycle Races.

[3612.]—I was glad to see in last week's issue a letter from Mr. C. R. Collier on the handicapping of motor cycle races. The present system is anything but satisfactory. I have during the last seven years spent a considerable sum of money, not to mention valuable time, competing in motor cycle races and hill-climbs, and now, instead of reaping the benefit of my years of experience, I am put in return for my entry fee in a position where it is utterly impossible for me to win. At the Stadium on August 8th with an engine measuring 76×76 I gave 5s. start to an engine measuring 82×89 mm., 10s. start to one 82×90 mm., 10s. to one 84×86 mm., 15s. to one 85×85 mm., and 30s. to one 82×90 mm., and was put on the same mark as a 5 h.p. machine. I am therefore expected to get as much out of a $2\frac{3}{4}$ h.p. as other people do out of 5 h.p.

As regards the last Brooklands meeting, I endorse all Mr. Collier says. Although in a bad enough position myself (I should have had to travel nearly seventy miles per hour with a $4\frac{1}{2}$ h.p.—an utter impossibility—to get amongst the leaders), there were others in a far worse position. It was plain to everybody who knew anything about motor cycles who would win before the start. In proof of this one of the bookmaking gentry was unable to pay out over the winner. It was not as though the winner's form was unknown; his form was well-known. The sooner the handicappers handicap bore and stroke only and not a man's reputation the better.

W. W. GENN.

An Easy Starting Device.

[3613.]—Allow me to suggest a method I have tried for simplifying starting of a motor cycle engine. First of all obtain a short length of $\frac{1}{4}$ in. diameter copper tubing, drill a

hole in the induction pipe as near the inlet valve as possible, and insert the tube in an upright position. Before tube is screwed into the inlet pipe it should have the end which goes in the induction pipe closed except for a very small hole. The other end is led to a convenient position for inserting the nozzle of an oil tin while the rider is seated in the saddle. The method of operation is: Fill the oil tin with petrol, insert nozzle in top end of tube, place one foot on pedal, and simultaneously push down and squeeze oil tin. The result is an immediate explosion. I find it very convenient in traffic. (Tube should be made easily detachable to enable small hole in lower end to be cleaned out.)

HENRY GRAFTON.

Safeguarding Deaf Cyclists.

[3614.]—Referring to the paragraph in "Current Chat" of September 30th, under the above heading, I have for some time been considering this matter, and have come to the conclusion that as the triangle is now known to and understood by all road users as a warning signal, the best device for deaf persons to adopt would be a triangle in red either on the back of the jacket or on the back of the motor or other cycle. I think it would be a pity if another signal comes into general use, as the triangle is adequate in every way.

F. J. HADFIELD.

Motor Cycle Lamps.

[3615.]—I have much pleasure in supplying just those remarks from personal experience which were lacking in your notes on the Powell and Hammer lamps in the last issue. I have been riding with one of the separate generator type for the last 3,000 miles, and have nothing but praise for it. With regard to the lamp, it has had some fairly rough usage, but not a mark is there on it. I recommend buyers, however, to put in the biggest Bray's burner that the lamp will take. I found the burner supplied apt to choke back the gas and so prevent a free flow of water, due to the minute holes being slightly too microscopic.

The generator is all that can be desired, and supplies a very steady flow of gas. The clip is an excellent device, and I have it fixed in a rather novel position, namely, on the upright stem of the handle-bars. This brings the generator well under control, but care must be taken to prevent any possibility of the clip slipping down. To obviate this, I have first wound insulating tape round the tubing, then screwed the clip well up, put on lock-nuts, and finally run a small strap round the clip and the boss of the handle-bars. Now I set off on a trip of any length with the utmost reliance, and can be sure of a light at less than a minute's notice.

One final tip, suitable for any lamp with exterior india-rubber tubing, and which I do not recollect seeing published in *The Motor Cycle*. If there is any difficulty with the tubing collapsing or bending, and so shutting off the gas, a light spiral spring, threaded on the tubing and with one end hitched also over the lug on the lamp, will at all times secure a gentle curve for the tube and prevent all possibility of the gas supply being cut off. I have adopted this, as a matter of fact, at both ends of the tubing.

I may add the usual statement that I am absolutely uninterested in the sale of these lamps, but a most satisfied user.

WILLIAM PERCY.

The Lightweight Question.

[3616.]—As the owner of a lightweight for six months, perhaps your readers would like to hear my experiences with it, as against a heavyweight. Last year was my inglorious novitiate in motor cycling. My brand new $3\frac{1}{2}$ h.p. heavyweight rendered me an object of pity to my clubmates from the knack it had of "letting me down" (in more ways than one). Then I had a two-speed gear and free engine fitted, and that did not improve matters; so after doing 500 miles

in ten months, I sold the white elephant at the first chance and invested in a lightweight. From the first I was delighted with it; for easy starting, quiet and smooth running, remarkable flexibility, economy in petrol (but not in oil), handiness and absence of heart-strain in pushing (when necessary), ease of control, and "legal limit," it was a perfect contrast to the ponderous one.

It will also interest the disputants on the subject of starting to know that the lightweight, in my opinion, needs neither handle starting nor stand. To start, I never "warm up" on the stand, but merely squirt paraffin into each cylinder, walk machine a few yards to slacken pistons, bestride the saddle and push down the off pedal.

Last August I accompanied a friend to London without a stand, and returning alone did the 240 miles in about fourteen hours, including several halts for thunderstorms and usual meals; but both ways I had no mechanical stoppage or puncture. The machine is a Moto-Rêve variously improved. It now weighs 112 lbs., rider 11 st. 9 lb.; mileage to date, 1,474 miles. Of course I have no interest in the sale of the machine.

ISAAC IVEY, M.B., Ch.B.

Running on Benzol.

[3617.]—In reference to letter 3576, signed "Medicus," I suppose by what he terms benzol he means benzoline. I would like to know for certain, and if he used any other than the ordinary carburetter as supplied on motor cycles? I should consider an increase of twenty miles per gallon good if the engine does not lose its power. I would like to know these particulars from "Medicus."

CONSTANT READER.



Competitors in the Worcestershire M.C.C. Reliability Trial, described on page 823.

A Problem to be Solved.

[3618.]—There appears to have been some controversy lately in *The Motor Cycle* respecting the particular phenomenon of an engine accelerating when the exhaust valve is slightly raised by means of the exhaust lifter. Two reasons have been advanced to account for it.

It has been stated that the carburetter is not getting sufficient air at high speeds; while some say the compression is too high, and by raising the exhaust valve the compression is reduced a little. With respect to the first reason, I know three owners of a certain make of engine who all find an increase of speed when the valve is raised, and yet each rider has a different carburetter, and they can all give much more air than the engine will take.

With reference to the second reason, this also seems to me a wrong explanation, as, if an engine was too high in compression and raising the exhaust valve lifter would account for the improvement, then one would naturally say by the same reasoning, that the engine would run faster if the valves required grinding, as a little escape past the seatings would be equal to slightly raising the exhaust valve lifter, and I know from experience this is not so.

My engine is a large single-cylinder. I can get more air than is required at the carburetter. The silencer is extra large, and there is absolutely no back pressure, yet I can always run faster with exhaust valve lifted a little, and find

A PERFECT MOTOR CYCLE MAGNETO!

PRICES:

For single
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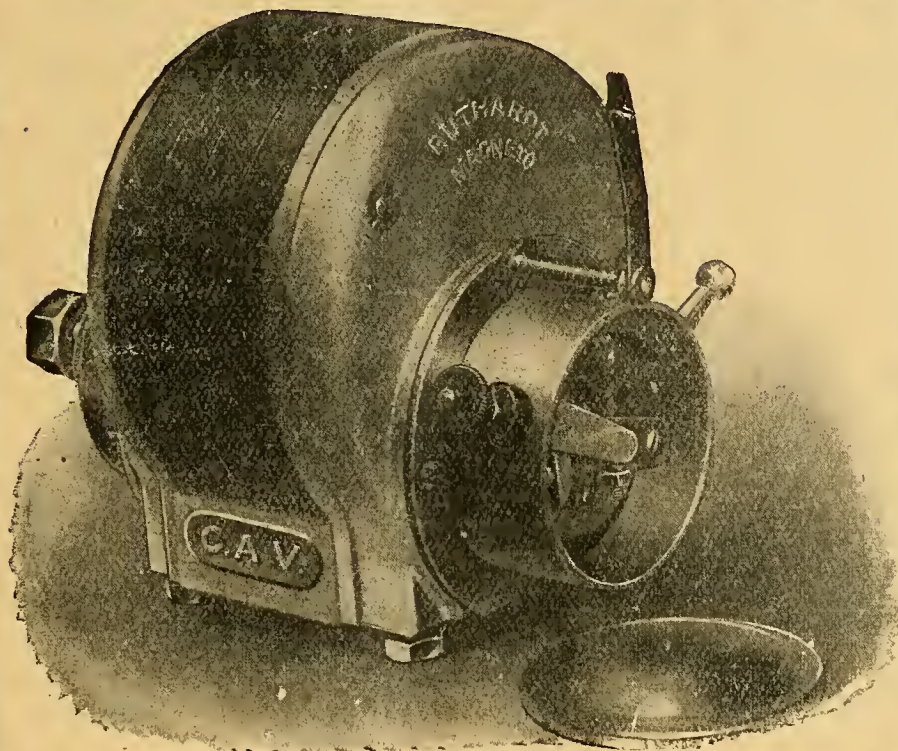
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engines, V type

4 H.2. £6-0-0

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Lightest

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possesses advantages over all other motor cycles which cannot be disputed or under-estimated. It is very light. All its motor mechanism can be removed from the cycle in the space of a few minutes. It is clean. It is reliable. It is silent. It will travel from 5 to 30 miles per hour. It will ascend gradients of 1 in 10 without pedal assistance. AND, it is economical both in first cost and upkeep.

The MOTOSACOCHE is £30 only.

Write for full particulars:

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The "GRADUA" (Infinitely Variable) Gear for Belt-driven Machines.

AN ABSOLUTELY NEW PRINCIPLE.

**NO END THRUST! NO JOCKEY PULLEY!! NO SLACK BELT!!!
SAVES PETROL. SAVES OVERHEATING. SAVES TYRES.
HANDLE STARTING—FREE ENGINE.**

DIRECT DRIVE ON ALL SPEEDS.

This gear gives infinite variation from zero to $3\frac{1}{2}$ to 1. It is absolutely fool-proof.

No sudden jamming in of gear and wear and tear to the machine. A simple turn of a small wheel is all that is necessary.

The rider gets full power of his engine by never overloading, and by keeping up the number of its revolutions.

Hills have no terror with a "GRADUA" gear!

A perfect free-engine position is assured; the engine can be started with a handle and the rider take his seat while the machine is at rest.

All who have seen and tried it are enthusiastic about its many merits. It's a revelation to riders using two-speed gears! Nothing like it in the world! It will revolutionise the present system of variable-gears.

To prevent disappointment, we would point out that it cannot be fitted to existing machines.

When ordering your new mount, **insist** on its being built with a "GRADUA" gear. We are prepared to grant licences to other makers for building this gear under royalty.

The famous "Zenette" Spring-frame Motor Bicycle-de-Luxe will in future be built with "GRADUA" gear, the price inclusive being 50 guineas nett cash.

Further orders for "Zenettes" with the "GRADUA" must be placed **at once** if required for Autumn delivery: we can accept a limited number only, as our present works are of limited capacity.

A "Zenette" fitted with a "GRADUA" variable gear may be tried (by appointment **only**) at

ZENITH MOTORS, LTD. Showrooms: 119, Stroud Green Road, LONDON, N.
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Makers of the celebrated "Zenith Bicar," price 43 guineas nett cash; and of the "Zenith" Tricar, price (with 6 h.p. J.A.P. twin-cylinder engine, chain drive, two-speed gear), 72 guineas nett; the "Zenette" Tricar-de-Luxe (with 6 h.p. twin-cylinder engine, finest coach-built body, open frame), 90 guineas.

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POWER
WASTAGE.

THE BUSINESSLIKE BELT.

There's just this one point about the **WATAWATA**—it's not for ever troubling the motor cyclist by slackness or looseness of grip. It's always attending to its business—that is preventing power wastage and getting the maximum work out of your engine. Your machine is never at its best until it's fitted with a **WATAWATA BELT**.

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LONGER
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MORE
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NOTE THE
NEW
FASTENING
WHICH
FACILITATES
THE
SHORTENING
OF THE
BELT.

Watawata

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

the engine runs badly if the valves are not well ground in.

Is it possible that the cause can be accounted for as follows : When the exhaust valve lifter is raised to just lightly touch the tappet, it prevents the clatter of the valve, causes smoother running, and as a further result, faster running?

A. LEVER.

An Automatically Variable Pulley.

[3619].—Having seen the drawing of the automatically variable pulley, patented by Mr. Lloyd, I find that it is very much like one that I made and have running at the present time. I made it twelve months ago. It varies according to the rise and fall of road, but I find a difficulty in taking up the slack belt. I have tried a jockey pulley, but it does not act correctly. Anyone can see it at any time; I have it fitted to a $2\frac{3}{4}$ h.p. Minerva. I have found in the patent list that a pulley something like it was patented by a Mr. Payne four years ago.

MILFRED PARKINSON.

[3620].—In the issue of October 7th you refer to an automatically variable speed pulley for motor cycles for which a patent has been taken out by Mr. Lloyd, of Birmingham.

I may mention that for over twelve months I have had in use a pulley of my own construction which is practically identical, except in one or two small details.

In my pulley the sleeve with fixed flange is bored out at the flange end to fit the taper engine shaft ($2\frac{3}{4}$ h.p. Minerva), and at the other it is bored out to allow the ordinary nut to be screwed on to the engine-shaft to hold the pulley in place. The loose flange fits on the sleeve and slides on two small feathers let into the face of the sleeve on opposite sides. The compression spring for holding the loose flange up to its work is placed over the outside of the sleeve; the end of the latter is threaded to take a thin circular nut which keeps the spring in compression against the outside face of loose flange, and thus keeps same up to its work.

In practice I found it necessary to experiment with springs of various strengths until I obtained one that would withstand the full engine power, but would give when the pull on belt reached a point that would have caused the engine to slow down.

In my pulley I am able to adjust the spring to a nicety by either screwing tighter or slacking off the circular nut. This nut is locked in position when adjusted by means of a small plate recessed into its face, the end of which fits into one of two grooves cut in face of sleeve where threaded (adjustable to half a turn).

I am not writing this with a view to disputing Mr. Lloyd's patent, as I had no idea of dealing with it commercially, but merely to claim the right to use the one I already have, which might otherwise appear to be an infringement of Mr. Lloyd's patent.

H. LLOYD WRIGHT.

Abnormal Petrol Consumption.

[3621].—With reference to letter 3590, October 7th, I think your correspondent "Snomysigh" will find the cause of his trouble in his inlet valve spring, which is evidently not acting properly.

That the valve does not close correctly will be seen by the fact of his engine blowing back into the carburetter on firing stroke, causing the blackening of throttle, and sudden ejection of mixture through air inlets.

I would advise him to get several springs made of fairly light gauge wire, say Nos. 19, 20, and 21, of various lengths in each gauge, with small diameter coils (about $\frac{5}{16}$ in. or nearest that will go on the stem of valve seating without rubbing), and experiment with these.

The spring should be well compressed when in position and have a nice sharp action consistent with ease in opening when under suction.

I think he will find a light spring well compressed much better than a heavy gauge wire spring under less tension.

Another point "Snomysigh" (getting used to writing the name now) should look to is to see that his inlet valve opens well into the valve chamber. Sometimes thick washers are used which prevent this, causing late opening and closing of the valve.

DENBIGH COLLET.

The Lubrication of Bearings.

[3622].—In a recent issue of *The Motor Cycle* "Ixion" pointed out that if a main bearing bush turns round slightly in its aluminium bed the supply of oil to that bearing is cut off, owing to the hole in the bush being out of register with the hole in the aluminium, and as a cure he suggests pegging or otherwise positively fixing the bush to prevent turning.

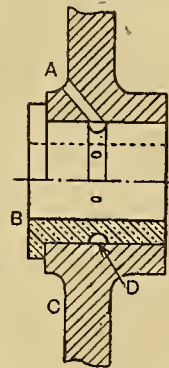
I should like to add another suggestion which, although it does not prevent the bush from turning, does prevent the stoppage of the oil supply if the bush should turn.

The remedy is to turn a groove on the outside of the bush, and drill in the groove as many holes as are considered necessary for efficient lubrication. The accompanying sketch will explain my meaning.

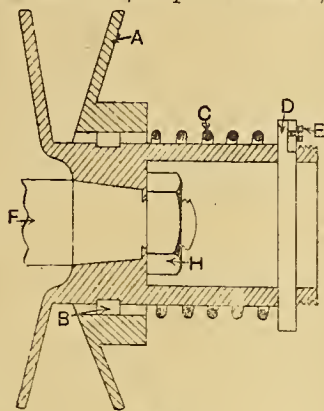
Of course the groove must be at such a distance from the end of the bush that the oil channel in the aluminium will deliver a supply of oil into it (the groove).

The above is a common practice with locomotive coupling rod bushes, and it follows that, however many revolutions the bush may choose to make, the oil will still reach the bearing *via* the groove and holes. If the bush is too thin to allow of a groove being turned in it, a groove in the aluminium surrounding the bush would serve the same purpose.

F. C. R. DOUTON.



A. Oil channel.
B. Bush.
C. Crank-case.
D. Groove in bush.



A. Loose flange.
BB. Feathers.
C. Coil spring.
D. Circular nut.
E. Plate and screw locking nut.
F. Engine shaft.
H. Nut on engine-shaft.

Motor Cycling In the States.

[3623].—As a native of Walthamstow, England, from which place I came five years ago to New York City, and as a reader of your first-class paper, which beats anything of its nature in America, I would like to say that I am very glad to see how motor cycling has come into such favour in the old country. Looking back five years, I cannot recall having seen a motor cycle upon the highways.

I have taken up the pastime during the last two years, and have ridden a number of American machines. The Indian is probably the best, and I am touring on one from New York City to Los Angeles. I have just come over vile roads through the Alleghany Mountains—rocks and sand, myriads of stones and crevices.

I do not believe in belts, but I do in other features of European design, such as low trussed frame, long wheelbase, 26in. wheels, magnetos, tanks in the middle, vertical motor, etc. Personally, I consider the F.N. four-cylinder latest design low frame to be almost ideal. I hope to return to England and tour the country with one of these machines.

I see Walthamstow has now a motor cycle club, and notice many familiar names. Perhaps if you insert my letter it would catch the eye of some friend of mine who is also now a motor cyclist.

New York.

EDWARD O. DUNKLEY.

EXPERIENCES WANTED.

"A. K." (Croydon) would like readers' experiences of the Cowey or other speed indicator with dial on handle-bar.

"H.J.S." (Dublin) would like users' experiences of four-cylinder 1908 F.N. with Montgomery flexible sidecar.

"F.W.W." would like readers' experiences with two or three speed gears on the sun and planet system suitable for belt driven motor cycles.

"R.M.P." would like to know if any reader can recommend from personal experience a really good enamel for motor bicycles which can be applied with a brush?

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.



CURRENT CHAT.

SPECIAL FEATURES.

THE QUARTERLY TRIAL LAST SATURDAY.

SOME USEFUL ACCESSORIES.

WHICH IS THE BEST SIDECAR?



TIME TO LIGHT LAMPS.—Oct. 21st, 5.55 p.m. ; Oct. 24th, 5.49 p.m. ; Oct. 28th, 5.41 p.m.

Mont Cindre Hill-climb (France)

The above event took place in the neighbourhood of Lyons. The results on formula placed Magnat Debon machines first and second, Moto Rêve third. Other makers which were represented were Keller Dorian (1), Peugeot (2), Griffon (1), Magnat Debon (4), Moto Rêve (2).

Motoring in Salonica.

Mr. Acting Vice-consul E. H. Mulock, reporting on the consular district of Salonica for 1907, states: "Automobiles, in spite of the removal of the embargo on their importation, have not as yet increased in number, though two are reported to have been ordered; but motor bicycles are beginning to be used."

Police Arrangements in Sussex.

Motor cyclists visiting the neighbourhoods of Brighton, Eastbourne, and Hastings should be extremely cautious how they proceed, as the police are said to be very active in these quarters. Long distance traps are being worked all day and every day, the venues being moved every few days. The victim is entirely unaware he has been caught until he receives the unwelcome blue paper about five days afterwards.

An Important Point to Remember.

Readers are continually writing to the editor and asking if it is legal for a bench of magistrates to insist upon a licence being endorsed for such a trivial offence as having a lamp go out, etc. We would therefore like to point out that, to put it briefly, the law infers that a motorist's licence may be endorsed for every offence he is capable of committing in connection with the driving of his mount, except the first or second conviction for exceeding the speed limit.

A Reliability Trial in the Antipodes.

A reliability trial was completed at Sydney last month which threatened to go on for ever. The distance was one hundred miles, and the course was covered several times in order to gradually weed out the least reliable machines. In the last two runs there were three competitors left in the trial, the machines being a 5 h.p. twin N.S.U., a 3½ h.p. Triumph, and a 2¼ h.p. Sarolea. In the final run an exhaust valve broke in the Triumph and a gudgeon pin set-screw worked loose in the Sarolea engine, so the N.S.U. rider won after all.

The Chateau Thierry Hill-climb.

The following makes of motor cycles were represented at the Chateau Thierry Hill-climb on the 18th inst.: Herdtle-Bruneau, Motosacoche, Quentin, Albatross, Lurquin - Coudert, Peugeot, and Ronteix. The names of the winning mounts will be announced next week.

Ten Mile Limit at Watford.

Watford has established the ten miles speed limit, the boundaries on the main road extending from the railway bridge at Bushey to the cross-roads at the other end of the town, just beyond the fire station. Mr. G. McK. Gordon asks us to point out to readers that the warning posts have been placed at points where one's attention is immediately concentrated on cross-roads, and motorists may easily pass the notices without observing them, and fall a prey quite unintentionally.

Notifying Change of Address.

A few days ago at the Burnley Borough Police Court several motorists were fined for failing to notify their change of address to the authorities, so that the alteration might be made in the register. One of the defendants, Mr. H. Colebrook, May Street, Burnley, personally notified one of the officials on April 16th, 1908, of his change of address when renewing his driving licence. He had his registration paper with him, but thought that one notification would suffice. Mr. Colebrook has a receipt for the transfer registration of an old machine and a previous

licence dated 1906, showing that both registration and licence are dealt with at the same office. This fact makes his case, at any rate, a very trumpery one. Although the defendants consented to pay the costs, they only did so to prevent a conviction being recorded against them, which would have meant an endorsement on their driving licenses.

A Right-minded View.

Mr. Joseph Shepherd presided at a meeting of the Darlington Chamber of Agriculture last week, when the members discussed the Motor Car Act. Mr. Gibson said they should insist upon the speed limit regulation in the Act being rigidly enforced. There was no reason in any policeman setting a trap for motorists on a straight piece of road, but he should stop motorists and not allow them to go through villages at a dangerous speed.

Motor Cycle Frightens a Restive Horse.

Through a restive horse shying at a motor cycle ridden by J. H. Calvert, of Eston, the driver, a Middlesbrough man named Charles Peacock, was knocked down, and received fatal injuries. Deceased's son was also with the cart, and he said at the inquest that he put up his hand to the motor cyclist in warning, but he did not stop. Witness added that the horse was afraid of motors, and that was why two went with the load. The adjourned inquest was to be held yesterday (Tuesday) to enable Mr. Calvert and other witnesses to be present.



In full flight at Brooklands. A British rider and machine now holds the world's hour record, C. R. Collier having tacked 6 miles 787 yards on to Giuppone's old record of 63 miles 1,078 yards.

Motor Cycles at the Stanley Show.

We have perused a list of the Stanley Show exhibitors, and it seems likely that there will be even more firms showing motor cycles and accessories than there were last year.

North Islington Conservative and Unionist Trial.

The first annual reliability trial from Highgate to Peterborough and back (152 miles), for the silver cup presented by the president, Mr. George A. Touche, was won by H. E. Davison, A. A. Frith being second (gold medal), and Messrs. Jennings and Jackson tied for third place (silver medal).

Machines in the Quarterly Trials.

Among the twenty-eight competitors in the single-cylinder class there were thirteen private owners, and one private owner out of five entrants in the passenger class.

There is no mistaking the enormous popularity of magneto ignition, for all but three of the bicycles were equipped with magnetos.

Of the motor bicycles entered for last Saturday's Uxbridge to Banbury and back trial, there were seventeen with twin-cylinder engines and fourteen with single-cylinder engines. There were two tricars, one with a single and one with a twin-cylinder engine.

There were half a dozen lightweight motor bicycles entered for the Trial and all started, and on the whole performed very creditably. As we have stated before, it is on treacherous greasy surfaces where lightweight bicycles score.

Plain-treaded Tyres and Side-slips.

The heavy rain of last Friday night in the London district caused the surface of the roads to be very heavy and slippery, particularly in Islip, with the result that several competitors in the Quarterly Trials were caught napping. Smooth treaded or worn tyres are almost certain to cause side-slips on motor bicycles, as one or two discovered, with the result that they did not make non-stop runs, although they experienced no mechanical troubles whatever. Studded tyres are a certain preventive of side-slip, provided ordinary care is taken at corners and in accelerating the speed of the engine. We recommend all riders in the autumn and winter to have these tyres fitted to their machines.

Motor Union Notes.

A meeting of the Motor Cycle Committee of the Motor Union was held at the offices a few days ago, when the Rev. F. W. Hassard-Short presided. Motor cyclists joining the Motor Union at the present time may do so for twelve months ending September 30th next. The motor cyclist's subscription of 10s. 6d. includes full privileges of membership with a copy of *The Motor Cycle*, while the subscription of one guinea includes, in addition to the advantages of membership, the privilege of insurance against third party risks, and a special insurance policy for any privately owned motor bicycle not exceeding 5 h.p., covering fire, explosion, or self-ignition up to £30.

A Police Patrolled Road.

A Manchester reader asks us to warn motor cyclists to drive slowly and carefully on the road between Oldham and Manchester, especially between Miles Platting Railway Arch and the boundary line of Newton Heath and Fails-worth.

Police Traps.

Hambleton, on the Leeds and Selby Road.

A short distance before Selby, on the Doncaster-Selby Road.

Fryston corner, on the Fairburn-Tadcaster Road, about three or four miles from Fairburn.

A trap is in operation through the village of Towton, which is two miles

Cycle, that old-established firm of pedal cycle makers, the Premier Cycle Co., Ltd., Coventry, has decided to manufacture a motor bicycle on popular lines for 1909. The specification of this machine is as follows: Specially low built frame, 3½ h.p. White and Poppe engine, 80 by 85 mm. bore and stroke, Bosch high tension magneto, B. and B. carburetter, handle-bar control and spring forks. The firm has been at work on this new pattern for some time, and hopes to have thoroughly tested samples ready for exhibition at next month's Stanley Show.

A Motor Cycle Street Sweeper.

At the International Road Congress in the Tuilleries Gardens, Paris, there was a motor cycle street sweeper exhibited by an Austrian corporation. From its appearance it would seem that it has been in use for some time. It was a three-wheeled machine, something like a bicycle with rigid sidecar attachment, with the brush, dustpan and bin in the place of the passengers' seat. Steering was by the usual handle-bar, the front wheel of the bicycle being linked up with the outer road wheel of the sweeper. A single-cylinder fan-cooled engine propelled the machine through a chain drive and reducing gear. The brush was operated at the same speed as the rear wheel of the bicycle by means of a direct gear drive. The brush was not placed diagonally, but cast its dirt into a dust pan hung close to the ground.

The Timed Ascent of Dashwood.

It is some little time since T. H. Tessier took part in motor cycle competitions, and he signalled his re-appearance on Saturday in the Autumn Quarterly Trials by beating the Dashwood Hill record (previously held by W. H. Wells) by several seconds. He rode a pedalless twin-cylinder Bat-Jap.

FUTURE EVENTS.

Oct. 21—Motor Union General Committee Meeting.

Nov. 13-21—OLYMPIA AUTOMOBILE EXHIBITION.

" 18—Motor Union Annual Dinner at the Hotel Great Central, London.

" 20-28—THIRTY-SECOND ANNUAL STANLEY SHOW, at the Agricultural Hall, Islington.

" 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.

Dec. 16—Motor Union General Committee Meeting.

from Tadcaster on the Tadcaster and Doncaster Road. Altogether the Doncaster district appears well provided for.

Cross-roads Branham Moor, where Great North Road crosses Leeds and York Road.

New Pattern Motor Cycles.

In addition to the new model Humber motor bicycle which has already been referred to in *The Motor*



Preparations before the start of the A.C.U. Autumn Quarterly Trial, in the Hotel Yard at Uxbridge.

The Autumn Quarterly Trials.

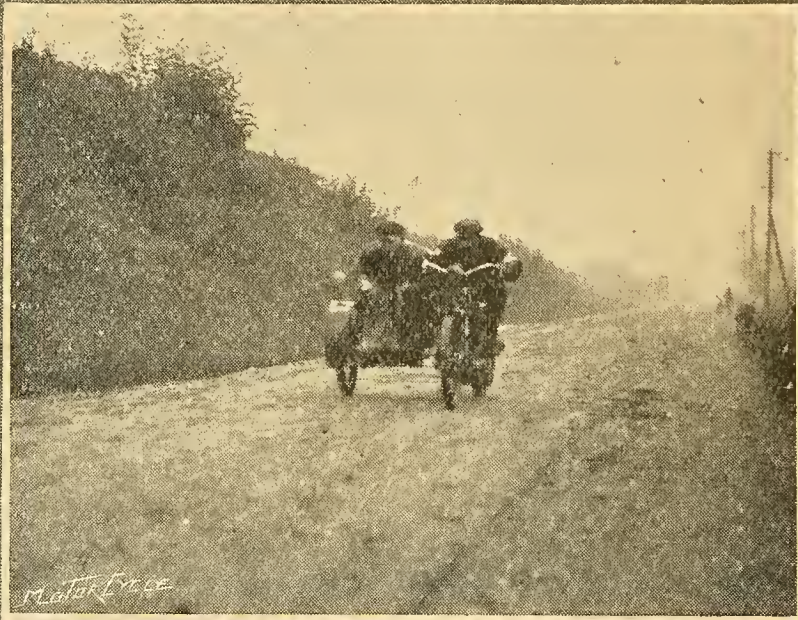
F.W.R.

THE popular and useful "quarterly" competitions organised by the Auto Cycle Union are supposed to be held every three months—in the autumn, in the winter (February), in the spring, and in the summer—but, owing to the number of events which take place in the latter season, the summer event has been abandoned during the last two years; but the popularity of these trials is so unmistakable that four times a year seems hardly too often to hold them. Last Saturday thirty-four entries were received, and of these the following riders started: H. G. Hill (5 h.p. Vindec), H. G. Potts (6 h.p. twin Riley), W. G. McMinnies (3½ h.p. Triumph), W. H. Wells (5 h.p. Vindec), W. Smith (2 h.p. Motor-Rêve), G. L. Fletcher (2 h.p. Moto-Rêve), J. V. Robinson (1¼ h.p. Motosacoche), T. H. Tessier (6-7 h.p. Bat), H. Newey (3½ h.p. L.M.C.), F. W. Applebee (5 h.p. Rex), W. Douglas (2¾ h.p. Douglas), E. Clark (2¾ h.p. Douglas), T. S. V.

N.S.U. and sidecar), and a totally new and original tricar, which we shall describe shortly, the 5 h.p. A.C. driven by J. Portwine.

The Roads Very Heavy.

The weather at the time of the start from the Chequers Hotel, Uxbridge, was far from favourable, and a typical autumn morning (damp and misty) welcomed the competitors. The roads, sodden by the heavy rain which had fallen during the night, were excessively muddy, and in consequence very treacherous, while only where the roads were tarred was the going even passably good. The road surface on Dashwood Hill was, however, firm and binding and in very fair condition, so that several of the performances on this famous ascent were distinctly noteworthy. Unfortunately, the men came up mostly in close order, and this, coupled with the fact that the numbers on their armlets were difficult to distinguish, made it



Martin Geiger making a splendid ascent of Dashwood on a 6 h.p. N.S.U. with sidecar. He also made a non-stop run.



Competitors waiting at the foot of Gore Hill, Amersham, for the timekeeper to despatch them at one minute intervals.

Phillips (1¼ h.p. Motosacoche), P. Weatherhilt (3½ h.p. Zenette), F. W. Barnes (3½ h.p. Zenette), H. C. Partridge (6 h.p. N.S.U.), G. F. Cooper (5 h.p. Vindec), R. Samson (3½ h.p. L.M.C.), R. J. Bell (3½ h.p. N.S.U.), W. H. Bashall (6-7 h.p. Bat), A. W. Bentley (3½ h.p. Triumph), D. F. Steeves (3¾ h.p. N.S.U.), G. R. Mead (3½ h.p. Triumph), A. H. Davison (5 h.p. Vindec), and W. Pratt (3½ h.p. Phelon and Moore). Passenger machines.—Dr. E. W. Brewerton (10 h.p. Lagonda tricar), J. S. Shaw (6 h.p. Phänomen and sidecar), M. Geiger (6 h.p. N.S.U. and sidecar), F. Eagles (6 h.p.

almost impossible to establish their identity at times. The times on both Dashwood and Gore Hills were not given out to the press, but the difference in seconds between the fastest competitor is stated: T. H. Tessier 0, W. G. McMinnies 3⅓s., and W. H. Bashall 6s. Tessier and McMinnies beat the previous record established by Wells, while Bashall was only within ⅓s. in equalling it. Next in order came A. W. Bentley (of End-to-end fame) 8⅓s., W. H. Wells 14⅓s., G. F. Cooper 16⅔s., F. W. Applebee 21s., G. R. Mead 23s., R. J. Bell 45⅓s., R. Samson 46⅓s., H. Newey 47⅔s., A. H. Davison 49⅓s.,

The Autumn Quarterly Trials.—

D. F. Steeves $53\frac{4}{5}$ s., and F. W. Barnes $56\frac{4}{5}$ s. Up to this point all the best performances of the medium weight machines are recorded. The remainder are the fastest lightweights and those of the larger machines which Fortune did not favour. W. Douglas (excellent) $59\frac{3}{5}$ s., G. L. Fletcher (very good) 1m. $1\frac{2}{5}$ s., E. Clark (pedalled slightly) 1m. $1\frac{3}{5}$ s., W. Smith (pedalled slightly) 1m. $10\frac{4}{5}$ s., W. Pratt (came up in good form on low speed) 1m. $13\frac{2}{5}$ s., J. V. Robinson (pedalled) 1m. 16s., P. Weatherhilt (came up steadily on low gear) 1m. $16\frac{1}{5}$ s., and T. S. V. Phillips (pedalled) 1m. $46\frac{2}{5}$ s.; H. G. Hill and H. G. Potts dismounted. Of the passenger machines the two N.S.U. sidecars performed most creditably. Eagles made the fastest time 0, and Geiger came 6s. behind; Dr. Brewerton's Lagonda was $39\frac{2}{5}$ s. behind Eagles; Portwine's A.C. tricar was going well, but the driver slowed down before reaching the timekeeper, 1m. $9\frac{2}{5}$ s.; J. S. Shaw (6 h.p. Phänomen sidecar) 1m. $10\frac{2}{5}$ s. From Aston Rowant the roads improved slightly, but greasy patches accounted for several sideslips. Partridge had a bad skid in Wycombe—bent his handle-bar and broke his pedal crank—and had to retire. Pratt recorded a weird accident near Islip. He and Davison were riding together when the former shot ahead to leave room for a car overtaking him. Somehow or other Davison came off, and his machine went on, caught up Pratt, caught its handle-bar in his coat, which was the first intimation Pratt received of the affair, and then he tumbled in the ditch, leaving the machines buzzing merrily in the road. Fortunately, neither man was much the worse for the spill. At Banbury twenty-seven machines arrived, and twenty-six left on the return journey, while up to that stage in the competition there were four retirements—Partridge and Hill (side-slips), Portwine (trouble with coil), and Phillips. After lunch the roads improved in places, and in the afternoon the sun came out.

The Second Test Hill.

At Gore Hill, Amersham, the first batch of competitors arrived dead on time. The surface of the hill—and of the rest of the road leading to Beaconsfield—was very bad, thick heavy mud, mostly of a slimy nature, covering the major portion. The results of the climb were as follows: W. H. Bashall 0, W. G. McMinnies $6\frac{3}{5}$ s., W. H. Wells $12\frac{2}{5}$ s., F. W. Applebee $18\frac{1}{5}$ s., T. H. Tessier 19s., G. F. Cooper 20s., H. G. Potts $23\frac{2}{5}$ s., A. W. Bentley $26\frac{1}{5}$ s. (impeded by sidecar), R. Samson 27s., H. Newey $28\frac{4}{5}$ s., D. F. Steeves $32\frac{1}{5}$ s., G. R. Mead $34\frac{2}{5}$ s., F. W. Barnes $36\frac{1}{5}$ s., A. H. Davison $36\frac{3}{5}$ s., E. Clark (pedalled) $48\frac{1}{5}$ s., W. Douglas $50\frac{1}{5}$ s., G. L. Fletcher $53\frac{1}{5}$ s., R. J. Bell (came up well on low speed) $56\frac{1}{5}$ s., W. Smith 57s., J. V. Robinson 1m. $33\frac{3}{5}$ s., and P. Weatherhilt (came up slowly on low gear) 1m. 43s. Passenger machines.—M. Geiger 0, F. Eagles 14s., Dr. Brewerton $44\frac{3}{5}$ s., and J. S. Shaw 2m. $3\frac{4}{5}$ s. (stopped on crest of hill owing to slipping belt). It is interesting to compare the results of the two hill-climbs. Gore Hill is the more severe of the two, as regards surface, gradient, and approach, and for the convenience of the timekeepers it has to be taken from a standing start.

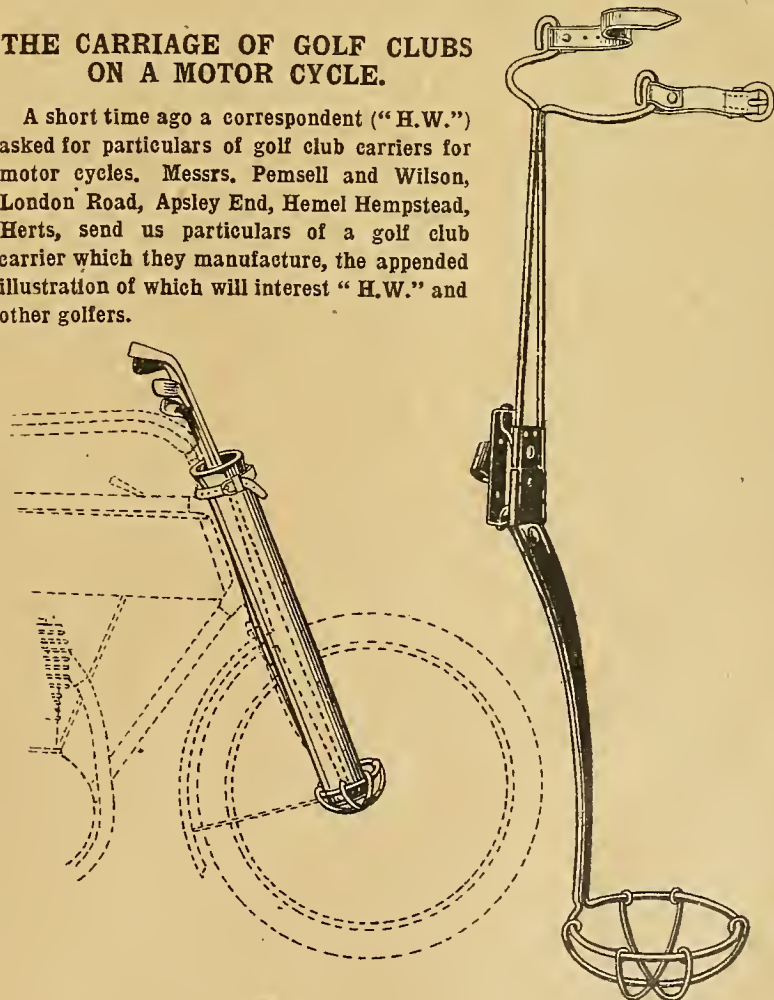
Of the competitors who completed the course inside maximum time, the following had no involuntary stops of any kind: W. G. McMinnies ($3\frac{1}{2}$ h.p. Triumph),

W. Smith (2 h.p. twin Moto-Rêve), J. V. Robinson ($1\frac{1}{4}$ h.p. Motosacoche), H. Newey ($3\frac{1}{2}$ h.p. L.M.C.), F. W. Applebee (5 h.p. twin Rex), E. Clark ($2\frac{3}{4}$ h.p. twin Douglas), W. Douglas ($2\frac{3}{4}$ h.p. twin Douglas), P. Weatherhilt ($3\frac{1}{2}$ h.p. Zenette), R. J. Bell ($3\frac{1}{2}$ h.p. N.S.U.), G. F. Cooper (5 h.p. twin Vindec), R. Samson ($3\frac{1}{2}$ h.p. L.M.C.), and D. F. Steeves ($3\frac{3}{4}$ h.p. N.S.U.). In the passenger class, F. Eagles and M. Geiger, on twin-cylinder N.S.U.'s with sidecars, and Dr. Brewerton's twin Lagonda. The two above mentioned sidecars, which ran splendidly and behaved especially well on the two test hills, are the first passenger machines of this kind to cover the course successfully. Stops of a non-mechanical nature, which do not necessarily detract from the performances of the machines which experienced them, were made by: A. W. Bentley ($3\frac{1}{2}$ h.p. Triumph), side-slip; F. W. Barnes ($3\frac{1}{2}$ h.p. Zenette), puncture; T. H. Tessier (6-7 h.p. Bat), replaced tube; G. L. Fletcher (2 h.p. Moto-Rêve), tyre troubles; W. H. Bashall (6-7 h.p. Bat), traffic stop; G. R. Mead ($3\frac{1}{2}$ h.p. Triumph), side-slip; A. H. Davison (5 h.p. Vindec) and W. Pratt ($3\frac{1}{2}$ h.p. P. and M.), accident mentioned previously; H. G. Potts (6 h.p. Riley), throttle spring came loose and caused throttle to close, also side-slip; J. S. Shaw (6 h.p. Phänomen and sidecar), belt trouble and compression tap opened itself.

In the article on motor cycle lamps published in last week's issue it was stated, in consequence of a misinterpretation of a letter from the makers of the Glare electric headlights, that the bulbs used in these lamps consume rather more current than some others. This should have read that the *tricar headlight*, which gives more light than the smaller one supplied for motor bicycles, is fitted with a special bulb, which consumes rather more current than the bicycle size.

THE CARRIAGE OF GOLF CLUBS ON A MOTOR CYCLE.

A short time ago a correspondent ("H.W.") asked for particulars of golf club carriers for motor cycles. Messrs. Pemsell and Wilson, London Road, Apsley End, Hemel Hempstead, Herts, send us particulars of a golf club carrier which they manufacture, the appended illustration of which will interest "H.W." and other golfers.



CLUB NEWS.

Perth and District M.C.C.

The annual general meeting will be held in the Windsor Restaurant, John Street, on Friday, October 30th, at 8 p.m. It will be followed by a supper and smoking concert.

Scarborough M.C.C.

On Wednesday, 7th inst., a reliability trial to Hull and back was held. Every competing machine proved most reliable, none of the competitors dismounting except at the fixed stopping places. The route was by Bridlington, Driffield, and Beverley. In the members' event Mr. Truefit (captain) 2 h.p. Moto-Rêve) and Mr. Pugh (3½ h.p. Minerva) returned cards so identical that the committee declared a dead heat, and the trial must be re-run. The open event was won by Mr. Waines on a 2 h.p. Minerva. Members of the Hull and East Riding A.C.C. checked the competitors.

Great Yarmouth and District M.C.C.

The above club held its autumn dinner on the 10th inst., at the Maid's Head Hotel, Norwich. There was a very good muster of members. After dinner Dr. H. R. Mayo read a paper on his "Experiences in the End-to-end Run." This was full of interesting matter, and was followed by a discussion by those members who had been through similar runs and experiences.

Newcastle and District M.C.C.

On Wednesday last, a party of about fifty members of the above club journeyed down to Jarrow-on-Tyne to view H.M.S. *Lord Nelson*, by the special invitation of the commanding officer, Captain Sir R. K. Arbuthnot, Bart., R.N., who is a member of the club. The party were personally conducted round the ship by their host, and he went

to great pains in explaining all the various interesting and vital features of this huge battleship. On behalf of the members, thanks were returned to the Captain by the Chairman (Mr. E. Hawkins) and the Hon. Secretary (Mr. S. W. Carty), and the Captain, in reply, stated that it was through his membership of the club and the continuous riding he had in its competitions that he had been enabled to make



Competitors in the Scarborough and District M.C.C. Reliability Trial to Hull and back.

himself fit to ride in the open events held by the Auto Cycle Union and the Motor Cycling Club, in all of which he had been successful. The *Lord Nelson* leaves the Tyne to-day, on some months' cruising, before she is commissioned as the second flagship of the Home Fleet, and she carries with her the good wishes and respect of all the members of the club for her worthy Captain, who is a typical British sportsman.

Middlesbrough and District M.C.C.

Under the auspices of the Middlesbrough Club, a smoking concert was held at the Grand Hotel, Middlesbrough, last Wednesday evening, at which a large number of motor cyclists were present. Mr. Stanley A. Sadler presided, and presented the prizes won by the members during the year. A most enjoyable evening was spent by all.

The club is arranging for a trip to London to see the Stanley Show on November 22nd. The members of the Hartlepool Club have been invited.

Worcestershire M.C.C.

On the 11th inst. the above club held its autumn reliability trial over a twenty-seven miles course, which had to be covered four times, making 108 miles in all. Out of twelve starters, nine finished without any mechanical trouble. Those members who competed are as follows:

G. R. A. Deacon (3½ h.p. Rex), 1,000 marks; H. B. Denley (3½ h.p. Minerva), 1,000; H. J. Folkes (3½ h.p. Triumph), 1,000; A. Jennings (3½ h.p. Triumph), 1,000; L. Pickering (5 h.p. Rex), 1,000; A. V. Wilkinson (3½ h.p. Rex), 1,000; R. T. Wood (6 h.p. N.S.U.), 1,000; N. C. Pollock (3½ h.p. Rex), 996 (tyre stop); L. C. Wakeman (3½ h.p. Ariel), 960 (water in petrol); L. G. Banwell (2½ h.p. J.A.P.) and B. Potter (9 h.p. Elite), retired.

North West London M.C.C.

The result of the hill-climb held by the above club on Aston Hill is given below. The A.C.U. formula was used.

SINGLE-CYLINDER CLASS.

	Fig. of merit.	Time.
A. W. Bentley (3½ h.p. Triumph) ...	75.54 ...	49½s.
W. A. Jacobs (3½ h.p. Rex) ...	82.73 ...	55½s.
T. G. Blundell (3½ h.p. Triumph) ...	84.49 ...	59s.
W. G. Barton (3½ h.p. Triumph) ...	98.33 ...	1m. 18½s.
H. H. Berlandina (3½ h.p. Zenette) ...	135.53 ...	2m. 9¼s.
H. S. Myer (3½ h.p. Rex) ...	161.93 ...	2m. 9½s.

TWIN-CYLINDER CLASS.

W. O. Bentley (5 h.p. Rex and sidecar) ...	107.09 ...	1m. 23¼s.
L. F. Scholte (5 h.p. Antoine) ...	122.61 ...	59s.
G. Rowden (6 h.p. Bat) ...	123.76 ...	57s.
G. Davis (5 h.p. Vindec) ...	124.51 ...	1m. 8s.

The curious incident in connection with the climb was that with one exception the order of merit was the order of starting. There were several non-starters. A silver cup in each class has kindly been presented by Mr. C. G. Myer.



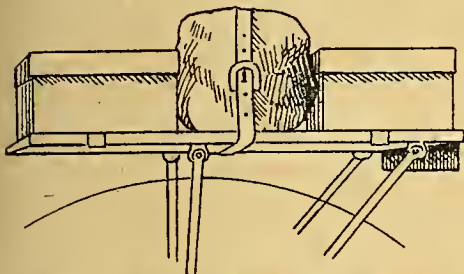
W. H. Wells's Twin Vindec making light work of Gore Hill, Amersham, in the Quarterly Trials on Saturday last.

Some Notes on Winter Riding.

I AM one of those unfortunates who chase their daily bread over a large area, and naturally use the humble motor cycle for this purpose; the question of clothes suitable for the winter is, therefore, important to me and others similarly situated, so that perhaps a few notes from one who has experienced the rigours of the English climate at all periods may prove useful.

For winter riding three articles of extra clothing are essential:

1. A short reefer coat with windcuffs, made of cloth and lined with chamois leather. This I obtained from Gamages three years ago at about £2, and have found it excellent value. The name of the coat is, I believe, the Referee.



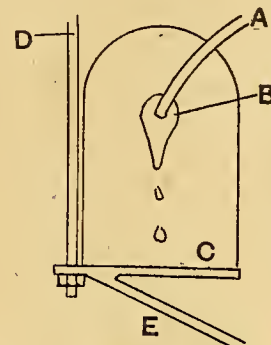
Carrier with two tool cases and coat between

2. Leggings. These were made for me by the same firm in complete trouser form, a strap round the waist with slits to get at the side pockets and a leather strap to go under the instep. They should be wide enough to pull off over the boots, and should preferably be made of brown mackintosh. This type of legging is infinitely preferable to the ordinary type, since no cold or wet can then penetrate to the stomach, one of the most vulnerable parts of the human frame, and if not adequately protected a frequent source of chills.

3. An umbrella coat with rubber neck. This should not exceed 40in. in length, and should be a full size larger round the neck than one's collar size, otherwise one is slowly but surely throttled. When not required the coat should be wrapped up in a piece of American cloth to prevent chafing and strapped to the carrier. On my Triumph I have a tool bag at each end of the carrier, so the coat can be snugly packed in between and cannot fall off.

Windcuffs are not necessary in the umbrella coat if it is worn over the reefer coat, and I have removed mine in order that the ends of the gloves may be tucked *inside* and not outside the sleeves to prevent rain running down and filling the glove.

For comfort gauntlet gloves with soft ends should be worn, otherwise it is a difficult matter to pack the ends into the sleeves. A silk scarf should always be worn to fill up the chinks at the neck, and a pair of stout boots well nailed will complete the list.



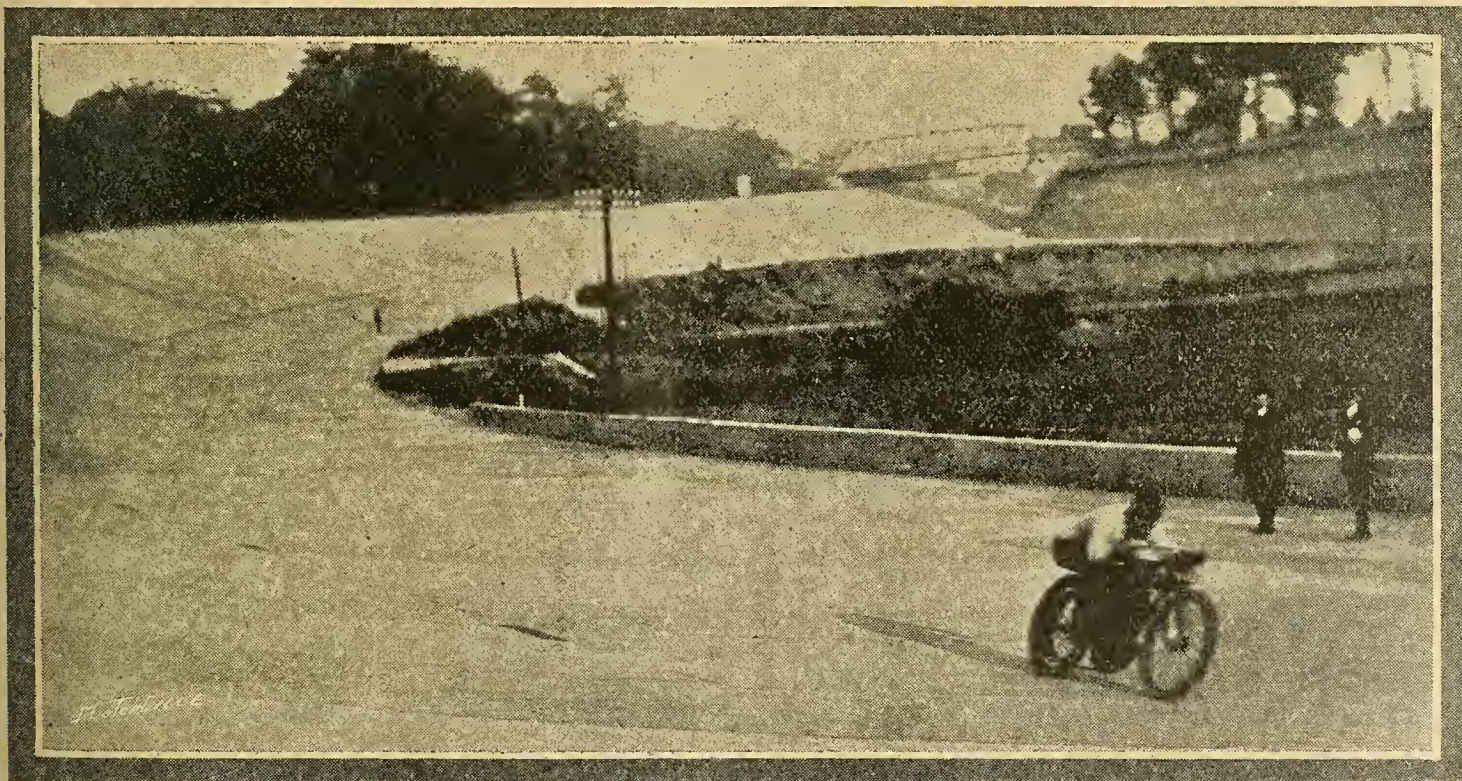
- A. High tension cable.
- B. Extra piece of sheet indiarubber.
- C. Magneto cover.
- D. Magneto stay.
- E. Magneto bracket.

Such an outfit may seem expensive, but it will save many a suit of clothes from mud and rain, enable one to ride in warmth and comfort, and may perhaps save illnesses and consequent doctor's bills.

The machine will need little attention beyond vaselining all bright parts and fitting some form of non-skids to *both* tyres. The magneto should be boxed in, with a rubber covering for preference, care being taken that no wet can run down the H.T. wire. This was prevented in my own case by taking an extra piece of rubber and cutting a small hole in it, so that it had to be stretched before it could be passed over the H.T. wire. This ensured an absolutely tight fit, and water now runs down the H.T. wire and thence down the extra rubber piece, dripping off at the end.

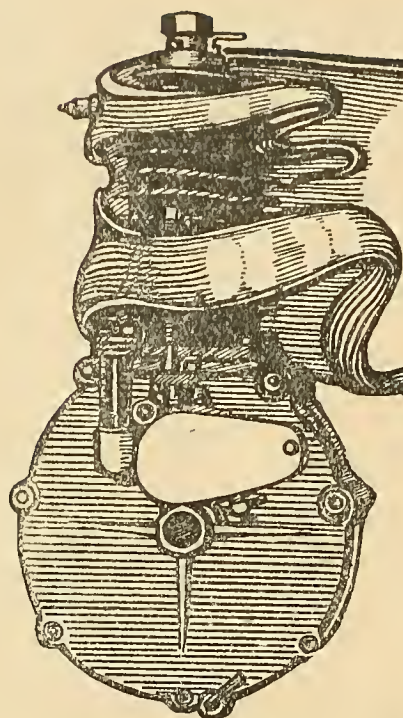
IVAN B. HART-DAVIES.

The Goldschmidt Motor Accessories Co., Ltd., 61, Cleveland Street, London, W., inform us that they are still selling the G motor cycle lamp, which has been successfully used in London-Edinburgh runs. It is a separate generator lamp with $\frac{5}{8}$ in. lens in centre of door, showing a light 100 yards ahead.

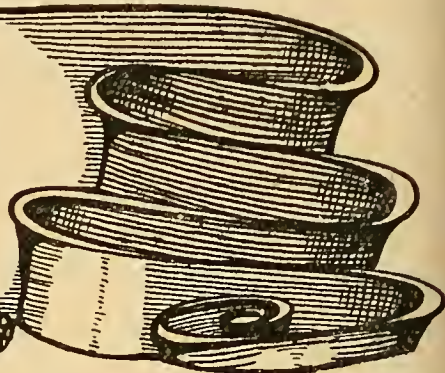


C. R. Collier on his world's hour record of 70 miles 105 yds. at Brooklands.

H. A. Collier and H. Martin, who can be seen in the illustration, signalled his lap times, which were remarkably uniform.



Questions... and Replies.



A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

[Illuminating Numbers on Trailers.

? I was stopped on the 1st inst. at Mullingar (Ireland) by the Chief Constable, who took my name and number for not having a tail light on trailer behind motor bicycle. I would be obliged if you would tell me if it is compulsory in this country to carry a light on trailer.—P.N.G.

The law says that the back number of a trailer attached to a motor bicycle must be illuminated, as if it were attached to a car—Motor Car (Registration and Licensing) Order, 1903, Schedule IV., Art. IX.).

Buying a New Mount.

? (1.) In choosing a new mount, kindly tell me, am I right in supposing that a high compression engine vibrates more than an engine with a low compression? (2.) Likewise, is an engine with a long stroke less comfortable than an engine with stroke about equal to bore? (3.) Would you recommend a twin-cylinder machine on account of its smooth running to a comparative novice, who prefers comfort in riding above all? Am not averse to a little tinkering at home, but not on the road. (4.) Is a clutch worth its place on a machine, or, in other words, is it not better to go one better and have a clutch and two-speed gear or nothing? (5.) Are motor bicycles almost standardised now, or is it likely there will be sweeping alterations in 1909 models? —L. HAWKINS.

(1.) It is generally admitted that a high compression engine is less comfortable in use, although more efficient in many other respects. (2.) Yes, other things being equal. (3.) A good twin-cylinder machine would give you every satisfaction. (4.) A clutch is hardly a substitute for a change-speed gear, but is better than a fixed gear from every point of view except reliability, and there is very little to go wrong. (5.) It is unlikely there will be sweeping alterations in the design of 1909 models, but, of course, there will be small improvements all round.

Carbon Deposits.

? I am troubled with pre-ignition. The strange part of it is I have run the machine (M.M.C. engine) nearly 2,000 miles without taking it down, but cannot run it 200 now. The only alteration I have made in the engine has been to rebore 3/32in. larger, and, of course, new piston and rings. The alteration has made the machine more powerful until pre-ignition sets in.—W.H., Beds.

It would appear that you are either using a common grade of lubricating oil, or you have been served with a spurious imitation. Are the piston rings a good fit, or do they allow oil to get past? Pre-ignition is usually caused by an accumulation of carbon deposit on the piston and cylinder head, which becomes incandescent after continuous running, and fires the charge prematurely. If there are any loose particles in the engine or a sharp projection on the casting these would account for the pre-ignition.

Adjustments for Slow Running.

? I have a 1907 Minerva 3½ h.p. with magneto ignition. When the machine is on the stand a sharp down thrust on the pedal will start the engine at once, but on the road no amount of running beside the machine will start the engine. I can only get it to start on a slight incline where I can get speed, when the engine will run all right. In traffic, when I wish to run slowly, the engine will cease to work if I drop below a certain speed. The ratio of the gear is 4½ to 1. What is the lowest number of miles per hour the engine will run? I have noticed on the stand slow pedalling will not produce a spark.—N. B.

Difficulty in starting is, generally speaking, due to the carburettor receiving too much air at slow speeds. Very often this may be overcome by fitting an auxiliary shutter to partly close the air intake holes, such as that suggested in *The Motor Cycle* of February 12th, page 121. It is quite possible, how-

ever, that in your case the trouble is due to the points of the sparking plug being too far apart or to the magneto contact breaker requiring adjustment. The gear of the machine seems too high; 5 to 1 would be better. You should then be able to throttle down quite comfortably to six to eight miles an hour.

Stretch of Exhaust Lifter Wire.

? I had a Bowden exhaust lift fitted to my machine a few months ago, and when going downhill with the exhaust lifted to its fullest extent there are still slight explosions. Also when starting I mount the machine and pedal away, but find that I cannot get the speed up necessary for a prompt start, which is annoying at times. The engine runs well after the exhaust lifter is dropped. How would you remedy this?—F. L.

The wire must have stretched or leverage in the first instance was not sufficient, and the valve is not being lifted sufficiently to release the compression. It is not a difficult matter to take up the stretch by the nuts provided, or any motor cycle agent would do it for you.

Premature Firing.

? Some time ago I asked your advice re my single-cylinder engine, which continued to fire after switching off the engine.

You told me to scrape away the carbon deposits on the piston and cylinder head, which I did, and the trouble is cured to a great extent; but now after running for some time and getting the engine very hot, if I switch off there are occasional backfires, although the engine is clean. Is it a defect of some engines, and will it do any harm?—C. F.

It is a defect of some engines to continue firing after switching off the ignition, but it can sometimes be cured by a change of sparking plug, as with some plugs the points become incandescent through the great heat. A sharp projection in the casting of the cylinder would also cause premature firing. If when stopping the engine you close the throttle as well as switch off, further explosions cannot occur.

Opening of Automatic Inlet Valves.

? (1.) What is the most efficient method of setting the amount of lift? (2.) Given two valves with equal springs A with $\frac{1}{2}$ in. lift, B with $\frac{1}{4}$ in., would they work evenly with the same suck from the piston? I have always held the opinion that it has been found that motor cycles run much faster now than before, chiefly owing to the fact that it has been found that by fixing the amount of the lift to a very small degree higher speed can be obtained, and for some years have found this to be the case. I am now told by a friend that I am wrong, and that with a lift of, say, $\frac{1}{2}$ in. the piston will only suck open the valve as far as is necessary. The machine in question is a $3\frac{1}{2}$ h.p. surface, and I suggested that by regulating the lift of the valve to about $\frac{1}{8}$ in. greater speed could be obtained. Surely two valves one with unlimited lift, and the other with, say, $\frac{1}{8}$ in., would not work equally.—H.M.

(1.) The most efficient method of setting the lift of the inlet valve is to use washers of various thicknesses until the correct results are obtained. (2.) If you put valves with different openings in each cylinder of a two-cylinder engine you would soon see that the result would not be the same. It is best to have a small opening and a fairly large valve, then the same amount of gas is drawn through, as in the case of a small valve and big lift. A large lift means excessive wear, liability of breakage, and a slower running engine.

Restoring Compression.

? The compression of my 3 h.p. engine is not so good as it was a year ago, although I have carefully ground in the valves and fitted new washers under the valve caps and compression tap. It will not bear my weight on the pedal more than a few seconds, so I am inclined to the opinion that the piston rings are leaky. Would you advise me to fit one or more new rings, and would this be likely to restore compression? At the first attempt I could not move the top ring.—B.E.

You can test whether the valve caps are leaking by spreading oil all around the joints and then standing on the pedal against compression. If bubbles appear you will be able to locate the leakage. If the joints are quite tight the weak compression must be due to faulty rings or to a scored cylinder. It is usually possible to tell if the rings are leaky by the temperature of the crank case, which will be very high if gas is escaping past the rings. The faulty rings themselves will also have black marks at the point at which they allow the gas to pass. Renew all the rings if they have not a bright surface all round, and good compression will return when the rings are properly worked in. —The easiest way to remove piston rings is to get three strips of tin and put them at equal distances inside the rings, when they can be slid off. Do not expand the rings more than necessary, as, being very brittle, they will easily break.

Wiring a Twin-cylinder Engine.

? I have done away with the trembler coils on my twin-cylinder motor bicycle, owing to the frequent adjustment necessary, and am fitting a single non-trembler coil in their stead. A make and break contact breaker is already fitted, and I have had the shape of the cam altered to suit the plain coils. Please tell me how to wire up the coil to the engine, as I always carry two accumulators coupled together through a two-way switch. There are four terminals on the coil. —W. B.

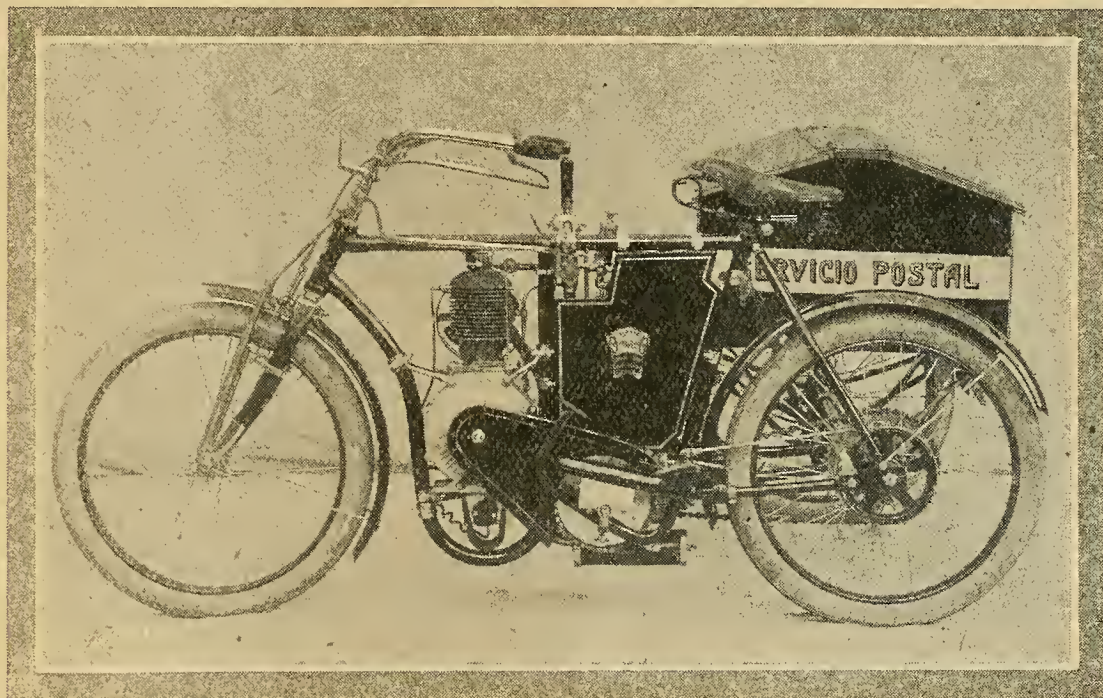
Connect B_1 and B_2 of the coil to the two sparking plugs. P+ of the coil should be connected to the two-way switch, the other two switch terminals being connected to the positive terminals of the accumulators. The negative terminals should be connected to the frame,

“seizing.” When a bearing seizes it means it becomes so hot that the expansion is unequal, and the axle or other part jams in the bush. If this is the case the seizure is a permanent stoppage, and can only be put right in a repair shop. If you will let us have a few more details about your trouble we will endeavour to help you. If you think there is some binding in the engine, do not use it again until it has been dismantled and the cause of the trouble found.

READERS' REPLIES.

Even Firing of Both Cylinders.

I notice “In Doubt” is in difficulty with one cylinder of a twin Minerva misfiring when cold, and the healthy cylinder seems to receive too much oil. In my own case the back cylinder is the one that keeps clean; the front one



A motor bicycle and sidecar for the Mexican Post Office. Several machines similar to the one illustrated above have been supplied by Laurin and Klement to the Mexican Post Office, for the collection and transport of letters. The engine is a 4 h.p. single cylinder, air-cooled, and drives by means of a chain through a change-speed gear. The engine has a surface carburetter and low tension magneto.

as also the two trembler blades. A wire from C_2 of the coil should be connected to each of the platinum pointed screws on the contact breaker.

Excessive Quantities of Oil.

? About four weeks ago my $2\frac{1}{2}$ h.p. Ariel began to seize, and still continues to do so. I give it about three or four pumps of oil every fifteen to twenty miles. This amount of oil seems to ease it at times. I have had one broken ring, but the piston seems all right, and shows no sign of want of oil. With giving it such a lot of oil the plug requires cleaning about every seven or eight miles. I use Vacuum B Mobiloil. The rings fit well in, and are not at all pressed out by grit. The engine seizes mostly when travelling about twenty-five, but does it at fifteen miles an hour about every 220 yards, and I immediately give it about half a charge.—M. D., Lincs.

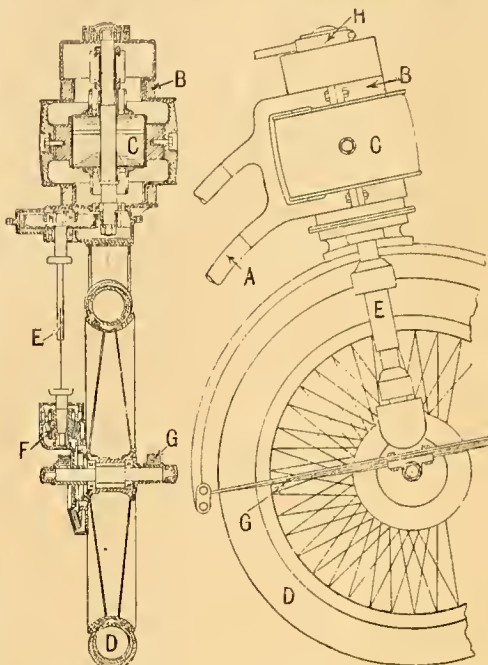
We do not think that you are quite conversant with the meaning of the term

soots up. However, I imagine it is too rich a mixture, and not oil, that is causing the trouble. I have fitted a plate with holes corresponding with holes in extra air inlets, taken out balls (carburetter G. and A.), and control this plate by a Bowden wire from the handle-bar. I found that the front cylinder would take more air than the back. The throttle was very loose, so I made a new one (barrel pattern), and filed the throttle opening for rear cylinder, so that it gives a trifle more gas than to front cylinder when throttled down. Perhaps this difference in openings does not exist, but since one opening has been enlarged both cylinders start off evenly. I find a tight fitting throttle and a hand controlled extra air inlet a great improvement. The machine will fire evenly at walking pace when warm; gear 4 to 1. I should advise “In Doubt” to try cylinders separately on the stand, and notice if one will fire on less throttle than the other; if so, the cylinder that requires more opening should have the throttle port filed out slightly.—N. H. MAY.

RECENT PATENTS.

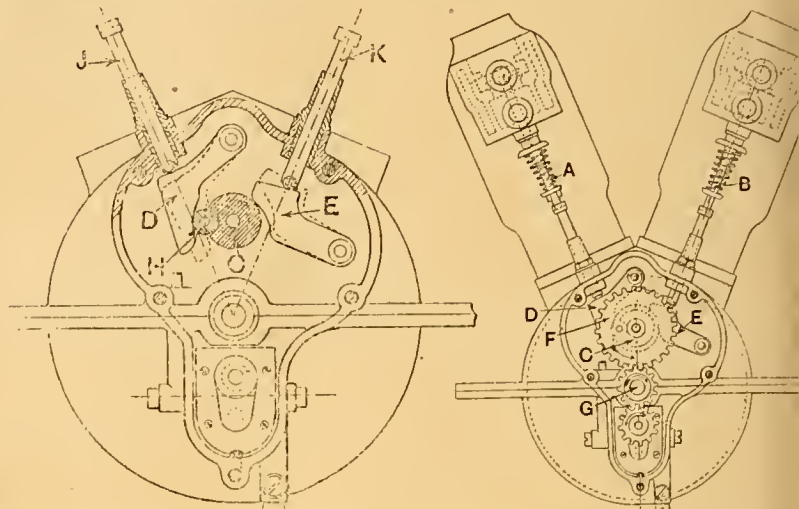
An Electrically-driven Tricycle.

This construction is intended to be applied to tricycles. The forward portion of the frame A is forked as shown at B, and mounted within the fork is an electro-motor C, the axis of which is in the same plane as that of the steering wheel D. The drive is transmitted from the electro-motor to the wheel D by means of a telescopic, universally-jointed spindle E, through bevel gearing F. The wheel A is supported from the frame by laminated springs G, and it is to allow of relative motion between the wheel and electro-motor that the driving spindle E is made telescopic. Steering is effected through the medium of a tiller H, and, although the specification gives no information on the point, the source of electric supply is presumably arranged in the rear part of the vehicle.—C. Lassen, No. 4,181, 1908.



Valve Mechanism of Twin Engines.

The two exhaust valves A and B are operated by the same cam C through the medium of lifting levers D and E. The cam C is formed integral with the larger half-time wheel F which is driven by the wheel G. The acting portion of the cam C may take the form of an anti-friction roller H, and the ends of the rods J and K which lift the valves may be



provided with anti-friction balls. The free ends of the lifting levers D and E are rounded off, so that the cam C may lift them in the event of the engine rotating in the wrong direction.—J. A. Wade, No. 19,430, 1907.

A PATENT PISTON RING.

A SAMPLE of a new patent piston ring has reached us from James B. Petter and Sons, of Yeovil, which is suitable for motor cycle engines. Reference to the illustrations of the S.P. ring, as it is called (see figs. 5 to 8), will show that, although it is bored eccentrically, in order to obtain approximately uniform normal pressure, as in other types, this boring cut is confined to the centre of the ring, and forms an eccentric groove in its interior circumference, leaving the sides untouched. Owing to this, the side-wearing surface is uniform, whereas with the ordinary type of piston ring Messrs. Petter point out that the side-wearing surface of the ring is reduced for a part of its circumference, and wear takes place both on the ring and in the ring grooves of the piston (figs. 3 and 4). They also point out that a twisting effect is produced by the reciprocating action of the piston, causing the sharp edges of the ring to rub both upon the ring grooves and upon the surface of the cylinder, and undue wear results. Moreover, in the ordinary type of piston ring, after being bored eccentrically (see fig. 1), the section near the joint is weak, and

accidental breakages are liable to occur whilst removing the piston rings. The section of the S.P. piston ring near the joint is strong, and consequently resists

all the tendencies to set up distortion, so that unnecessary wear both upon the ring grooves and upon the surface of the cylinder is prevented.

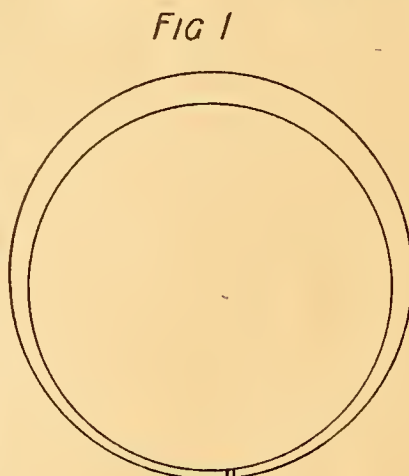


FIG 2



FIG 3

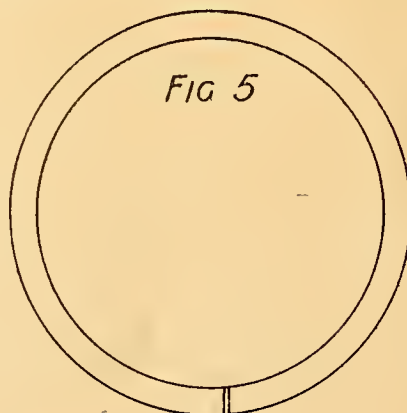
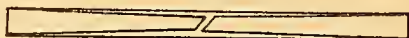


FIG 5

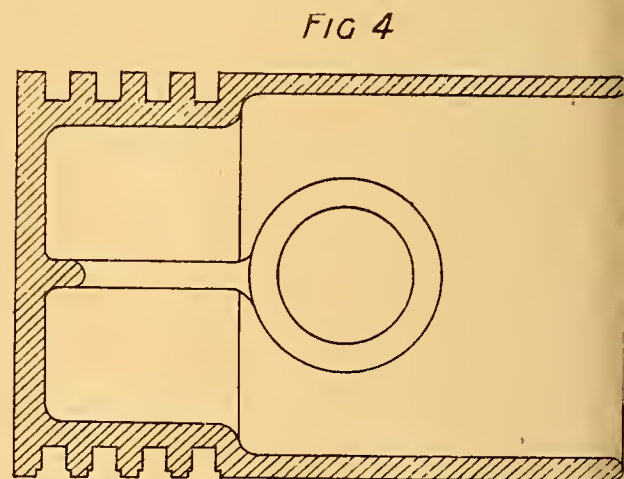


FIG 8

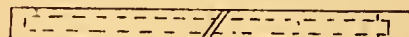


FIG 7

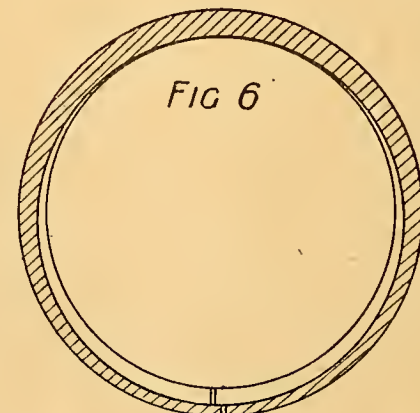
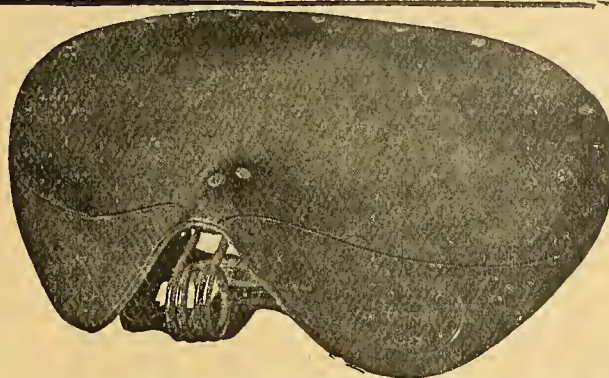
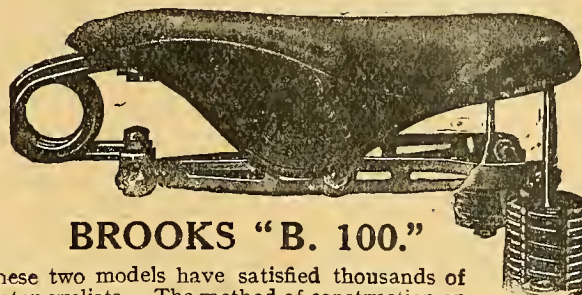


FIG 6

SEATS YOU DON'T GROW TIRED OF!



BROOKS "SPRING SEAT."



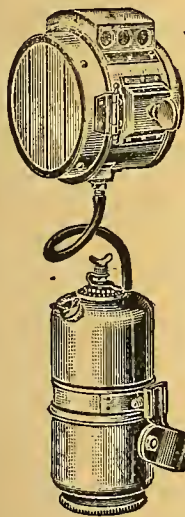
BROOKS "B. 100."

These two models have satisfied thousands of motor cyclists. The method of construction on scientific anti-vibratory principle, combined with the choicest of leather tops, make these seats great favourites with all experienced riders. These reliable seats ensure comfortable riding with the minimum of vibration. Our *Saddle Manual* describes them. Please ask for copy.

J. B. BROOKS & Co., Ltd.,
The Saddle Specialists (Dept. 45.) BIRMINGHAM.

"HUNTS" Great Annual Sale. Enormous Reductions. Great Slaughter of Prices. Sale sheet free.

LAMPS.



Our celebrated 4½in. lens mirror motor cycle lamp, complete with generator and tubing. Sale price 18/11, usual price 27/6. Lamp only, with back or side brackets, sale price 14/3, usual price 19/9, postage 6d.

The F.H. separate generator lamp, with bull's-eye lens, size of front 6in., glass 4½in., lens 2½in. Burning capacity, 4 hours. Sale price complete 13/11, usual price elsewhere 21/-, postage 6d.

The Hunt tricar petroleum lamp. Height 9in., front 4½in. Sale price 7/3½, usual price elsewhere 10/9, postage 6d.

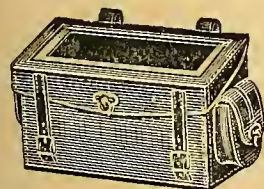
Special purchase of electric side lamps, fitted with bull's-eye lens, complete with cable and bulb. Sale price 13/11 pair, sold elsewhere 25/-, postage 8d.

200 electric tail lamps complete with cable and bulb. Sale price 5/3½, sold elsewhere 9/6, postage 4d.

TYRES.

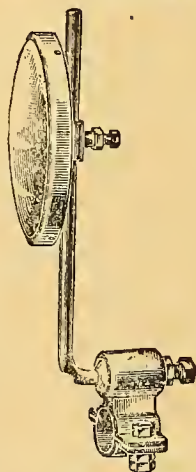
Very special offer of genuine Continental Covers. Sizes 26 or 28 x 2. Sale price 14/11, usual price 25/-. Sizes 26 or 28 x 2½. Sale price 15/11, usual price 30/-, postage 8d.

Grose steel studded covers. Sale price 26 x 2, 27/6; 26 x 2½, 34/3; 26 x 2½, 39/11. Carriage 1/-



LYCETT TOOL BAG.

Large and roomy. Contains two inside pockets for spares, and two outside pockets for oilcans. Size, 9½in. x 5in. x 4½in. Sale price, 6/8½. Postage 6d.



MOTOR CYCLISTS' CONVEX LENS MIRROR.

Enables the rider to see what's behind him, and, what's more important, the police trap. Fitted on handle-bar. Made on ball joint so that it can be adjusted to any angle.

Adjustable in height.

Sale price, 3in face, 4/11. 4in face, 5/11. Postage 4d.

THE LATEST ALL-RUBBER GOGGLE.



Containing one set plain and one set smoked glasses. Sale price, 2/3½. Postage 2d.

HANDLE-BARS.

25 pair, extra long, with 1in. or ½in. stem. Sale price 7/6½, usual price 12/6. Postage 8d.

CARRIERS.

The Hunt, extra strong, 17in. x 8in., with leather straps. Sale price 4/6½, usual price elsewhere 6/6. Postage 8d.

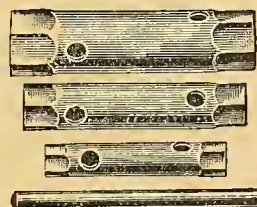
TEST LAMPS.

5,000 complete in case. Sale price 10½d., worth 2/-. Postage 2d.

PLUGS.

1,000 Mica. Sale price 10½d. Genuine Oleo 1/4. Genuine Magneto 2/11½. Postage 2d.

MOTOR CYCLE BOX SPANNERS.



Six sizes with tommy. Sale price 2/3½ set. Postage 3d. Quality guaranteed.

MOTOR GLOVES.

500 pair best Cape tan gauntlets. Sale price 4/11½ pair, usual price 7/6. Postage 4d.

These are only a few of the bargains to be had at our depot. If you cannot call, send for sale sheet (post free).

"HUNTS" (Motor Dept.), 104, Newgate St., LONDON, E.C.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London (20, Tudor Street, E.C.), by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

A SPLENDID CHOICE

of SHOP-SOILED and SECOND-HAND MACHINES, such as NO OTHER FIRM IN THE WORLD can offer.

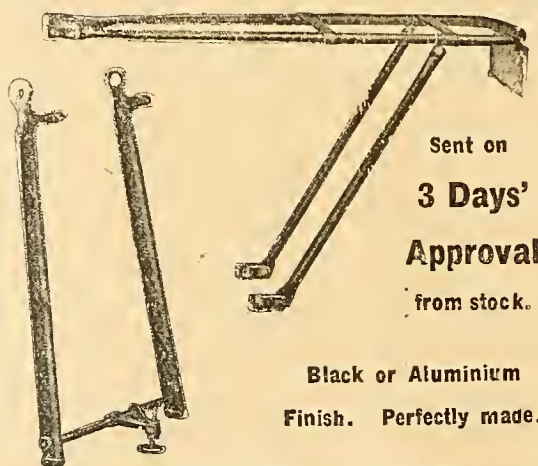
SINGLE CYLINDERS.

TRIUMPH, 1907, magneto, overhauled and re-enamelled	£30 0
TRIUMPH, 3 h.p., accumulator ignition, perfect	£20 0
ROC, 1908, two-speed, magneto, 4 h.p.	£33 0
N.S.U., 1908, magneto, 3½ h.p., shop-soiled, £40 machine	£30 0
N.S.U., 1907, spring forks, Roc two-speed gear	£28 0
REX DE LUXE, 1908, two-speed, 3½ h.p., shop-soiled	£35 0
F.N., lightweight, magneto, spring forks	£20 0
ROC, 1907, magneto, clutch, spring forks	£19 0
WARWICK, 1908, shop-soiled, two-speed, clutch, magneto, spring forks, £50 machine	£31 0
QUADRANT (Birmingham), 3½ h.p., spring forks	£15 0
SINGER, 3 h.p., magneto, belt drive, Mabon clutch, perfect order	£15 0
WHITLEY, 3 h.p., spray carburetter, girder forks	£7 0
ROYAL ENFIELD, M.O.V., vertical, lately re-enamelled, etc.	£10 0
MINERVA, 2 h.p., spray carburetter, M.O.V.	£6 0

TWINS.

N.S.U., 1908, magneto, 4 h.p., shop-soiled, £50 machine	£39 0
BROWN, 1908, shop-soiled, 5½ h.p., two-speed, Palmer tyres, cost over £67	£45 0
VINDEC, magneto, spring forks	£25 0
ROC, 5 h.p., Peugeot engine, magneto, clutch	£24 10
KERRY, 5 h.p., two-speed	£16 0
REX TOURIST, 5 h.p., magneto, spring forks	£25 0
REX, 5 h.p., spring seat, spring forks	£17 0
WERNER, 4 h.p., spring forks, good order ..	£11 0
MILLS & FULFORD SIDECAR, shop-soiled, Palmer cord 2½ in. tyre	£9 10
RILEY TRICAR, 5 h.p., twin, two-speed, coach-built, lamps, spares, etc., perfect order	£50 0

Premier Tubular Carriers and Stands.



Stands, 7/6. Carriers, 8/6.

The Carrier may be had with top portion curved like that which is fitted to the Triumph Machines. No extra charge.

PREMIER DOUBLE NOTE HORNS.—7/6 each, approval.

PREMIER GENERATORS.—As supplied with the famous Searchlight. 6/- each. Approval.

CLINCHER BRAND NEW TUBES.—26×2½ in. 6/6 each. Approval.

PREMIER ACCUMULATORS.—The cheapest and most durable.

WRITE FOR LISTS.

Premier Motor Agency,

Aston Road, BIRMINGHAM.

Telephone 4,310. Telegrams: "Primus, B'ham."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Liffie and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham and Westmoreland.

1908 3½ h.p. Minerva, magneto, spring forks, most excellent condition; £210s.—Bolsover, solicitor, Stockton-on-Tees.

23 h.p., low, spring saddle, spring forks adjustable pulley, £10 10s.; Parson non-skid, 26in. by 2in., 10s. — 23, Melrose Avenue, Monkseaton.

1908 N.S.U., 3½ h.p., magneto, two-speed as new, with Montgomery sidecar £30, or will separate.—Smith, 62, Sandringham Road, West Hartlepool.

QUADRANT, 3½ h.p., 1907, spring forks, foot rests, numerous spares, tools, Richey tubes, Palmer cord, guaranteed in perfect order; £20.—Edger, 30, Simpson Street, Newcastle-on-Tyne.

SECTION II.

York and Lancashire.

3 h.p. Howe, vertical, girder, Dunlops, bag stand, carrier, horn; £10.—Below.

REX, 5 h.p., twin, December, 1906, P.U. non-skid, spring forks, splendid; £16.—Below.

N.S.U., 3½ h.p., 1908, new, slightly shop-soiled, magneto, never been out; offers —Below.

1907 Twin Jap, 70 by 95, magneto, spring forks, highest grade throughout; £21.—Moldgreen, Engineering Works, Huddersfield.

2½ h.p. Buchet, in good running order £10.—Suggit, "Rosslyn," Whitby.

3½ h.p. 25 Guinea Rex, 1907, as new unused; what offers?—1, Bank Terrace Whitworth.

3 h.p. Rex, spray, new belt, Continental and tube; £9 10s. — 328, Manchester Street, Oldham.

1908 Triumph, 3½ h.p., in very good condition, spares; £43.—Coop, 19, Albert Road, Southport.

TRIUMPH, 1908, not done 700 miles, rubber studded back tyre; £39.—8, Hazel Grove Longsight, Manchester.

NEW 3½ h.p. Phelon and Moore, two-speed Palmer tyres, in crate, as delivered last month; £46.—Potter, Blenheim Square Leeds.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.**SECTION VII.**

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

1908 1½ h.p. Light F.N., guaranteed perfect, as new, magneto, spring forks; £24.—Below.

1907 Four-cylinder F.N., long bars, Bowden lift, absolutely perfect, guaranteed, and a flier; £28.—Browne, 10a, Thames Street, Windsor.

31 h.p. Rex, 1906, accumulator ignition, 32 spring forks, perfect; £10 10s.—Gyn-gell, Tewkesbury.

MOTO-REVE, latest, as new, every extra refinement; bargain, £30.—30, Shirley Road, Southampton.

PEUGEOT, 2½ h.p., condition as new, splendid hill-climber, low, and light; £12.—Wheeler, 136, Victoria Street, Bristol.

FOUR-CYLINDER F.N., 4½ h.p., perfect running order; trial; many spares and lamp; £25.—98, Wokingham Road, Reading.

MOTOSACOCHE, 1907, accumulator, as new, spring forks, new tyres, spares, all accessories; £20, or offers.—Bell, 18, Hart Street, Henley-on-Thames.

LIGHT F.N., 1907, all spares, very little used, guaranteed first-class order; free trial; bargain, £20, no offers.—Bradford, The Elms, Burnham, Bucks.

31 h.p. Motor Bike, Excelsior engine, torpedo tank, Longuemare, two accumulators, powerful machine, grand running condition, all accessories; a bargain, £12.—Fisher, Bapton, Codford-St. Mary, Wilts.

MINERVA, 4½ h.p., twin-cylinder, torpedo tank, Chater-Lea fittings, free engine, two-speed gear, brand new two months ago, also Montgomery sidecarriage; full specification and price sent on application.—Baker, 35, Friar Street, Reading.

MOTOR Bike, complete, less engine, special Chater-Lea frame, long handle-bars, new plating and enamel, aluminium, lined black, new Palmer cords, 1½ back, 1½ front, suit twin engine; bargain, £10.—Braithwaite, 46, Bath Road, Banbury.

1907 Twin Roc, 6 h.p., free engine, Roc clutch, magneto ignition, two exhaust lifts, two band brakes, footboards, two belts, cut-out, bag, tools, horn, pump, number plates, and spare plugs; what offers?—Adams, Fleece Hotel, Cinderford, Glos.

RALEIGH, 3½ h.p., chain drive, new tyres, perfect order, fast and reliable, £16; Dunlop wired-on cover, 28 by 2, nearly new, 7s. 6d.; 7ft. 9in. by 1in. Shamrock-Gloria belting, new, 10s. 6d.; bench drilling machine, 15s., or nearest offers.—Booth, Guildford Road, Farnborough, Hants.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

2 h.p. Fafnir, in good going order; £7.—262, Hornsey Road, N.

4 h.p. Jap-Chater-Lea, nearly new, perfect; £19.—59, Albert Road, Ilford.

TRIUMPH, 3½ h.p., 1908; £37 10s.—Steggall, 112, Talbot Road, Bayswater.

TRIUMPH, 1908, as new; £38, or near offer; call or write.—Locke, Draper, Penge.

5 h.p. Peugeot, in running order; £16.—F. Baker, Post Office, Turner's Hill, Sussex.

5 h.p. 1908 Rex, magneto, new; £28.—Anderson Bros., Hermon Hill, South Woodford.

31 h.p. White and Poppe, Swift, accessories; £16.—Hastie, Sefton House, Molesey.

MOTO-REVE, 1908 model, good as new; £26.—East Ham Garage, High Street South, East Ham.

BAT, 3½ h.p. genuine De Dion engine and carburetter, like new; bargain, £16 10s.—Below.

WERNER, 4½ h.p., twin, separate cylinders, spring forks, long bars, grand order; £16 16s.—Below.

ROVER, 3½ h.p., M.O.V., late type; cheap, £13 10s.—Whittle, 41, Skelbrook Street, Earlsfield.

Entire Satisfaction Guaranteed

When dealing with us.

THE FAIR FACTORS.**50/- DOWN AND 5/- WEEKLY SECURES**

REX, 3½ h.p., vertical engine	£8 10
MINERVA, 2 h.p. M.O.V., spray	£3 0
HUMBER, 2½ h.p., splendid condition	£10 0
ORMONDE, 2 h.p., spray	£7 0
F.N., 2½ h.p., handle-bar control	£3 0
WERNER, 3½ h.p., twin, latest model	£13 0
ARIEL, 3 h.p., 26in. wheels, M.O.V.	£12 0
MINERVA, 3½ h.p., 26in. wheels	£11 0
QUADRANT, 2 h.p., good condition	£7 0
JAP, 2½ h.p., spray	£3 0
WERNER, 2 h.p.	£3 0
EXCELSIOR, 3 h.p., very good tyres	£10 0
SINGER, 2 h.p., magneto	£3 0
REX, 3½ h.p., 1908, 26in. wheels	£13 0
PHENIX, 2½ h.p., good tyres	£8 0
HUMBER, 2 h.p., splendid condition	£8 0

OTHER MODELS.

ANTOINE, 5 h.p., twin, 1907 model	£20 0
SAROLEA, 5 h.p., twin, spring forks	£20 0
MABON, 3 h.p., high tension magneto	£14 0
REX, 5 h.p., twin, 1907 model	£18 0
WERNER, 3½ h.p., twin, 26in. wheels	£13 0
MINERVA, 4½ h.p., twin	£19 0
F.N., four-cylinder, magneto	£18 0
CLYDE, 3 h.p., magneto	£10 0
CLARENDON, 3 h.p., Peter Unions	£9 0
BAT, 3½ h.p., spring frame	£15 0
GIVAUDAN, 3 h.p.	£15 0
QUADRANT, 3 h.p., spray	£12 0
LLOYDS, 2½ h.p.	£10 0
F.N., 2½ h.p., splendid machine	£10 0
ARIEL, 3 h.p., brand new	Offers
ARIEL, 2½ h.p., lightweight, 1908, new mag.	£33 0

TRICARS.

REXETTE, 8-10 h.p., two speeds and reverse; a perfect article	£60 0
GARRARD, 5 h.p., three speeds, water-cooled ..	£32 0
MINERVA Pattern, 3½ h.p., spray, good tyres ..	£16 0
REXETTE, 8 h.p., open frame, two speeds, perfect order	£38 0

CARS.

24 h.p. DARRACQ, perfect order throughout, trial run	£110 0
14 h.p. GOBRON-BRILLIE, four speeds, two-cylinder, five-seater	£80 0

SIDECAR.

BAT, 26in. wheel, Clincher	£4 10
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ACCESSORIES.**"THE LATEST."**

Treble Twist Horns. Absolutely the finest Horn ever marketed. Cannot be beaten for noise. Money returned if not absolutely satisfactory. Only 6/6.

The ACME Variable Pulley.

Instantly adjusted. No need to remove belt, and doubly locking. Standard sizes stocked. 14/- each.

PALMER TYRES (Cord).

Cover Tube	Cover Tube	Cover Tube
26 x 2 43/6 13/-	26 x 2 59/3 16/3	28 x 2 63/6 11/-
26 x 2 58/3 11/-	28 x 2 53/3 10/-	28 x 2 64/3 17/6

10/- allowed on old covers, and 2/- on tubes.

TUBES (fully guaranteed):

26 x 2in. .. 5/6	26 x 2½in. .. 7/6	28 x 2½in. .. 7/-
26 x 2½in. .. 6/6	28 x 2in. .. 6/6	28 x 2½in. .. 7/6

APPROVAL.**TUBES (butt-ended).**

You cannot do better than try one. Money returned IN FULL if not perfectly satisfactory.

26 x 2in. .. 7/6	26 x 2½in. .. 8/3	28 x 2½in. .. 7/9
26 x 2½in. .. 7/9	28 x 2in. .. 7/6	28 x 2½in. .. 8/3

ALBANY BELTING.

¾in. 7d., ¾in. 8d., ¾in. 9d., 1in. 10d. per foot.

Approval. Immediate delivery.

MAUDE'S MOTOR MART, Powell St., HALIFAX

(behind the Victoria Hall).

National Telephone 433.

MOTOR BICYCLES FOR SALE.

MINERVA, 2½ h.p., Chater-Lea, long, low, reliable; £9.—39, Townshend Road, St. John's Wood.

£7.—3 h.p. Antoine, engine as new, 26in. wheels; any trial.—134, Highgate Road, Kentish Town.

1908 Triumph, punctured once, spares; £38.—Rev. Wilson, 41, Linden Grove, Peckham Rye.

h.p. Minerva, M.O.V., stand, carrier; owner bought car; £6.—Hope, Sainthill, East Grinstead.

3 h.p. Excelsior, £7; 2½ h.p. Minerva, £9; good running order, or near offer.—Boyle, Brentwood.

23 h.p. Vindec, magneto, good condition, reliable machine; £16.—9, Mortimer Road, Kensal Rise.

4 h.p. Chater-Lea Motor Cycle, with sidecar, latest design; £16.—E. G. Sullivan 110a, Grosvenor Road, S.W.

1908 Minerva, 3½ h.p., new August, ridden 800 miles; £20, no offers.—Orton, 46, Holly Road, Chiswick.

31 h.p. Brown, splendid running order; £12.—H., 28, Seven Sisters Road, Hol-loway. Engine, tyres perfect.

PHENIX Cob, 3½ h.p., two-speed gear, magneto, F.N., spring forks, new condition.—111, Greencroft Gardens, N.W.

13 h.p. Minerva, long handle-bars and low saddle; £8 10s., or near offer.—L.L., 135, Victoria Street, London, S.W.

TRIUMPH, 3½ h.p., late 1907, little used, engine almost like new; price £29 cash.—Address, F. Hodsoll, 446, Strand.

3 h.p. Triumph, in perfect condition, two accumulators, Gloria belt; £13 10s.; approval.—Eagles and Co., Acton.

11 h.p. N.S.U. Lightweight, 1908, magneto ignition, spring forks, as new; £20; approval.—Eagles and Co., Acton.

31 h.p. Brown, Clincher tyres, Longuemare, lamp, horn, stand, perfect order; £15 10s.—Clark, 109, The Grove, Stratford.

23 h.p. Motor Cycle for sale, perfect order; quick sale, £6.—Barber, 17, Galena Road, Hey Street, Hammersmith, W.

31 h.p. Motor, belt, tyres good, long handles; cash £8 10s.; purchased new machine.—91, Melbourne, Eastbourne.

RELIABLE 4 h.p., good condition; £13 13s., or exchange Rex featherweight.—69, Bensham Manor Road, Thornton Heath.

TRIUMPH, 1906, magneto, makers overhauled July, perfect; £21 10s.—Parkyn, 6, Alexandra Mansions, West Hampstead.

21 h.p. Alert, inclined engine, good hill-climber, new tyres; £9 10s.—E. Mills, Torrington Cottage, West Hill, Sydenham.

120A, Granbrook Road, Chiswick.—6 h.p. Antoine, £25; 2 h.p. Peugeot, £15; 3½ h.p. Centaur, £12; motor cycles on hire.

£7.—23 h.p. Werner, perfect running order, good hill-climber; seen by appointment.—17, Calton Road, Kentish Town, N.W.

A GENUINE 3 h.p. Werner, splendid hill-climber, fine condition; £12 15s.; private.—22, The Avenue, Bruce Grove, London.

MINERVA, 2 h.p., good, reliable machine, in thorough going order; bargain at £10.—Chilwell, 4, Kymberley Road, Harrow.

FOUR-CYLINDER F.N., new condition, faultless, all accessories; £25, near offer.—Baxter, Shooter's Hill Road, Blackheath.

7-8 h.p. Minerva, new Whitsuntide, little used, with accessories; £38, bargain.—Teape, 73, Pearson Street, Kingsland Road.

BARGAIN Price for 4½ h.p. Bat, 3 h.p. Kerry, 2½ h.p. F.N.; must be sold; trial.—26, Harcourt Street, Marylebone Road, W.

TWIN Rex, late 1906, not much used, everything in splendid condition; £15, no offers.—3, Holbrook Lane, Chislehurst, Kent.

23 h.p. Minerva, spring forks, spare belt, Nulite lamp, tyres, good condition; £14.—Shutes, 9, Cannon Place, Hampstead, N.W.

41 h.p. Minerva Twin, late 1907, spring forks, footrests, as new; £25, exchange F.N.—Eardley, 9, Mapesbury Road, Brondes-bury.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD for reliable machines; 3½ h.p. Quadrant, spring forks, grand condition; only £15.

HAMPSTEAD.—1908 Lightweight N.S.U., magneto, only shop-soiled; £19, with all accessories.

HAMPSTEAD.—3½ h.p. N.S.U., late model, magneto, 24in. wheels, new condition, guaranteed perfect; only £18.

HAMPSTEAD.—3½ h.p. 1908 Triumph, handle-bar control, new condition; £37, with all accessories.

HAMPSTEAD.—1½ h.p. F.N., 1908 model, new condition; £18, with all accessories; great bargain.

HAMPSTEAD for new Machines, F.N.'s, 5-6 h.p., late models from stock; exchanges entertained.

HAMPSTEAD.—5 h.p. Twin Peugeot, Chatter-Lea No. 6 frame, splendid condition, like new; £24.

HAMPSTEAD.—New Griffons at second-hand price; £4 under catalogue price, only shop-soiled.

HAMPSTEAD.—3 h.p. Fafnir, good condition, low, with all spares; £10, guaranteed.

HAMPSTEAD.—Sole Agents for Griffons, F.N.'s, Minervas, Vindec, Triumph, etc., cycle, sidecar, or low power in part payment; liberal allowances on old machines for new, any make.—Rey, 5, Heath Street Motor Works, Hampstead. Tel., 2578 P.O.

IF You Want Good Bargains in second-hand or new motor cycles you cannot do better than come to Rey, 5, Heath Street Motor Works, Hampstead.

31 h.p. M.M.C., latest, M.O.V. pattern, 32 never used; £5 10s.—785, High Road, Leytonstone.

IF You Want Bargains in second-hand motor cycles you can get them at Wauchope's, 9, Shoe Lane, E.C.

1907 Triumph, magneto, been carefully used, in splendid condition; £28.—F. Jermy, Leighton Holme, Frimley Green, Surrey.

1907 3½ h.p. Minerva, spring forks in new condition; 18 guineas, or exchange higher power.—Wray, 18, Terminus Road, Eastbourne.

£6—2 h.p. Minerva, tyres new, horn and extension, coil, etc., wants slight overhauling.—Groom, 75, Brigstock Road, Thornton Heath.

N.S.U., 3½ h.p., magneto, excellent condition, powerful machine, many spares; £22 10s., or near offer.—Connew, 17, Park Road, Forest Hill.

MINERVA, 2½ h.p., spring forks, magneto; cost £35 10s. June, condition as new, £22; no offers.—Motor, Crown and Anchor, Shoe Lane, E.C.

1907 3½ h.p. Minerva, fitted spring forks, lamp, horn, tools, etc., non-skid back, splendid condition; £18.—Motor, 2, St. John's Wood Park, N.W.

23 h.p. Magneto, three-speed gear, spring forks, footboards, very low, very little used; £18 10s.—Wilkinson, 10, Crieff Road, Wandsworth.

31 h.p. Motor Cycle, vertical engine, torpedo tank, good tyres, long and low, very little used; £15.—116, Amyand Park Road, Twickenham.

23 h.p. Minerva, 1907, all accessories, 24 studded tread on back tyre, not been used this season; £15 10s.—Layzell, Ockendon, Romford, Essex.

21 h.p. Simms, magneto, A1 Clinchers, 28 by 2, in good running and condition; price £9 10s.—Apply, E. Buttrum, Drayton Road, Hayes, Middlesex.

41 h.p. Clyde Motor Bicycle, magneto, free engine, also forecar attachment for same; £22; would sell without forecar.—78a, Brownhill Road, Catford.

23 h.p. Kerry, first-class order, Palmer tyres, spring attachments, long or short low position, exceptional value.—F. Ratcliff, Goudhurst, Kent.

£7—Quadrant-Minerva, 1½ h.p., vertical engine, F.N. carburetter, long handles, low seat, perfect order and condition.—108, Wells Street, Camberwell.

£26 5s. GIVEN

for 1908 magneto LIGHTWEIGHT in part payment for brand new 1908 3½ magneto REX with ball bearing engine, price 38 guineas.

Owing to an unprecedented demand for second-hand 1908 REX Lightweights, we will make a special allowance of £27 6s. for this model. This is one guinea more than actual cost. BUT—"Don't delay." The number of 1908 3½ REXES is limited.

6 h.p. Twin REX, £18 18s., or £4 and '07 Single REX, or £6 and 3½ REX, or level exchange with Single Magneto REX.

SPECIFICATION.—Low frame, long bars, low saddle, Rex patent spring forks and foot brake, trembler coil, good tyres, and guaranteed in running order.

Any machine taken in part payment.

1908, magneto, Twin REX, little used	£35 0
5½ h.p. N.S.U., magneto, new, 1908	£52 0
5 h.p. Twin VINDEC, magneto, Truffault ..	£35 0
5½ h.p. REX DE LUXE, 1907, brand new ..	£35 0
5½ h.p. Twin REX, spring forks, black finish ..	£18 18
5½ h.p. REX DE LUXE, magneto, Roc clutch ..	£27 10
Twin REX, blue lines, new tyres	£18 18
6 h.p. Twin REX, non-skids both wheels ..	£18 18
Twin KERRY, Chatter Lea, with Sidecar	£22 10
5½ h.p. Twin REX, magneto, 1907	£23 10
4-5 h.p. Twin ALCYON, N.S.U., two-speed ..	£20 0
5 h.p. Twin SAROLEA, long frame	£18 18
6 h.p. Twin ANTOINE, R.O.M. ignition ..	£22 0
5 h.p. Twin ONAWAY, very low, spring forks ..	£19 0
6 h.p. Twin ANTOINE, spring forks	£22 0
5½ h.p. REX DE LUXE, two-speed	£32 10

TRICARS.

5½ h.p. REXETTE, W.C., two speeds	£35 0
REX TRICAR, coach built	£13 10
Twin REXETTE, W.C., two speeds, 8 h.p. ..	£47 10
1½ h.p. STEVENS Tricar, very low built	£15 0
5 h.p. HUMBER, open frame, W.C., 2 speeds ..	£35 0
REX, Phoenix Two-speed, coach built	£18 10

Extended payments to suit all requirements.

IF YOU

can't pay cash down, write and state what credit you require, and we will endeavour to accommodate you.

SINGLES—Offers Wanted.

1908 new 3½ h.p. REX, magneto, ball bearings ..	£39 18
1908 3½ h.p. REX, 2-speed, nearly new	£32 10
1908 MOTOSACOCHE, splendid condition ..	£22 10
1908 N.S.U. Lightweight, magneto	£22 10
1908 3½ h.p. N.S.U., had trial only	£34 0
1907 3½ h.p. Magneto REX, black finish	£20 0
1907 3½ h.p. N.S.U., magneto	£22 10
3 h.p. SINGER, H.T. magneto	£20 0
3 h.p. TRIUMPH, magneto	£24 10
3 h.p. TRIUMPH, spring forks	£21 0
3½ h.p. Magneto REX Racer, a flier	£25 0
3½ h.p. 1906 REX, spring forks, long bars	£15 10
2½ h.p. Magneto REX, 1908, shop-soiled	£19 19
3½ h.p. MINERVA, M.O.V., vertical, spray ..	£16 10
3 h.p. GIVAUDAN, nearly new, very low	£16 0
3 h.p. QUADRANT, spray, spring forks	£13 0
3 h.p. LLOYD'S, 26×2½in. Palmers	£13 10
4 h.p. ANTOINE, vertical, M.O.V., spray	£16 0
2½ h.p. MINERVA, fine condition, M.O.V.	£13 10
2½ h.p. CLYDE, magneto, vertical, spray	£15 0
4 h.p. ANTOINE, 26×2½in. tyres	£16 10
3 h.p. SIMMS, magneto, 2½in. Palmers	£17 10
3½ h.p. CENTAUR, free engine, M.O.V.	£16 0
2½ h.p. F.N., special frame, reliable	£12 10
3 h.p. HUMBER, spray, good climber	£10 10
3½ h.p. REX, 22in. frame, trembler coil	£11 10
2½ h.p. MINERVA, 26×2½in., spray, vertical ..	£11 10
3 h.p. BROWN, spray, guaranteed	£12 10
4 h.p. ATELIER, long bars, low saddle	£13 10
3½ h.p. EXCELSIOR, spray, trembler coil	£10 10
2½ h.p. COVENTRY EAGLE, vertical spray ..	£10 0
3½ h.p. Two-speed REX, suit sidecar	£13 10
2½ h.p. F.N., light, low, smart appearance	£12 0
2½ h.p. CLEMENT, very low, good order	£11 0
2½ h.p. KERRY, spray, low, reliable mount ..	£10 10
2 h.p. RALEIGH, spray, smart	£8 0
2½ h.p. ROYAL, vertical, spray, trembler coil ..	£7 15
2½ h.p. HASKARD, spray, smart	£11 10
1½ h.p. MINERVA, spray, suit light rider	£5 10
2½ h.p. EXCELSIOR, trembler coil	£8 0
2 h.p. HUMBER, chain drive, trembler coil ..	£6 10
2 h.p. PEUGEOT Lightweight, smart	£9 10
2 h.p. Magneto SIMMS, vertical engine, spray ..	£6 10
2 h.p. MINERVA, spray, smart, good	£7 0

Gnawiter Rubber and Canvas Belting.

½in. 10d., ¾in. 1/1, 1in. 1/4, 1¼in. 1/9 per foot.
3/- allowed for old belts.

The Halifax Motor Exchange,
—16, Westgate, Halifax.

Telephone: 766. Telegrams: "Perfection."

MOTOR BICYCLES FOR SALE.

STAMFORD HILL.—5-6 h.p. twin Rex de Luxe, 1907, Roc clutch, H.T. magneto, twin back tyres, as new, property of doctor; £25.

STAMFORD HILL.—2½ h.p. Rex, B. and B. carburetter, excellent machine, in perfect condition, lightweight; £7.

STAMFORD HILL.—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL.—1½ h.p. Quadrant Lightweight, Minerva engine, two brakes, all in very good condition and perfect order; £5 10s.

STAMFORD HILL.—Light motor cycle, 2½ h.p., less wheels and saddle, 18in. frame, make nice light machine; £3 10s.

STAMFORD HILL.—2½ h.p. Precision engineered lightweight, in good running order, and very good condition; £6 15s.

STAMFORD HILL.—Colossal sacrifice, 2½ h.p. Bradbury, perfect, complete, grand powerful machine; £10 15s.—128, High Road, South Tottenham.

TWIN Rex, 5 h.p., adjustable pulley, splendid condition; what offers, or exchange lower power and cash.—W.R., 32, Endwell Road, Brockley, S.E.

KERRY, 3½ h.p., grand order, Longuemare, Watawata, spring forks and pillar, new piston, fast, and reliable; £12.—White, 50, Beresford Road, Kingston.

2 h.p. Clement-Garrard Lightweight, perfect order, 26in. wheels, good hill-climber; £10, or useful exchange.—Wood, 49, Woodfield Road, Ealing.

2½ h.p. Genuine Minerva throughout, M.O.V., new condition, and splendid going order; £3 10s., bargain.—Apply, 8, Wiverton Road, Sydenham, S.E.

3½ h.p. Excelsior, nearly new, grand goer, take sidecar up anything; £16, or exchange lower power and cash.—W., 39, South Parade, Arthur Street, Chelsea.

3½ h.p. Imperial Rover, chain drive, free engine clutch, trembler, M.O.V., with rigid sidecar, good condition; trial; £20.—H., 39a, Emmanuel Road, Balham.

2½ h.p. Daw Engine, F.N. carburetter, Palmers, Lucas lamp, horn, stand, carrier, splendid condition; £8 10s.; seen any time.—18, Endsleigh Gardens, Ilford.

3 h.p. Genuine Triumph throughout, 26in. Clincher, spring bars, complete; bargain, £14; exchange diamond ring.—6, Gascoyne Road, South Hackney, London.

TRIUMPH, 3½ h.p., standard, 1907, magneto, very little used, perfect running; only wants seeing; trial; £31 10s.—Apply, Vernon, 34, Coolhurst Road, Crouch End, N.

5 h.p. Roc, twin Peugeot engine, free engine clutch, magneto, excellent machine; £26 10s.—Garaged at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3½ h.p. Ariel, Osborne four-speed, Chatter-Lea spring forks, Dunlops, Stanley-Dermatine, two accumulators; £20, or near offer.—West, Grand Hotel, Eastbourne.

3½ h.p. Minerva, spring forks, Palmers, £16; 2½ h.p. Minerva, £14; 2 h.p. Minerva, £12; each in perfect order and condition.—36, Stroud Green Road, London, N.

5 h.p. Twin Peugeot, foot-operated clutch and brake, bucket seat or saddle, good condition, lot of spares; owner buying car; £25.—F.V.N., Hampstead Electricity Works.

TRIUMPH, 1907, handle-bar control, condition as new, all usual Triumph details, no exchanges; private owners only; first reasonable offer.—186, Peckham Rye, S.E.

ANTOINE, 6 h.p., two-cylinder, O.L. No. 6 frame, footboards, Clincher, 26 by 2½ tyres, quite new, not yet delivered; real bargain, £32 10s.—Robbins, 334, Clapham Road.

1908 Antoine, 4 h.p., adjustable pulley, Palmers, as new, £22; Chatter rigid sidecar, £5; together, with all spares, £25; must sell.—Brown, 66, Grand Parade, Haringay.

1908 40 Guinea Chatter-Lea, 3½ h.p. M.M.C., handle-bar control, Palmer tyres, very fast, accessories, as new; 23 guineas, or nearest.—Crawe, 36, Willesden Lane, Kilburn, N.W.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TRICARS FOR SALE.

1 h.p. Water-cooled Coach-built Tricar, in good condition; any trial; a bargain.—51, Salisbury Road, Walthamstow.

1 h.p. Rover Tricar, 1908, Sarolea twin engine, R.O.M. contact; trial given; offers wanted.—Phillips, 8, Grand Parade, Harringay.

GENUINE 8 h.p. Tricar, seat, carburetter, Longuemare, latest, new September last, climb anything; £37 10s.—16, Elgin Road, Croydon.

1 h.p. Rexette, coach-built, wheel steering, two-speed and free, painted and overhauled; £35, or light motor cycle and cash. 396, South Road, Sheffield.

1 h.p. Fafnir Tricar, Clincher tyres, splendid running order, stand, horn, etc.; bargain, £16 10s., take motor cycle as part.—Clark, 109, The Grove, Stratford.

LAGONDA Tricar, 10-12 h.p., water-cooled, three speeds, in excellent order throughout; price £55.—Further particulars, apply, Western Motor Works, Sideup, S.E.

1 h.p. De Dion-Eagle Runabout, perfect order, two speeds, sprung back and front, only requires seeing; £55.—Barber, 17, Malena Road, King Street, Hammersmith, W.

BIRMINGHAM.—Rex Triette, 5-6 h.p., Whittle belt, adjustable pulley, tool boxes, tools, spares, touring condition; 22 guineas.—Lewis, 23, Arden Road, Handsworth.

ROVER, 3½ h.p., new tyres, new accumulator, N.A.B. spring seat-pillar, Chase foot rim brake, spares, in perfect condition; £22; no offers.—Sully, 10, Old Town, Clapton, London.

1 h.p. Rexette, handsome body, car tyres, as new, economical, reliable, excellent condition, lamps, many spares; £35 10s.; bought car.—Pilgrim, 40, Oxford Road, Kilburn, London, N.W.

TRICAR, 6 h.p. Aster engine, wheel steering, epicyclic gear, two speeds and reverse, coach built body, smart; £36 (thirty-six pounds) lowest, bargain; photo.—Archeon, Taddington, Beds.

TRIETTE, as new, 6 h.p., w.c., two-speed gear, Shamrock studded tyres, many refinements; trial by appointment; £65, or consider an exchange.—Nye, Aldhurst, Drewstead Road, Streatham.

TRIUMPH Light Tricar, 3½ h.p., water-cooled engine, upholstered forecarriage, Clincher tyres, speedy, comfortable; £15.—Hunt, c/o Service Motor Agency, Featherstone Buildings, Holborn.

5-6 h.p. Twin-cylinder Tricar, wheel steering, coach-built seats, two-speed gear, sprung like a car; £50, or exchange and cash for small two-seated car.—Carnforth Cycle and Motor Co., Carnforth.

5-6 h.p. Special Rexette, in thorough order and appearance, wide front carriage, fitted with doors, spare valves, tyre tubes, carrier, etc., a machine that has been taken care of; £35.—Padwick, Redhill.

REXETTE, 8-10 h.p., twin-cylinder, 1907 model, seats two in front, two speeds forward and reverse, twin tyres on back wheel, perfect condition; any trial; £65.—Louis Davis and Son, Moseley, Birmingham.

6 h.p. Rexette, seat three, coach-built, water-cooled, two-speed, wheel steering, two spare tubes, three lamps, perfect condition; trial given; owner buying car; £39 10s.—Hardcastle, 77, Holme Lane, Sheffield.

6 h.p. Rexette, thermo-siphon, wheel, coach-built, horn, two lamps, jack, spare accumulator, inner tube, Michelin and two new Clinchers, Renold, two speeds, first-class condition; £28.—Dr. Gaskell, 44, Mount Park Road, Ealing.

PHOENIX Trimo, 3½-4½ h.p. Ariel-Minerva, two speeds and free, Whittle belt, new Model de Course and non-skids, strong driving wheel, large new tank, petrol gauge, innumerable spares, light, powerful; any trial.—9, Park Row, Hull.

9 h.p. Riley Tricar, 1908 model, Riley red finish, 700 by 80 Dunlop fronts, large non-skid on back, leather extensions to all guards, luggage carrier over back wheel, large horn, with flexible, small acetylene headlights with separate generator, electric tail lamp, spares, etc., run about 1,700 miles, in splendid running order; £75.—1,043, The Motor Cycle Offices, Coventry.

NO

NEED TO HURRY HOME

for fear of lamp troubles when you are equipped with the 1909

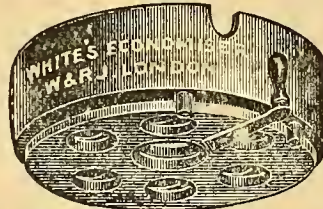
"ELECTARY" ACETYLENE PROJECTOR.

You fix it on your lamp bracket and there it stays month after month, always ready, always to be depended upon. Quite apart from its refinements (such as the adjustable focussing device which alters the character of its light to suit all riding conditions, its clip locking arrangement, and its method of fitting the divided front glass in a separate metal bezel, thus preventing any rattling, or tendency for the glass to turn round), it is built of a proper gauge sheet brass, and no expense has been spared in procuring for it the title of **MODELE DE LUXE**.

With special generator, polished brass 30/-
With special generator, nickel-plated 31/-
Without generator, polished brass 22/6
Without generator, nickel-plated 23/6

THE FEAR OF STOPPING.

Do you know it? Every time you stop, whether it is to make an adjustment mend a puncture, take a photo, or have tea, how you long to hurry off again **IN CASE YOUR ENGINE BECOMES COLD AND DIFFICULT TO START**. This awful feeling is the one thing that spoils the enjoyment of your runs, isn't it? There is a cure—



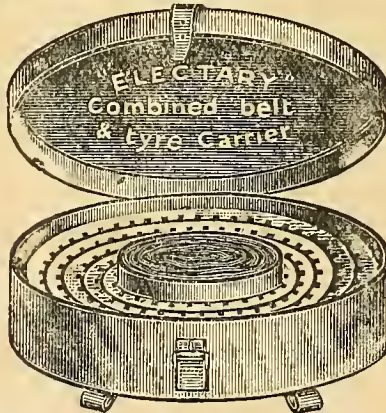
WHITE'S ECONOMISER

(PATENT APPLIED FOR).

It costs but 4/-, and is fitted to your carburetter in half a minute. When fitted, you can be quite certain of **AN INSTANT START AT ALL TIMES AND IN ALL WEATHERS. INVALUABLE FOR THE COLD WEATHER. INSIST ON HAVING ONE.**

WHERE ARE THOSE SPARES?

Surely I strapped that belt on the handlebar, or was it on the front forks, back stays, or where? Anyhow, it's gone now, and just a new one to-day. Again, that spare tube is ruined through jolting about in my toolbag. I keep my tools and spares in a proper toolbag—why not my belt and inner tube?



The "ELECTARY" ALL-LEATHER COMBINED TYRE & BELT CASE

is what you have all been waiting for. The neatest, best designed, and most valuable accessory ever introduced.

PRICE only 6/6, complete.

W. & R. JACOBS,
Electrical Engineers,
39c, King William Street,
London, E.C.

TRICARS FOR SALE.

HANDSOME Rexette, 6 h.p., latest design, wheel steering, water-cooled, coach-built, spring back and front, studded car tyre back, lamps, horn, tools, etc.; 100 miles trial; £36.—Photo, particulars, D., 39, Coldharbour Lane, Camberwell.

MY 10 h.p. Water-cooled Lagonda Three-speeded Tricar for sale, winner in several competitions, in splendid going order; 100 miles trial to bona-fide buyer; price £55. — Apply by letter, F. Cozens 8, Lyndhurst Drive, Leyton, Essex.

3-3½ h.p. Phoenix Trimo, Minerva engine, splendid condition, perfect order throughout, tyres, belt, etc., nearly new, very reliable mount; exceptional bargain, £12; trial with pleasure.—A.T.S., 86, Colvestone Crescent, Dalston, London.

9 h.p. Riley Tricar, three-speed and reverse, coach-built, wheel steering, good as new, several spares, non-skid on back wheel, lamps, horn, tools; trial with pleasure; 40 miles to gallon; £55.—Tyne Laundry Engineering Co., 99, Pilgrim Street, Newcastle-on-Tyne.

IVORY Tricar, 6 h.p. De Dion twin engine, water-cooled, two speeds, chain drive, three brakes, canework forecar, well sprung, long handles, footboards, etc., acetylene side lamps, tyres good, in good running order, with spares and tools; £22 10s.—Laurence, 115, Cromwell Road, Peterborough.

5 h.p. Riley Tricar, 1908 model, Napier green finish, 700 by 75 Michelin non-skid on back, 3in. Clincher fronts, horn, electric back lamp, with spare accumulator and switch, two pair lamps, headlight, apron to front seat, special tool box, etc.; £60.—1,044, The Motor Cycle Offices, Coventry.

LATE 1907 6 h.p. Twin Rex Triette, every part in absolutely perfect condition, fires walking pace, starts first push, very powerful and thoroughly reliable; sell cheap, or take first-class motor cycle and little cash in exchange.—Tricar, 86, Colvestone Crescent, Dalston, London.

9 h.p. Riley Tricar, standard pattern, guaranteed in perfect condition, paint and plate as new, no expense having been spared, two Bleriot lamps, with dissolved acetylene outfit, electric rear lamp, three spare tyres, and numerous improvements; inspection invited; first reasonable offer.—Seager, 44, Wimborne Road, Southend.

SINGER Tricar, two-cylinder, 6 h.p., water-cooled, two speeds, coach-built, wheel steering, chain drive, electric lamps, and horn, £35; 2 h.p. Clement-Garrard, two-speed, chain drive, £7 10s.; Montgomery sidecar, art cane, brand new, only ridden thirty-five miles, cost £12 12s., take £8 10s.; any trials or exchanges; all perfect.—Bratby, Mossley, near Manchester.

9 h.p. Riley Tricar, three speeds and reverse, coach-built, open frame, and wheel steering, guaranteed as perfect as new, has several spares, non-skid on the back wheel, lamps, horn, electric tail lamp; any severe trial can be given; it will do forty miles with a gallon of petrol; price £65, will take an up-to-date motor cycle in exchange.—Garaged at Wanchope's, 9, Shoe Lane, Fleet Street, London.

SIDECARS AND FORECARS.

MONTGOMERY Sidecar, perfect condition, best quality; £6.—38, Elthorne Park Road, Hanwell.

PHOENIX Forecar, upholstered, splendid condition, good tyres; £7 10s.—337, Ewell Road, Surbiton.

MONTGOMERY Flexible Sidecar, 26in. by 24in. heavy Continental, plated rim; £4 15s.—36, Carter Street, Walworth.

LIBERTY, cane, left side, 26in. wheel, splendid condition except tyre; bargain, 55s.—35, Manor Place, Hackney, London.

FORECAR, upholstered red, with side stays, wing mudguards; £2 15s., or exchange.—Abraham, Plas-rhaiadr, Talycafn, N. Wales.

CHATER-LEA Sidecar, £11 11s. model; sacrifice £5; it will fit any motor cycle (appointment).—R. May, 6, Killearn Parade, Catford.

MONTGOMERY Sidecar, latest compensating joints and non-skid device, apron, cushion, lunch basket, complete, quite new; accept £7, selling through illness.—Wright, Brynhafrn, Newtown, Montgomeryshire.

SIDECARS AND FORECARS.

STAMFORD HILL.—Very handsome two-wheeled coach-built sidecar, 26-2½ tyres; £7.

STAMFORD HILL.—Famous rigid sidecars, instant delivery, none better, fit your machine, £4 18s. 6d.; sound second-hand sidecar, £3 5s.; another, £4.—128, High Road, Tottenham.

SIDECARS, a quantity for sale, cheap, all makes.—Rey, 5, Heath Street, Hampstead.

LATEST Montgomery Sidecar, upholstered green, brand new; £6.—7, Blair Grove, Southport.

RIGID Sidecar, 26in. wheel, perfect; £2 5s.—Stevens, 4, Goldhawk Mews, Shepherd's Bush.

RIGID Sidecar, cane, upholstered, 26 by 2 Dunlop spare cover; real bargain, £3 5s.—157, Filbert Street, Leicester.

CHATER-LEA Sidecar, Palmer 2½ cord, Pegamoid upholstered, not ridden 100 miles; what offers?—4, Effra Parade, Brixton.

FOR Sale, forecar, in first-class order, wicker seat, nickel rims, new Clincher tyre, two hand brakes, also new Anglian two-speed gear, fit Chater-Lea frames.—The Chestnuts, Stanwell Road, Ashford.

LATEST Chater-Lea Sidecars will fit any machine, £5 15s.; Chater-Lea No. 6 frame, with forks, mudguards, long handlebars, £3 15s.; complete machine built, customers' own specifications carried out; write us your requirements, and we will quote you (stamp).—Silverthorne Motor Co., 111, Larkhall Lane, Clapham.

MOTOR TRICYCLES.

6 h.p. Twin-cylinder Jap, chain drive, slipping clutch, starting handle, good running order, splendid hill-climber; price £25, genuine bargain.—G. Neame, Colkins, Faversham, Kent.

23 h.p. Genuine De Dion, W.C.H., two-speed 24 tricycle, engine, frame, gear, in first-class condition, climb any hill; exchange lightweight motor bicycle, or sell very cheap.—Motor, Doreleys, Uttoxeter, Staffs.

QUADRICYCLES.

31 h.p. Auto Moto Quad, perfect condition; **32** trial; £15.—4, St. Paul's Road, Coventry.

QUADCARS.

PHENIX Quadcar, 6 h.p., twin Fafnir, tyres good, four lamps, all tools, many spares, good running order; £35.—Page, 4, Carlyle Mansions, Chelsea.

SELL or Exchange, 3½ h.p. Ariel Quad, two speeds, water-cooled, three-compartment tank and radiator; sacrifice £12.—Prince, New Mills, Stockport.

CARS FOR SALE.

PALMER.—3½ h.p. De Dion Quad, water-cooled, two speeds, perfect order; £12 10s.

PALMER.—6½ h.p. Darracq, two-seater, more than smart, 25 m.p.h., guaranteed; £35.

PALMER.—6 h.p. De Dion Populaire, two-seater, genuine licensed car, perfect condition; £45.

PALMER.—8-10 h.p. Ariel, four-seater, twin-cylinder, four speeds, reverse, excellent car; £45.

PALMER.—10-12 h.p. Tony Huber, five-seater, twin-cylinder, M.O.V., new condition throughout; £55.

PALMER.—16-20 h.p. Winton, 1907, side entrance, four-cylinder, pressed steel frame; £100.

PALMER.—16-20 h.p. De Dietrich, five-seater, four-cylinder, magneto, guaranteed do 45 m.p.h.; £145.

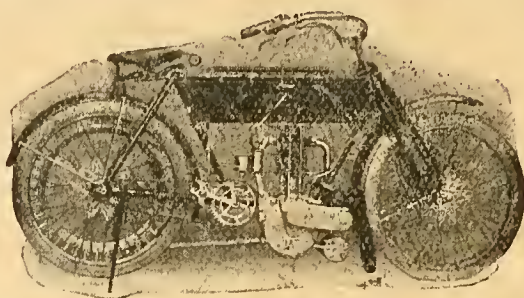
PALMER.—16-22 h.p. Gladiator, 1906, side entrance, four-cylinder, four speeds, reverse; £140.

PALMER.—24-30 h.p. Hurst and Lloyd, side entrance, four-cylinder, long chassis; £95.

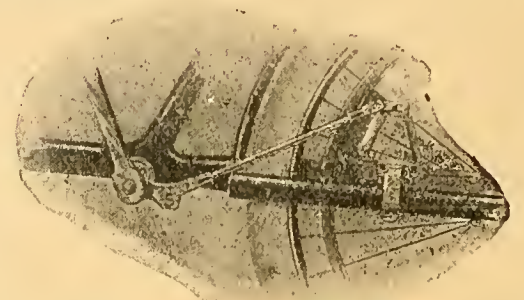
PALMER.—15-20 h.p. Darracq, five-seater, four-cylinder; £125.—L. N. Palmer, 190, Mellison Road, Tooting. Telephone, 208, Streatham.

MATCHLESS MOTORS!!

Tourist Trophy, 1907, First
Tourist Trophy, 1908, Second



158½ miles in 3 hrs. 57 min. 6½ sec. Bore 85, stroke 76 mm. Average speed 40 m.p.h., only 2 m.p.h. less than the winner, of 57000 cubic millimetres greater cylinder capacity. Beating 21 twin-cylinder machines from 3½ h.p. to 7 h.p., and 12 single-cylinder machines of other makes.



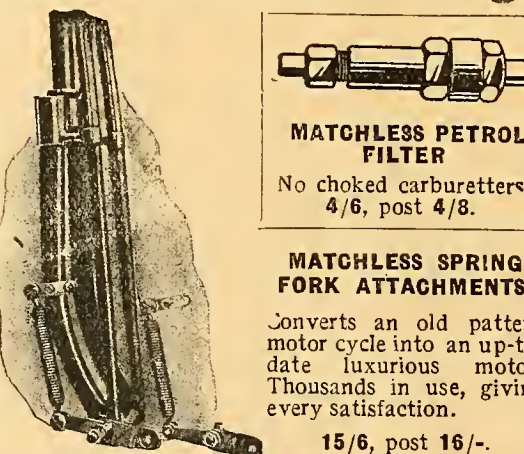
No. 1 pattern—**Back Pedalling Brake.** Machine can be wheeled backwards. Extremely powerful. Price 16/6, post 17/-.



No. 2 pattern—**Footrest Brake**, complete, price £1 6s. Footrests only, price 12/-, with either ¼ in. or 1½ in. clip. Post 12/6.



No. 3 pattern—**Foot Brake** with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete, 16/6. Post 17/-.

**MATCHLESS PETROL FILTER**

No choked carburetters. 4/6, post 4/8.

MATCHLESS SPRING FORK ATTACHMENTS.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction.

15/6, post 16/-.

THE MATCHLESS SILENCER.

Up to 3 h.p., 10/-; from 3½ to 5 h.p., 12/-; Cut out 5/- extra. Two connections for twins with separate exhaust pipes, 4/- extra.



Catalogues of "Matchless" Motor Cycles and Accessories on application to

H. COLLIER & SONS, LTD.,

Motor Experts & General Engineers.

Offices and Showrooms:

13, HERBERT ROAD, PLUMSTEAD

(Nearest Station: Woolwich Arsenal.)

Telephone: 232, Woolwich.

CARS FOR SALE.

GLADIATOR, 6 h.p., tonneau, fine condition; £35.

DE DION, 4½ h.p., two-seater, good running order; £22 10s.

SIDDELEY, 6 h.p., very fast and reliable; £42 10s.

LANCHESTER, 10-12 h.p., five-seater, leather hood; £42 10s.

BROOKE, three-cylinder, canopy, and glass screen, fine touring car; £50.

STIRLING Dogcart, 6 h.p. Panhard engine, three speeds and reverse, fine going order; £14 10s.—Robbins, 334, Clapham Road.

FOR Sale, 5½ h.p. Alldays car, two speeds and reverse, seats three, as new; £30.—Tunley, Hucclecote, Gloucester.

10-12 h.p. Humber, four-cylinder, late 1907 long chassis, Cape hood, in perfect order; £195.—Below.

14-16 h.p. Daimler, four-cylinder, tonneau gate change, fast, silent, bargain; £75.—Below.

6½ h.p. Wolseley, two-seater, three speeds, very smart, excellent condition; £50.—Below.

6½ h.p. Beeston Humber, two-seater, three speeds, hood, screen, lamps, very fine order; £40.—Below.

6½ h.p. Clyde, two-seater, Aster engine, excellent order; £40.—Below.

7 h.p. M.M.C., three-seater, three speeds and reverse, nice condition; £30.—Eclipse Eng. and Motor Co., 255, Earlsfield Road, Wandsworth. 'Phone: 1,135, Putney.

10-12 h.p. Forman, twin-cylinder, tonneau new tyres; great bargain, £70, offers exchange.—1, Townley Road, E. Dulwich, S.E.

CAR Bargains.—Gregoire, 8 h.p., two cylinders, bucket seats, perfect condition very smart; to clear, £68 10s.

SINGER, 1907, 7-9 h.p., hood, screen, etc. as new; £155.

HUMBER, 15 h.p., 1907, £175; Siddeley, 1908 14 h.p., new; Siddeley, 18 h.p., 1908 trial car.

S.C.A.T., 1908, 22 h.p., new; 10-12 h.p. Wolseley, etc.; offers; 1908 Triumph and cash for any of above.—Eric S. Myers, No Worry Depot, Bradford.

8 h.p. M.M.C. Car, thoroughly overhauled and repainted; £45, or exchange 12-14 h.p. chassis, any condition. — Carter's, Istock.

HALIFAX. — 6½ h.p. Humberette, three speeds, reverse, artillery wheels, tyres good, finished blue; £45.—Below.

HALIFAX.—10-12 h.p. Brush, four-seater tonneau, three speeds, reverse; £55.

HALIFAX. — Light 6 h.p. two-seater car, two speeds; £17 10s.—Halifax Motor Exchange, Westgate, Halifax.

6 h.p. Clement Car, two-seater, cardan drive, modern appearance, excellent condition; £32.—Robinson, tailor, 102, High Street, Manchester.

STAMFORD HILL.—5 h.p. Pieper small two-seater car, w.c., two speeds and reverse, fine running order, very good condition, nice little lot; £19.

STAMFORD HILL.—10-12 h.p. twin Pick two-seater, new 4½ Colliers on back, two speeds and reverse, in excellent condition and perfect running order; £25, great bargain.

STAMFORD HILL.—10-12 h.p. twin Pick four-seater tonneau, three speeds and reverse, 760-90 equal artillery wheels, all in splendid condition and excellent running order, fast and powerful; £40; photos, further particulars, and trials with pleasure; exchanges.—128, High Road, Tottenham.

REX, 8-10 h.p., tonneau, three speeds, reverse, extra tyre, lamps; £45, or exchange.—Saxondale, Clarence Road, King's Heath, Birmingham.

SUNBEAM Mabley, absolutely perfect, the very best on the road.—Full detailed particulars and price from Long, Crowle, Lines. Best offer secures.

5 h.p. Vauxhall, excellent condition, Dunlops, 26 by 2½, good as new, seats two, water-cooled, etc.; accept £30, take motor cycles part payment.—Blackmore, Alphonson Street, Exeter.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

EXCHANGE.

2½ h.p. Kerry, and cash, for 3½ h.p., good make.—306, Whitehorse Road, Croydon.

EXCHANGE Rudge-Whitworth path racer, 1½in. Constrictors, for motor cycle.—L. Plewes, Burlington Crescent, Goole.

EXCHANGE 6 h.p. car for three-seater tri-car, or powerful motor cycle and sidecar.—Ashford, 2, Horton Street, Derby.

EXCHANGE Twin Marconi Coil for good tyre, 26 by 2, or sell £1.—Douglas, Gwydor Road, Elmers End, Beckenham.

EXCHANGE Stratex Belt, ½in. by 8ft. 6in., new, for ½in. Whittle, or rubber belt.—A. Haigh, 6, Pillory, Tankersley, Barnsley.

2 h.p. Crossley Gas Engine, in splendid working order; exchange for motor cycle.—82, Clarendon Road, Walthamstow.

STANLEY Steam Car, excellent condition, for fast bike or tri-car; sell £25; Lancashire.—Box 1,036, *The Motor Cycle Offices*, Coventry.

EXCHANGE Ariel Coupler (new condition) for Mabon clutch, in good order, or sell 30s.—Cooper, 28, Townsend Place, Kirkcaldy, N.B.

2 and **2½** h.p. Minervas, for small gas engine, screw cutting lathe, vulcaniser, or sell £8 and £10.—1, Bank Terrace, Whitworth, Lancs.

2½ h.p. Vaf Inclined Engine and carburetter, as new, 45s.; exchange and cash 3½ h.p. vertical.—30, Battersea Park Road, London.

EXCHANGE Contents of garage business, stock, tools, main road, no opposition, for good car or tri-car.—No. 1,040, *The Motor Cycle Offices*, Coventry.

EXCHANGE 3½ h.p. Rex, splendid condition, too powerful, for good 2½ h.p. machine, or sell £14; London only.—Slaughter, 137, Queen's Road, Dalston.

2½ h.p. Clement-Garrard, De Dion engine, in perfect condition and first-class going order; take £6 and good cycle.—Harris, undertaker, Cradley Heath.

ENGINE and Boiler, in splendid working order, just the thing for driving small dynamo or lathe; exchange for motor cycle.—Cameron, 118, Cotham Brow, Bristol.

EXCHANGE 3½ h.p. Rover, with detachable forecarriage, new gent's cycle, and little cash, for good twin or single, magneto.—No. 1,041, *The Motor Cycle Offices*, Coventry.

EXCHANGE 3½-4 h.p. Beeston Humber tri-car, faultless condition, and cash, for high powered coach-built w.c. tri-car.—Colclough, 109, High Street, Fenton, Stoke-on-Trent.

EXCHANGE Locomobile steam car, in perfect condition, with hood, and several spare parts, for twin Rex, or other good high power motor cycle.—27, Clinton Avenue, Blackpool.

5 h.p. Humber Tricar, coach-built, water-cooled, two speeds, good condition; any trial; exchange for 2½ h.p. good motor cycle and cash adjustment.—64, Belgrave Gardens, Wanstead.

3½ h.p. Rex, splendid condition, good running order, and ten guinea Premier cycle, for 5 or 6 h.p. twin and sidecar, or magneto.—Dixon, 16, Navarre Road, East Ham, Essex.

EXCHANGE, brand new 1908 38-guinea 3½ h.p. magneto Rex, ball bearing engine, for 15 guineas and 1908 magneto lightweight, or 3½ h.p.—Halifax Motor Exchange, Westgate, Halifax.

TWO-CYLINDER 8 h.p. Decauville, seats four, tyres splendid order, four speeds and reverse; exchange for tri-car, or good motor cycle and sidecar.—Abell, 15, Holmesdale Road, Sevenoaks.

EXCHANGE 1908 Montgomery sidecar, non-skid device, new condition, for Chatter-Lea forecarriage attachment, must be low built, and in sound condition.—Jackson, Bank Square, Wilmslow.

1908 7-9 h.p. Twin Peugeot, cane sidecar, upholstered red leather, Roc two speeds, magneto, Palmers, 2½in., 1in. Dermatine, latest refinements, built by Chatter-Lea, ridden 200 miles, perfect; cost £95, sell £60, or exchange for two-seater car, no rubbish.—31, St. Mary's Road, Doncaster

PLEASE NOTE

We can supply all parts for 2½ and 3½ h.p. F.N. Engines.

"VINDEC" Adjustable Palleys for 2½ h.p. F.N. Engines, 10/- each.

"VINDEC" Adjustable Pulleys for 3½ h.p. F.N. and 3½ or 5 h.p. Peugeot Engines, 15/- each.

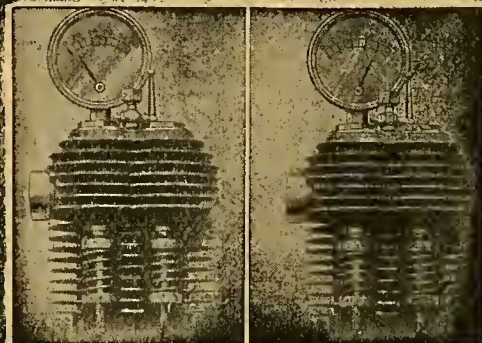


"KUMFO" Sponge Rubber Grips, ½in. or 1in. bars, 2/6 per pair.

South British Trading Co., Ltd.,
13-15, Wilson St., London, E.C.

Compression means Power

Before reborring. After reborring.



We rebor your cylinder and fit new piston complete with rings and gudgeon pin. Please send for our new repairs booklet, giving prices for this work.

The LAYSTALL MOTOR ENGINEERING WORKS, Ltd.
AUTOMOBILE REPAIRERS.

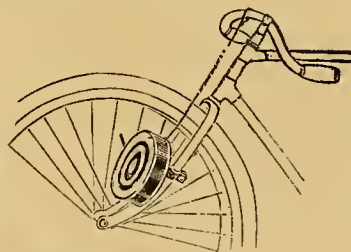
27 & 29, Laystall St., Rosebery Av., LONDON, E.C.
Established 1907. Tel. 423-11 Central.

"PAN-A-RATTAS."

The New Road Clearer and Bell Substitute.
NEW AND IMPROVED MODELS.
"BRITISH MADE."

Stove enamelled green or black. Properly made clip to attach to D forks of cycle or motor cycle.

NOT
A
TOY.
BUT
AN
EFFECTIVE
MUSICAL
ALARM.



Patent applied for.

No. 2. High-toned metal disc, 1/- each.

No. 4. Transparent celluloid disc, 1/6 "

Postage rd.

To be obtained of all Cycle Agents.

BRANSOM, KENT & CO., Ltd.

40, Great Eastern St., LONDON, E.C.

EXCHANGE.

EXCHANGE Detachable Forecar, 26in. wheels, no tyres, footboards, padded wicker chair, also Osborne four-speed gear, for sidecar, cash adjustment.—Dickson, 20, Tillstone Street, Brighton.

2½ h.p. Royal Enfield Motor Cycle Engine, fitted with carburetter and coil, also low tension magneto; exchange for good 5 to 7 h.p. twin engine, good make, cash adjustment.—Williams, 6, Neville Street, Cardiff.

EXCHANGE for good motor cycle, tri-car, or reliable small car, new high-class furniture, any description, valued wholesale, direct from works.—Furniture Manufacturer, 9, French Place, Shoreditch, London.

EXCHANGE for good bicycle and £8 cash. 3½ h.p. Humber motor cycle, 26in. wheels, spring saddle-pillar, perfect condition, easily take sidecar, very reliable.—Motorist, 86, Colvestone Crescent, Dalston, London.

HAVING Sold Car, and no further use for two 760 by 90 covers, one re-treaded moseley non-skid, one ditto, by London Rubber Co., never been used, will exchange anything.—T. E. Winskill, Roe Buck Hotel, Kendal.

EXCHANGE 2½ h.p. Buchet engined motor cycle, trembler coil, Longuemare carburetter, 28in. wheels, Palmer tyres, good order, suit tall rider, for good billiard table, or sell £9 10s.; Coventry.—Box No. 1,033, *The Motor Cycle Offices*, Coventry.

QUADCAR, Phoenix style, genuine De Dion 3½ h.p. water-cooled head, two speeds, wheel steering, smart, handle starting, climb almost anything, bucket seats, new gears, piston, rings, etc., good running order, electric lit back numbers, has carried two adults and two children; exchange for 3½ or 4-4½ h.p. motor bike.—Mead, Draper, Croyley Green, Herts.

WANTED.

WANTED, 2½ h.p. Clyde engine, or crank case.—Bryce, Gateside, West Kilbride.

SIDECAR, Montgomery, wicker, 26in., good tyre.—Wilson, Draper, Leyburn, Yorkshire.

MILLS-FULFORD Castor Wheel Sidecar, cane, 26in., left.—36, Carter Street, Waltham.

WANTED, magneto, speed indicator, headlight, and motor clock.—Pooie, Barrow-on-Humber.

WANTED, high tension magneto; state price.—Apply, Moore, 1, Derryvolgie Avenue, Belfast.

TYRE, 26 by 2½, good condition essential.—Full particulars, Motor, 26, Halsbury Street, Leicester.

WANTED, cheap for cash, sound 1907 Motor Cycle, not under 3½ h.p.—Fairer, St. Clair, Bridgnorth.

ENGINE, 1½-2 h.p. (requiring repairs will do), carburetter, and coil.—Old, School House, Merstham, Surrey.

LATE Pattern Bat, Triumph, or other good make, cheap for cash.—Nye, Aldhurst, Drewstead Road, Streatham.

WANTED, good twin engine, 5-6 h.p., in exchange for 2½ h.p. single and cash.—39, Harcourt Street, Derby.

TWIN Motor Cycle, magneto, two or four speeds, or light water-cooled tri-car.—Jackson, 39, Warwick Road, Batley.

WANTED, Drummond, or other good treadle lathe and tools; exchange small car.—14, Zermatt Street, Chapeltown, Leeds.

WANTED, twin and sidecar, two speeds, free engine, magneto preferred; no rubbish; trial.—Chestnuts, Cumnor Road, Sutton, Surrey.

HIGH Powered Motor Cycle or tri-car, cheap for cash, or exchange three-speed push cycle, nearly new, and cash.—Hardy, 43, Great Northern Street, Morley, Yorks.

WANTED, 1908 Triumph or Rex de Luxe, will give in exchange X Ray outfit, cost £90, suitable for hospital or specialist.—Hainsworth, 123, Queen Street, Morley, Yorks.

WANTED, motor cycle, about 3 h.p.; give nearly new push cycle and cash; wanted also cylinder top, for 2½ h.p. Clement-Garrard engine.—Brown, Warwick House, Coleford, Glos.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

WANTED.

WANTED, Rex cylinder, 1906, 3½ h.p.; state price.—Cutler, Wright's Lane, Old Hill.

GOOD Modern Motor Cycle, 2-3 h.p.; particulars, lowest price.—Gibbs, Cooper's Hill, Pirbright.

TRIUMPH, 1908, new, or nearly new; full particulars, lowest cash.—159, Douglas Road, Romford.

WANTED, good lightweight; exchange new £27 piano, or buy.—91, Southfield Road, Chiswick.

MOTOR Cycle, medium power, perfect; could part exchange cycle.—15, Cadogan Road, Cromer.

WANTED, crank case, for 75 bore cylinder, also carburetter.—Heywood, Haileybury, Hertfordshire.

WANTED, R.O.M. contact breaker, thermosiphon radiators for tricar.—27, Cambridge Road, Barking.

FIRST-CLASS Powerful tricar, known make; cheap, spot cash.—R. Else, Lea-wood, near Matlock.

WANTED, inclined engine, about 2 h.p., cheap, or little twin.—Lambert 3, Pitlake, Bridge, Croydon.

WANTED, F.N.'s, Triumphs, Vincs, or any good makes for cash.—Rey, 5, Heath Street, Hampstead.

ENGINE, about 3½ h.p., tyres, tubes, 26 by 2½, powerful lamp, saddle.—1,038, The Motor Cycle Offices, 20, Tudor Street, E.C.

SCREW-CUTTING Lathe, double geared drilling machine, portable brazing hearth, gramophone.—Booth's Motories, Wade Street, Halifax.

WANTED, 3 h.p. motor cycle, Bosch magneto, very low position, Longuemare, good condition; cheap for cash.—D.H., 4, Alma Square, St. John's Wood.

LIGHTWEIGHT Motor Cycle required, F.N., Peugeot, Ariel preferred, 1908 model, must have magneto, spring forks, perfect condition.—No. 1,037, The Motor Cycle Offices, Coventry.

WANTED, compensating or castor wheel sidecar, 26in. wheel, for right side, 4½ by 1in. N.S.U. pulley, new, 4s. 6d.; N.S.U. carburetter, 7s. 6d.—J., 25, Derby Street, Burton-on-Trent.

WANTED, high grade motor cycle; exchange new high-class furniture, any description, direct from works, valued wholesale.—Furniture Manufacturer, 9, French Place, Shoreditch, London.

WANTED, latest lightweight, Moto-Reve preferred; exchange gent's B.S.A. cycle, three-speed, gold keyless lever watch, new, or phonograph and cash.—Willetts, Haden Road, Old Hill, Staffs.

HALIFAX—Wanted, 1908 Magneto Lightweight (also 3½ h.p.) in part payment for brand new 1908 3½ h.p. magneto Rexes, with ball bearing engine, at 38 guineas; £26 5s. and upwards allowed.—Halifax Motor Exchange, Westgate, Halifax.

WANTED, four-cylinder car, side entrance, in good order, would exchange 5-6 h.p. new motor cycle and forecar, Peugeot engine, Chater-Lea fittings, and two motor cycles, one Ariel, 2½ h.p., one Excelsior, 3½ h.p., all in perfect order.—Quick, Honiton, Devon.

MISCELLANEOUS.

QUADRANT Loop Frame, with front forks and 20in. handle-bar; 32s. 6d. each.—Farrar.

LONG Motor Handle-bars, 21in., 4s. 9d.; heavier gauge, 5s. 6d.; well plated, three sizes.—Farrar.

DOUBLE-TWIST Cow-voiced Horns, 4s. 9d.; large size, 6s.; new Lycett's B toolbag, 6s.—Farrar.

PREMIER Accumulators, Rex size, 12s.; send for price list; pounds saved.—Farrar, Square Road, Halifax.

SHEDS for Motor Cycles, 45s.; portable.—Stevens, 82a, Leighton Road, Kentish Town, London.

FRAMES made to order, complete, £2 10s.; wheels, 17s. 6d. pair; also sidecars.—Millard, Belvedere.

A REVOLUTION

in the prices of

Motor Clothing and Accessories.



Send a card for Motor List.

Guaranteed Waterproof.

As sketch.

Jackets fitted with Deep Storm Collar, straps on sleeves, and very full skirts, guaranteed absolutely waterproof.

Fawn Paramatta 21/-, 27/6.

Heavy Tweeds, 21/-, 25/-, 32/6, 45/.

Double Breasted at an extra charge of 2/6.

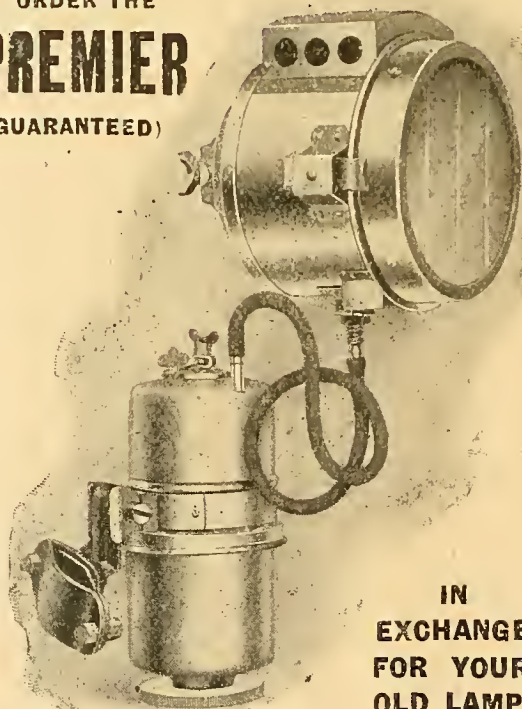
OVERALLS.

Fawn or Black Paramatta, 5/-, 6/6 per pair.

The above afford the greatest possible protection from the wind and rain and no motorist should be without them.

JOHN PIGGOTT, LTD.,
117-118, Cheapside, and Milk St., London.

ORDER THE PREMIER (GUARANTEED)



IN
EXCHANGE
FOR YOUR
OLD LAMP.

The Genuine Premier with its guarantee and its unapproachable reputation. **THE PREMIER SEARCH-LIGHT** is made by the Premier Company and sold by them and their agents only. The flimsy "exactly like" and "just as good" sort are imitations. Send your lamp (any sort) and we will offer liberal allowance in exchange.

Complete 30s.; Lamp only, 24s.; Generator only, 6s

The PREMIER MOTOR Co., Ltd.,
ASTON ROAD, BIRMINGHAM.

ADVERTISERS — Please note that Friday is the latest day we can receive advertisement copy for the following week's issue.

MISCELLANEOUS.

ENGINES Re-bushed throughout from £2.—Tufnell and Co.

CYLINDERS Re-bored from 5s.—Tufnell and Co.

PISTONS Supplied new from 7s. 6d.—Tufnell and Co.

RINGS from 9d.—Tufnell and Co.

CONNECTING Rods from 7s. 6d.—Tufnell and Co.

INLET Valves from 1s. 6d.—Tufnell and Co.

EXHAUST Valves from 2s. 6d.—Tufnell and Co.

PULLEYS for any motor.—Tufnell and Co.

TRIUMPH, Brown, Fafnir, 4s. 9d.—Tufnell and Co.

REX, Antoine, Kelecom, 5s. 9d.—Tufnell and Co.

DE DION, M.M.C., 6s. 9d.—Tufnell and Co.

ABOVE 4½in. Diameter, extra 9d.—Tufnell and Co.

AXLES, cranks, spindles, handle-bars, seat pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed.—Tufnell and Co., 527, High Road, Leytonstone.

TRICAR Frame, with wheels, tanks, etc. £7.—785, High Road, Leytonstone.

28 by 2 Clincher, fair condition, 4s.; Minerva pulley, 2s.—Hastie, Sefton House, Molesey.

WHIPCORD Cycling Breeches, latest cut 10s. 6d.; write for patterns.—Booth, tailor, Longton, Staffs.

WHY Spill and Tear Expensive Clothes?—Whipcord breeches, 8s. 6d., post free.—Meredith's, Northwich.

FOR Sale, one F.N. full size carburetter 9s. 6d.; almost new.—191, Cricklewood Broadway, London, N.W.

RUSEL Cast Iron Headed Valves, any engine, 3s. 6d., postage 3d.—Broadhurst, 13, Stafford Street, Leicester.

AUTOCLIPSE Lamp and Generator, nickel plated; 35s., nearly new.—Tummey, draper, Yardley, Birmingham.

ONE Pair Genuine Simplex Spring Fork Attachments, plated (brand new); 9s.—Scott, 4, Cambridge Place, Plumstead.

OWNERS of heavy powered machines.—The D—all adjustable belt fasteners will satisfy as no other shall.—Below.

D—ALL Adjustable Fasteners, the best yet produced; direct pull, frictionless with two lengthening links, post free, 1s 10d.—Dall, Ladybank, Fife.

NEW Kent Tricar Gear, three speeds, complete, in hands of makers; price £6.—Cloake, Rose in Valley Hotel, Chatham.

OSBORNE Four-speed Pulley, complete with levers, etc.; 50s.—Barber, 17, Galena Road, Hey Street, Hammersmith, W.

BELT Rim Brakes, flexible cable hand applied, easily fitted, stop anything; 8s 6d., usual price 15s.—Slack's Garage, Stockport.

X—ALL Spring Fork Attachment and Fork, only used one month, as new: what offers?—Duke, Anderby Rectory, Alford Lincs.

N.S.U. Two-speed Gear, new, £4 10s.; two Brampton motor saddles, shop-soiled, 7s. 6d. each.—Hodgson 10, Horton Road, Bradford.

EVERYTHING made in Tanks and Radiators except a fortune.—Write for prices, A. Phillips, 112, Lynton Road, Bermondsey.

NON-SKID Studded Cover, 26 by 2½, 15s.; Longuemare spray carburetter, 7s. 6d.; spring fork attachment, 5s.—Lloyd, Victoria Terrace, Leamington.

PULLEYS for any motor.—De Dion, M.M.C., 6s. 6d.; Antoine, N.S.U., Kelecom, Roc, F.N., 5s. 9d.; Peugeot, Brown, 5s. 6d.; Triumph, Fafnir, Sarolea, Minerva, 4s. 9d.; plated, guaranteed, carriage paid.—J. Perkins, High Road, Leyton, London.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

MAUDE'S.—Genuine Stanley-Dermatine 1in. belts, 8ft. 6in., guaranteed and genuine; 12s. 6d. each.

MAUDE'S.—Osborne four-speed, very good order; £2 17s. 6d.

MAUDE'S.—Why not try a latest Brown and Barlow carburetter, with handle-bar control; only 30s.

MAUDE'S.—Will allow you 10s. on your present one, no matter what make, in exchange; immediate delivery.

MAUDE'S.—Amac carburetters, latest pattern, 29s., or your present one and 20s. secures; any model.

MAUDE'S.—Mabon clutch, fits Minerva, good condition; 32s. 6d.

MAUDE'S.—Longuemare spray carburetter, 15s.; Brown and Barlow, 15s.

MAUDE'S.—High tension wire, best quality, 9d. per yard; low tension, 6d.

MAUDE'S.—Albion free engine pulley, brand new; 30s.

MAUDE'S.—Middlemore padded Rideasy saddles, your old one and 12s. 6d. secures, guaranteed, exactly as on Triumphs, splendid value.

MAUDE'S.—Long Handle-bars, best plating, finest quality, heavy gauge; 5s. 1. per pair.

MAUDE'S.—The latest variable pulley, standard sizes in stock. Try one on approval; only 14s.

MAUDE'S.—Treble twist horns, the finest horn ever made; try one on approval; best plating throughout; only 7s. 6d.; double twist, 4s. 6d.

MAUDE'S.—Latest pattern headlight, divided glasses, guaranteed, and exactly as sold by others at 30s. and 22s. 6d. respectively; our price one guinea; approval.

MAUDE'S. the Fair Factors, Powell Street, Halifax. Tyre catalogue ready shortly. Register your name for one.

MINERVA Carburetter, 2 to 3 h.p., perfect order; 8s. 6d.—129, Ley Street, Ilford.

BARKER'S Iron Cement, for cracked cylinders, etc.; 1s. tin.—Oxford Road, Wotton.

TORPEDO Tank, new, complete with all fittings; 15s. 6d.—25, The Gardens, Peckham Eye.

1 Volt Accumulator, cost 20s., never used; bargain, 7s. 6d., or exchange; approval. —229, Hyde Road, Manchester.

MINERVA Engine Pulleys, prices from 3s.; pistons from 5s.—Motor Works, 2a, Elbourne Road, Denmark Hill, S.E.

CASH Bargains.—Prested 12 amp. accumulators, 9s. 6d.; two-way switches, 2s.; B.D. silencer, 4s. 6d.; searchlight lamp, with separate generator, 22s.; volt or amp. meters, 4s. 6d.; large double-twist horns, 5s. 6d.; belt fasteners, 8d.; belt punches, 3s. 3d.; ratchet plated control levers, 1s. 6d.; double with clip, 5s. 6d.; motor cycle two-speed hubs, 50s.—Bastone, see below.

CLINCHER A Won Motor Cycle, B.E., 28 by 2½, 21s.; Clincher heavy car covers, 750 by 85, T4, 45s.; T3, 43s.; 700 by 65, T1, 26s.—Bastone, see below.

MOTOR Cycle Covers, wired edge, 26 by 2, 2½, and 2½, 11s. 6d.; 28 by 2, 2½, 2½, 12s. 6d.; beaded edge, 2s. extra; Clincher motor cycle tube, 26 by 2½, 6s. 9d.; Macintosh tubes, 26 by 2½, 28 by 2, 6s. 9d.—Bastone, see below.

BELTING, best quality leather, V, ½, ¾, 8d., 10d., and 1s.; rubber and canvas, 1in., 1s. 2d. per foot; approval against cash.—Bastone, 215 and 217, Pentonville Road, King's Cross, London, N. Telephone, 481 North.

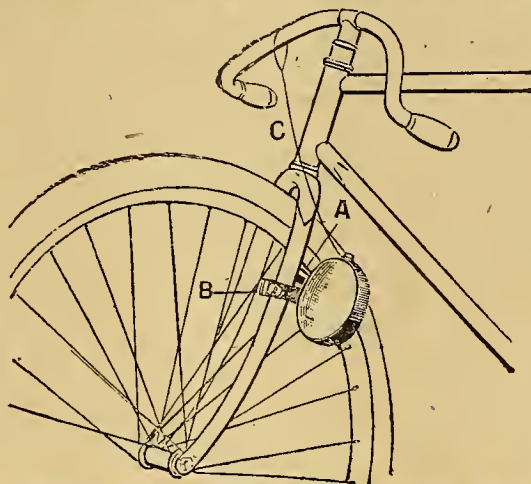
SPLENDID Coach-built Forecar Body, wheels and attachments, practically new, no tyres; what offers?—Taylor, 292, Manchester Street, Oldham.

F.N. Plain Coil, trembler coil, N.A.B. pillar and saddle, 26 by 2½ Moseley wired cover; 32s. 6d. the lot.—Munning, St. John's, South End Road, Hampstead.

APPROVAL.—R.O.M. twin contact breaker, soiled, 22s. 6d.; Longuemare carburetter, 11s. 6d.; plated torpedo tank, 10s. 6d.—Smith, Ford Street, St. Mary, Nottingham.

Have **YOU** tried
the new Road-
clearer for bicycles?

TAMBOURONG



Replaces the old-fashioned bell and horn.

The Effect is Startling!

Fixes on front forks. A cord from handle-bar pulls trigger when required in contact with front wheel spokes and sounds like a noisy drum or gong.

Stamped metal gong, 1/6.

LEO. RIPAULT & CO.,

64a, POLAND ST., LONDON, W.

Sole Agents for the genuine Parisian made article.

NOTICE. As we find the parchment model is detrimentally affected by damp weather we have abandoned this pattern in favour of the new stamped metal gong, which is the thing for Motor Cycles, and made specially strong.

BOOKS FOR
MOTOR CYCLISTS.

"THE AUTOCAR" AUTOMOBILE DICTIONARY, by Sigmund Krausz. Twelve thousand technical terms and other words employed in connection with automobiles and automobilism. In English-French-German, French-English-German, and German-French-English. Cloth bound. Price 3/6 net. Post free, 3/9.

"USEFUL HINTS AND TIPS FOR AUTOMOBILISTS."—Third edition (revised and enlarged). Contains nearly 600 hints and "wrinkles" relating to the care, management, and repair of automobiles. As useful to the motor cyclist as the car owner. Price 2/6 net. Post free, 2/10.

"MOTOR REPAIRING FOR AMATEURS," by John Henry Knight. A book written to assist those who have a penchant for mechanics, and keep their machine in running order themselves. Price 2/6 net. Post free, 2/9.

Order, with remittance, should be sent to

ILIFFE & SONS LTD.,
20, Tudor St., LONDON, E.C.

MISCELLANEOUS.

ALVASTON Bargains.—Four-cylinder Gnanoli high tension magneto, brand new; list price £14, superb instrument, fully guaranteed, wonderful spark, immediate sale, £6 10s.

ALVASTON Bargains.—3 h.p. stationary enclosed petrol motor, well made, and in perfect running order, drive lathe or other machinery; to clear, 45s.

ALVASTON Bargains.—7 h.p. Crossley oil engine, in excellent order; seen running; all fittings, complete; £32, worth double.

ALVASTON Bargains.—6½ h.p. Aster, water-cooled head, new, perfect; 25s.

ALVASTON Bargains.—Genuine 8 h.p. Rover cylinder, M.O.V., guaranteed sound, nearly new; accept 30s., worth £4.—Alvaston Motors, Derby.

MAUDE'S.—C.A.V. accumulators, guaranteed twelve months, Humber size, 15s.; Rex size, 16s. 6d.; Ariel, 15s. 9d.; Minerva, 17s.

MAUDE'S allow you 5s. on your old accumulator in part payment; approval of course.—Maude's, the Fair Factors, Powell Street, Halifax.

PORTABLE Building, 34 by 15, 8 windows, new condition, or would exchange motor.—Charles Hughes and Sons, Portmadoc.

3½ h.p. Vindec Cylinder and Piston (sound), 12s.; Salsbury lamp and large generator, 12s.; 8ft. 6in. Whittle's 3in. belt, 7s. 6d.—Tegg, Burghfield Common, Mortimer, Berks.

B.S.A. Motor Cycle, everything except engine and carburetter, will take any size engine to 3½ h.p.; nearest offer £8.—Fullest particulars, 70, Milman Road, Liverpool.

UTOGENOUS Welding.—Send that broken casting to the Alvaston Motors, Derby, to be welded by patent process; metal reunited.

UTOGENOUS Welding.—Costly castings saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, and a thousand other things.

UTOGENOUS Welding.—Wonderful results. Broken flanges, lugs, brackets, etc., all amenable to our process; send part to-day; quotations on sight.

UTOGENOUS Welding.—Alvaston Motors, Derby. Telephone, 1, Alvaston.

TREMBLER Coil, 12s.; 60 amp. accumulator, 22s.; 20 amp. accumulator, 10s.; odometer, 12s.; contact breaker, 5s.; 1in. leather belt, 14s.—Vialls, 10a, Alexandra Road, Hendon.

ATLAS Spring Fork Attachment.—Motor cycling a pleasure; no side play, no vibration, polished, rustproof; 13s., carriage paid.—Atlas Engineering Co., 115, Victoria Road, Charlton, S.E.

BROWN and Barlow 3½ h.p. carburetter, with Chater thumbslides, complete, fit Triumph; 12s. 6d., or exchange for spring saddle-pillar, or studded cover.—21, Hindman's Road, Dulwich.

TORPEDO Tanks, made in brass, copper, and steel, any size, best finish; swan-neck seat-pillars, 2s. 6d.; long handle-bars, 4s.; tanks, from 5s.—Arrow Motor Works, Victoria Road, Peckham, S.E.

AMATEUR Photographers.—Superior enlargements (bromide), from your negatives, 8 by 6, 9d.; 10 by 8, 10d.; 12 by 10, 11d.; 15 by 12, 1s. 1d.; cash; from prints 6d. extra.—Greame, Wellesley, Whyteleafe.

READERS having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium; ½d. per word, minimum 9d.—Address, "Photography and Focus" Offices, 20, Tudor Street, London, E.C.

3 h.p. Antoine Engine, £3; Eisemann magneto and coil, £2 10s.; 28 by 2 Grose steel studded tyre, 15s.; substantial footboards, 10s. pair; F.N. carburetter, 6s.; etc.—Page, 63, New Fillebrook Road, Leytonstone, N.E.

DE DION 3½ h.p. Engine, water-cooled, Longuemare carburetter, Nilmelior coil, accumulator, silencer, £5 5s.; tricar or sidecar seat, upholstered wicker body, Cee springs, 17s. 6d.; all perfect; cash wanted.—102, Mare Street, Hackney, N.E.

MISCELLANEOUS.

BOOTH.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

BOOTH.—500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget trembler coils, 17s. 6d.

BOOTH takes your old coil in part payment; part with troublesome coils.

BOOTH.—Fuller accumulators, 20 amp., 17s.; Rex type, 16s.; Minerva, 16s.; Midget, 16s.

BOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fuller's.

BOOTH.—50 pairs Xl'all spring forks; immediate delivery; N.A.B. seat-pillar, 3s. 6d.

BOOTH.—Long motor cycle handle-bars, heavy gauge, best quality plating; 5s. 6d.

BOOTH.—Silent silencers, for engines to 5 h.p., very efficient, no back pressure; 3s. 3d.

BOOTH.—Frames, £1 5s.; wheels, 9s. 6d. pair; plain coils, 2s. 11d.; trembler coils, 5s. 6d.

BOOTH.—Send for list of oddments, speed gears, tanks, etc.; clearance bargains.

CAMEL Rubber Belting, tremendous stock; ½in., 9d.; ¾in., 1s.; 1in., 1s. 2d.; 1½in., 1s. 5d.; samples free.

BOOTH.—Coronet Searchlights, minor lenses, with generator; 22s. 6d.; approval.—Booth's Motories, Wade Street, Halifax.

PULLEYS for any motor from four shillings.—Sander, 20, Manby Grove, Stratford, E.

GODFREY and Applebee.—Now is the time to send us your machine to overhaul; all work guaranteed; prices moderate.

GODFREY and Applebee, the tuning-up experts. We can improve all types of machines. Give us a trial.

GODFREY and Applebee.—Buy your machine through us and save money; bargains in second-hand machines; liberal exchange prices.

GODFREY and Applebee.—Tyres, Tyres. Big prices given for old covers in exchange for new ones. Write us for what you require.—165a, Hoe Street, Walthamstow. Phone, 464 Walthamstow.

TRICYCLE Wheels, 26 by 2½, and tyres, Longuemare carburetter, silencer, differential axle; £2.—Stelfox, Bolina Road, South Bermondsey, S.E.

GOOD Idea.—Warehouse your motor cycle and have the use of its loan value; particulars gladly. — Humphrys and Son, Peckham Rye, S.E.

YOUR Last Season's Belt is doubtlessly worn, but a box of Ukantes belt pulley grips will prolong the life of it for yet hundreds of miles.—Price's, Mount Pleasant, E.C.

BOWDEN Back Brake, complete, 10s.; Price's stands, 26in., 5s.; Whittle ½in. belt, 15s.; Brown ¾ h.p. exhaust valve, complete, 2s. 6d.; ditto, back wheel axle, 2s. 6d.; all new.—Paxman, Tewkesbury.

40 Amp. Prested, nearly new, fully charged, 10s.; Minerva pulley, new, ½ by ¾, 2s.; belt rim and clips, suit lightweight, 3s.; Fuller plain coil, 6s.—Baxter, 31, Wellington Avenue, Liverpool.

26 by 2½ Dunlop Beaded Cover, done 90 miles only, 15s.; 26 by 2½ Dunlop tube, brand new, 7s.; both fresh stock; long bars, stout, unplated, 1s. 6d.; Jane's switch, 1s.—Siddall, Imery House, Hamilton.

LONG Handle-bars, 4s.; swan-neck saddle-pillars, 2s. 6d.; frames, tanks, wheels, etc., all to your own requirements; smart delivery speciality. — Green, 14 Avondale Road, Peckham, S.E. Works, McDermott Road.

TRADE Direct and Save a Profit. — The Albany waterproof jackets, from double texture paramatta, at 18s. 6d., are going well, but for winter riding you may prefer our 21s. jacket, made from best plain fawn proof, lined self beaverteen; this is a heavy, warm, tailor made jacket, with latest improvements; any size sent carriage paid; cash with order.—G. Raws and Sons, Indiarubber Manufacturers, Oldhall Street, Liverpool.

The R.O.M. Tube.

"The car tube in miniature."

In order to meet the demand for a tougher and heavier motor cycle inner tube than at present on the market, we have decided to introduce the "R.O.M." (red) tube.

We make this tube in one weight only, viz. "extra heavy." The highest quality Para rubber alone is used in its construction, and the tube is in fact a heavy car tube in all but size.



Prices, complete with valves.

26 & 28 x 2,	9/-	Endless,	11/-	Butt-ended.
26 & 28 x 2½,	10/-	"	12/-	"
26 & 28 x 2½	11/-	"	13/-	"

BANDS, RE-TREADING, and Repairs OUR Speciality. (All makes of bands fitted.)

Shamrock, Clincher, or Goodrich rubber studded Non-skid Bands. £1 1s.

Whatever your requirements, write for our new "ILLUSTRATED TYRE LIST" (sent free). This gives prices of all covers, full particulars of our allowances on old covers, prices for re-treading, fitting bands, etc.

SPECIAL TRADE LIST ON APPLICATION.

R.O.M. CONTACT BREAKERS. R.O.M. STANDS.

The CONTINENTAL MOTOR CO.,

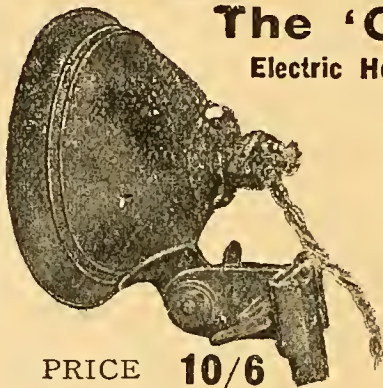
32, Rosebery Avenue, LONDON, E.C.

Phone: Holborn, 1513. Tel.: "Bromitch," London.

HALF a MO'

The 'GLARE'

Electric Headlight



Consumes only 4 volts. ½ amp.

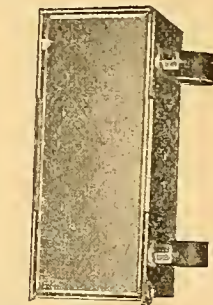
Welghs only 8 ozs.

Throws a beam 100 ft. ahead.

PRICE 10/6



THE ORIGINAL VARIABLE SPEED PULLEY, £1.



ACCUMULATOR and Box for Glare, £1.



ADJUSTABLE HANDLE BAR LAMP BRACKET, 4s. 6d.

A few of our Specialities. Write for particulars.

J. W. GREENWOOD, Ltd.

PORTLAND PLACE WORKS, HALIFAX.

London Office s and Showrooms: Agents—Messrs. BURT, 166, Clerkenwell Road, London.

MISCELLANEOUS.

SUIT of Waterproof Overalls, woollen lined, tailor made, cost 3 guineas; large leather coat, specially made, cost £3, suitable for tall man; sell or exchange for good gramophone.—Colley, Hillingdon, Bilston.

MISCELLANEOUS.

ADVANCE Adjustable Pulley, used by the leading riders.

ADVANCE Adjustable Pulley, winner T.T. Race.

ADVANCE Adjustable Pulley, many thousands now in use.

ADVANCE Adjustable Pulley; testimonials arrive daily.

ADVANCE Adjustable Pulley will increase your power.

ADVANCE Adjustable Pulley is not one the best, but the best on the market.

ENGINES, Engines, Engines.—3 h.p., 6 h.p. and 9 h.p., air or water-cooled; send for particulars.—Address below.

HERE at Last!—An ideal and adjustable belt fastener; price 2s. 6d. — Address below.

ADVANCE Generator Brackets, as recommended by "Ixon"; price 2s. 6d. Advance Motor Mfg. Co., Ltd., Northampton.

ACETYPHOTE, coil, accumulator, Griwell brake, volt amp meter; 7s. 6d. each.—91, Southfield Road, Chiswick.

BOOTH.—Forecar Attachment, side stand brakes, £4 10s., or take sidecar; wanted, sidecars, give new £8 8s. cycles, level exchange.—Booth's Motories, Wade Street, Halifax.

JACKETS, Overalls, latest style, double texture, waterproof, windproof, best value in the trade, overalls 7s.; jacket double breasted, 14s.—Manufacturers, 35 and 37, Chestergate, Stockport.

THREE-SPEED Free Engine Pulleys, positive, reliable action, most simple to fit, light, neat, durable, no end thrust, guaranteed, patent applied for.—New Nonpare Motor Fittings, Ashtree Road, Stirchley, Birmingham.

7FT. 3in. ¾in. Lycett's Lyso Rubber Belt, 8s.; ¾ h.p. Longuemare carburetter, nearly new, 12s.; large horn, 2s. 6d.; large headlight, with separate generator, 9s.; 28in. by 2in. Dunlop tyre, beaded, 7s.—7, Blair Grove, Southport.

PREMIER Searchlight, complete, unused, 25s.; 9ft. 6in. Stanley-Dermatine, ¾in. as new, 12s.; Rich tube, 26 by 2½, good, 9s. 6d.; Jane's magneto cut-out and wire, 2s. loud horn, 2s. 6d.; Lycett toolbag, 2s. 6d.—No. 1,034, The Motor Cycle Offices, Coventry.

FOR Sale, cheap, or exchange, new 26 by 2½ beaded cover, Salsbury Bleriot carburetter, 2½ h.p. engine, Lloyds free engine clutch, brand new pair of tricar hubs, Humbar carburetter, F.N. ditto, Singer tank plain coil.—Particulars, A. Moyse, Kessingland.

WHY Buy another lamp? Let me fit you own with a projector plano-convex lens; 3in., 3½in., 3¾in., 1s. 9d.; 3¾in., 2s.; 4in. 2s. 6d.; 4½in., 2s. 9d.; 4¾in., 3s.; 4¾in., 3s. 6d. 5in., 4s.; satisfaction guaranteed, or your money returned.—Payne, Metchley Lane Harborne.

2-60 and 1-30 tooth by ½ chain wheels, new 8s. each; 10ft. ¾in. by ¾in. Renold chain and half links, not run 50 miles, 1s. 6d. per foot; Longuemare carburetter, for 8 h.p. engine, 16s.; brand new radiator, 32ft. of ¾in. copper tubing. £2.—41, Kingston Road, Leicester.

5 h.p. Twin Castings, part machined; ¾ h.p. Quadrant cylinder and valves; new 3 h.p. Quadrant tank carburetter; exchange for following: single magneto Phoenix forecar, back wheel, or 26 by 2½ tyres; best cash offer.—Hall, 14, Westville Road, Shepherd's Bush.

GEAR Box, three speeds, direct drive, £5; De Dion 4½ and 6 h.p. valves, nickel, 3s. 6d. and 4s. 6d., also Darracq and Aster; also several carburetters and commutators, from 10s.; leather jacket, 6s.—Eclipse Engine and Motor Co., 255, Earlsfield Road, Wandsworth. Phone: 1,135, Putney.

8-10 h.p. Two-cylinder Engine and Gear Box, four artillery wheels, 700 by 85, four covers, 700 by 85, sound for re-treading, smart two-seated body, with toolbox, hind, painted green, ready for varnish, four new mudguards, with brackets, lamp brackets, for head and side lights, new pressed steel frame sides, up-to-date radiator and bonnet; quick sale, £23.—Carter, 46, Stanley Street, Preston, Lancashire.



THE MOTOR CYCLE



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Agents for the Colonies: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

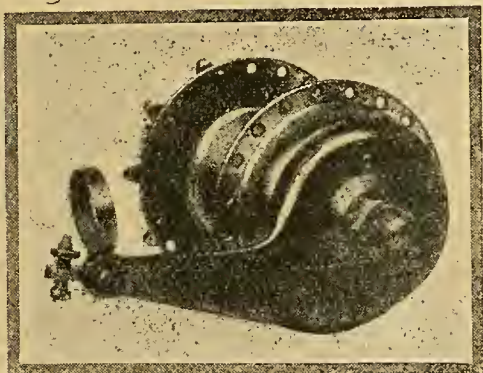
Subscription Rates: Home, 6s. 6d.; Foreign, 10s. 10d.; Canada, 8s. 8d. per annum.

ADDRESS—20, TUDOR STREET, LONDON, E.C.

SOME USEFUL ACCESSORIES.

(Continued from page 816.)

Coaster hubs have been a standard feature on many pedal bicycles for years past, but have not been popular on standard makes of motor bicycles. In America the New Departure coaster hub is largely used on motor bicycles, and in the case of machines unprovided with footrests there is no doubt that a coaster hub will attain a certain measure of popularity in this country. The New Departure coaster hub for motor bicycles, which we illustrate herewith, is a speciality of BROWN BROS., LTD., Great Eastern Street, E.C.



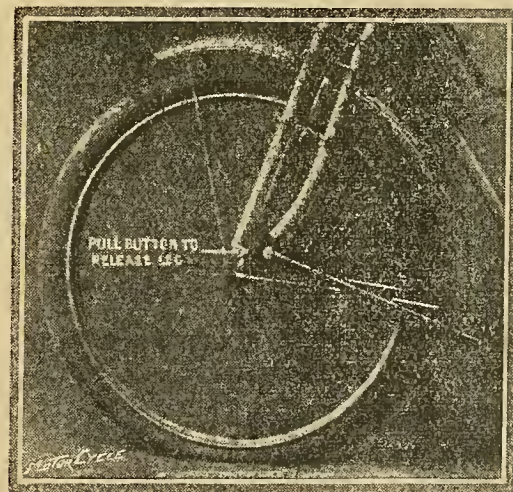
Brown Bros.' coaster hub for motor cycles.

It combines a free-wheel and back-peddalling brake. The act of back-peddalling imparts movement to a clutch which expands a triple brake ring. The free-wheel is devoid of ratchets, pawls, springs, or rollers, and a machine fitted with it can be wheeled backwards without the brake being applied. The illustration shows the chain ring cut for 1in. pitch block chain, but it will be supplied for 1/2in. pitch roller chain.

That there are numerous inefficient coils on the market is apparent to anyone who takes the trouble to enquire as to the usual amount of current consumed. Knowing this to be the case the CITY

IGNITION Co., 14, Spencer Street, Goswell Road, W.C., have brought out a separate condenser which can be fixed next to the battery, under the coil, or anywhere in close proximity to the coil. The size of the condenser is 5in. x 2 3/4in. x 1 1/4in., and with its aid an ordinary wasteful coil can be rendered one of the most economical in current consumption.

The CONTINENTAL MOTOR Co., who are chiefly famous for their R.O.M. synchronised contact breaker, have brought out a front wheel stand, which is to be known by the same name. The stand is fitted to the ends of the front wheel forks, and, being set eccentrically, allows the legs to be spread out, thus giving great rigidity. The legs are also set past the centre, so that there is no possibility of the machine being accidentally pushed off the stand. The stands are provided with ball castor ends, so that when the stand is down the machine can be wheeled about without the front wheel being in the forks, if so desired. The legs are kept in position



R.O.M. Front Wheel Stand.

Some Useful Accessories.—

by means of spring bolts. A similar stand is also supplied for the back wheel.

ALFRED DUNHILL, LTD., Euston Road, N.W., make a special point of considering the wants of motor cyclists, especially as regards clothing. The Dunhill waterproof leg overall is one of the best garments of the kind on the market. The annexed illustration clearly shows the construction of the article. We have had a pair of these in use for about two



Dunhill's valise for attaching to the carrier.

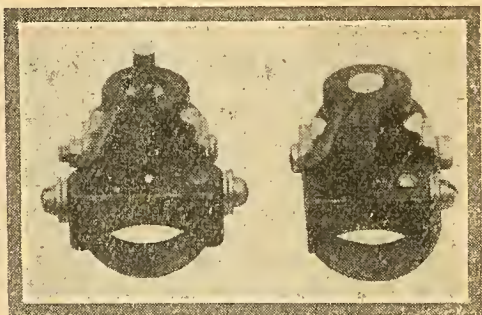
years, and have found them absolutely indispensable when riding in wet weather. They seem to be practically impervious to moisture, keeping the trousers perfectly dry and amply protecting the boots. Among the many other articles of interest stocked

A neat overall sold by Alfred Dunhill, Ltd.

by this firm may be mentioned a neat valise, designed to be attached to the back carrier of a motor cycle.

The handle-bar switches sold by A. H. HUNT, 115-117, Cannon Street, E.C., have been improved during the last few months, and are worthy of attention from those readers who are contemplating the fitting of a switch—a useful article at all times, but particularly when it is desired to coast downhill without the engine firing and without closing the throttle.

The H.H. handle-bar switches now have a clip which is bolted through the solid ebonite body. This form of clip allows the switch to be fixed on the top tube of the frame also, where there is usually very little

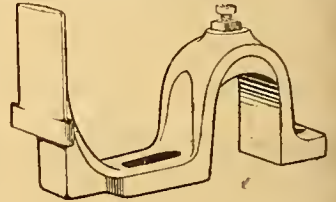


Two neat ebonite switches sold by A. H. Hunt.

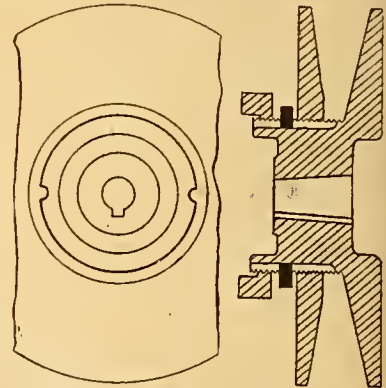
clearance between the tube and the top of the petrol tank. This is the usual position selected for two-way switches. The contact lever is now fitted with a projecting piece forming the switch lever. In the old type a groove was provided, which often allowed the thumb to slip past the lever. A new addition consists of a removable screwed plug, as shown on the left-hand switch in the illustration. When this plug is unscrewed, the switch is inoperative, so that if the lever should happen to be turned to the "on" position by an unauthorised person the batteries are not affected until the plug is replaced. Another useful article sold by

Mr. Hunt is a safety fuse for attachment to the handle-bar. This is useful in the case of machines provided with a plain coil, as if the rider forgets to switch off and the blade of the contact breaker happens to be making contact, the battery is prevented from discharging itself through the coil, by the fusing of the special alloy.

We have hitherto referred to the combined generator bracket and tank clip marketed by the ADVANCE MOTOR MFG., Co., Louise Road, Northampton, and we now illustrate this useful fitting. It will be seen that it is provided with an adjusting piece situated under the arch of the clip. This can be set with the aid of the screw and lock-nut on the top, in any desired position to suit various diameters of top tubes, and the various spaces existing between the top of the tank and the top tube.

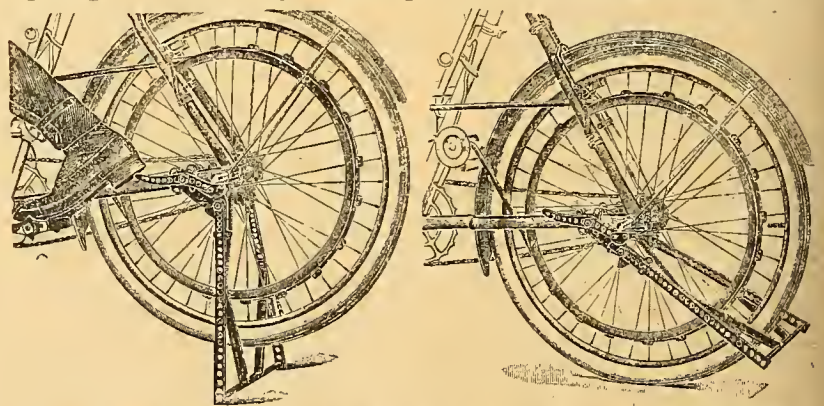


The Kerry adjustable engine pulley has special features of its own. The loose flange and the locking ring are both provided with left-hand threads, as also is the extended boss upon which the loose flange is screwed. Between the flange and the locking ring is a washer, which is prevented from turning by two dowels or keys which slide in grooves machined in the boss. The amount of adjustment is considerable, and the pulley will take practically any width of belt. It is made to suit the axle of any engine, and the EAST



LONDON RUBBER CO., Great Eastern Street, E.C., claim that the pulley can be adjusted to any gear required in thirty seconds, without the use of tools, except to loosen the locking ring.

For a long time MESSRS. LAKE AND ELLIOT, of Braintree, have enjoyed a high reputation as manufacturers of specialities; their motor cycle stand in particular has been deservedly popular. They have now marketed a lightweight pattern stand, scaling only three pounds, yet equal to hard work. The stand is normally held out of action by a simple spiral spring. To bring it into position the rider has merely



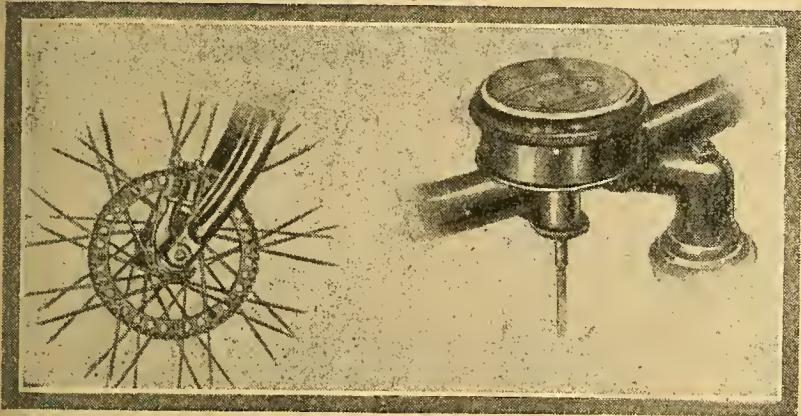
The "Millennium Express" Stand for motor bicycles weighing up to 120 lbs. It weighs 3 lbs.

to apply pressure with his foot and pull the machine back on to the stand. As it is attached to the back stays, the rear wheel of a motor cycle to which it is

Some Useful Accessories.—

fitted can be removed while the stand is in use. It is made of steel throughout, and the lugs are made from Millennium castings. The stand is finished with two coats of stoved enamel, and well plated as to its bright parts.

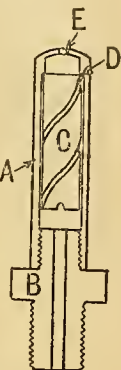
The number of enquiries we receive regarding the purchase of a reliable speedometer for motor cycles is quite surprising, proving that this accessory, in a simple and moderate priced form, is a general favourite. A. W. GAMAGE, LTD., Holborn, E.C., have prepared for the demand, and among recent importations from the States is the Bullard speedometer for attachment to



The Bullard Speedometer, showing method of driving the flexible shaft.

the handle-bar. It is operated by means of a gear wheel attached to the front wheel spokes and a flexible shaft. Among other advantages claimed for it are the indicating needle is steady at all speeds and yet sensitive to the slightest change. It also has the fewest parts of any instrument of the kind on the market. It is handsome in appearance, compact, and the working parts are provided with ball bearings throughout. Very shortly Gamage's will have the same instrument made up embodying a mileage recorder, for which, of course, an extra charge will be made.

In outward appearance the De Beer's petrol economiser is very similar to the ordinary type of carburetter jet, though somewhat larger in diameter. It has already proved its worth when fitted to the carburetters of industrial vehicles and pleasure cars, and experiments we have carried out have served to convince us that equally good results may be obtained with it when fitted to a motor cycle. From the accompanying sketch it will be seen to consist of the gun metal tube A closed at one end and screwed internally at the other end to take the adapter B. The latter is drilled through the centre, and can be made to suit various types of spray carburetters. The hollow chamber inside A contains a loose fitting piston C, which has two spiral grooves—of course pitch—cut on the outside, and a slot on its lower end to take the blade of a small screwdriver, so that it may be readily ground on to the small seating D seen near the top of the tube A. A hole E is drilled in the domed end of the tube A, and is of unusually large diameter. During the suction stroke of the engine the petrol is drawn up the adapter B, and the spiral grooves of the piston C, causing the latter to slowly rotate against the seating D. It passes through the hole E, and leaves it in the form of a whirling spray. The rotating action of the piston not only atomises the petrol, but tends to check any rush of liquid consequent on a sudden increase in speed of the engine, which would otherwise obtain too rich a mixture; it also prevents the hole E from becoming choked. The machine we tested was fitted with a Brown and Barlow carburetter, and the improvement in economy of consumption was equal to seventeen miles to the gallon. A decided increase in power was also noticed on the level and on the hills. The address of the makers is 432, Mansion House Chambers, Queen Victoria Street, E.C.



(To be continued.)

"THE AUTOCAR" LECTURES.

THE first three lectures of the course of eight lectures on the motor car, arranged by *The Autocar*, have now been given in London, and one in each of the centres named in the next column. It will interest our readers to know that the remaining lectures still to be given in each centre cover the ground of which particulars are given below:

SECOND LECTURE.—Modern Steam Cars—Boilers—Generators—Engines and Regulation—Physical and Chemical Properties of Liquid Fuels—Combustion—Otto Cycle Indicator Diagrams—Two-stroke Engines.

THIRD LECTURE.—Generally speaking, will deal with the engine and all the component parts thereof—Crankshafts—Connecting Rods—Pistons—Valves—Cams—Shafts—the Shape of Cylinders and the Position of the Valves—with some remarks on Motor Cycles.

FOURTH LECTURE.—Clutches: Cone, Expanding, Metal-to-metal, Disc, etc.—Gear Boxes—Cardan-shafts—Universal Joints—Back Axles.

FIFTH LECTURE.—Carburation—Cooling and Lubrication.

SIXTH LECTURE.—The whole of this lecture will be devoted to various forms of ignition, particular attention being given to High-tension Distribution Systems, and Magnetos.

SEVENTH LECTURE.—Frames—Steering—Brakes—Bearings—Chains, etc.

EIGHTH LECTURE.—Bodies—Wheels—Tyres—Accessories—Hints on Driving—Organisation.

The dates of the remaining lectures in each centre are as follows:

LONDON.—November 3rd, 10th, 17th, 24th, and December 1st. Each day at 3.30 and 8.30 p.m.

BIRMINGHAM.—To-day (Wednesday), November 4th, 11th, 18th, 25th, December 2nd and 9th. 7.30 p.m.

LEEDS.—October 29th, November 5th, 12th, 19th, 26th, December 3rd and 10th. 7.30 p.m.

MANCHESTER.—October 30th, November 6th, 13th, 20th, 27th, December 4th and 11th. 4.0 and 7.30 p.m.

NEWCASTLE-ON-TYNE.—November 2nd, 9th, 16th, 23rd, 30th, December 7th and 14th. 7.30 p.m.

We draw special attention to the fact that to meet the wishes of those of our readers who may wish to attend four of the remaining five lectures in London and seven lectures in each of the provincial centres, arrangements have been made to issue tickets to admit to any four of the lectures for 10s. 6d. Applications for tickets should be made immediately to the Lecture Secretary, 20, Tudor Street, E.C.

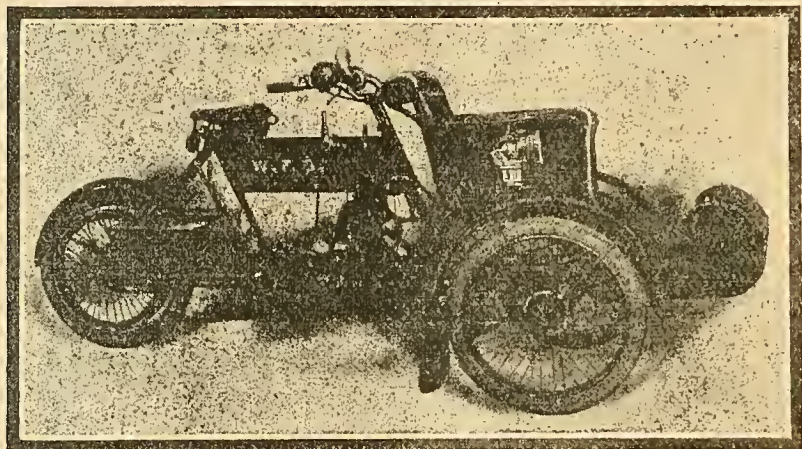
Mr. Crole-Rees called at our office one day last week and showed us an interesting electric lamp which will shortly be placed on the market by Messrs. Bowen and Odery Mfg. Co., Pomeroy Street, New Cross, S.E.

IS THE TRICAR DEAD?

A REPLY BY "AB 29."

IN reply to the above question, I enclose a photograph of a special local built light tricar which is very much alive, and the following facts and deductions—the result of seven years' driving of various machines—will confirm your leaderette in a recent issue.

Now as to what the machine can do and has done. The last run of any magnitude was on August 11th with a ten-stone driver, ten-stone passenger, and three-quarters of a hundredweight of luggage (a complete camping-out equipment). The machine travelled with this load eighty miles in four and a quarter hours. The course was through many towns, and included stopping to purchase petrol, a tyre pump, dinner, taking wrong turnings, getting over the Chiltern Hills, travelling about twenty miles along the top of the Cotswold hills against the wind, and through a storm of rain. All this was done in four and a quarter hours on a $3\frac{1}{2}$ h.p. air-cooled tricar, driven by the writer.



The machine can be relied upon to average twenty or twenty-one miles per hour. It can just manage when loaded the hill between Broadway and Stow-on-the-Wold—a mile and a half of 1 in 11. This is about its limit for hill-climbing without dropping the passenger. It has run over four thousand miles, is running on the original tyres, and with the original belt. It has been stuck up on one occasion only, and that through an exhaust valve breaking.

Distribution of the Weight.

The following details of the machine may be useful to those contemplating the purchase of a similar machine. The frame was specially built to my own ideas. I had found the back wheel on a previously owned tricar skid very much or waggle when travelling through grease. This I put down to insufficient weight on the hinder part of the machine, and it was so light that my usual method of turning round was to pick up the back wheel with one hand and walk it round without any exertion whatever. The present frame was so designed that the weight of the fore-carriage and passenger came *behind*, instead of in front of, the front axle, as is more usual. Then, again, you will see there is a box on each footboard near the back wheel. These boxes contain tools, batteries, and coil. The difference in weight is so great that with two hands and feet firmly braced I can only just manage to lift up the back wheel and move it a few inches at a

time. The running of the machine justifies the alteration of design, for I have never known the machine to skid, and I take "grease" at full speed now.

So much for the frame; now for the engine. The power is obtained from a $3\frac{1}{2}$ h.p. Fafnir engine, 80 by 80 mm., fan cooled. The engine was reversed so as to have the valve box facing towards the front to catch the air. The fan was my own design and make, and runs on ball bearings, driven by one of Terry's spring fan belts at about 4,000 r.p.m., and is in every way satisfactory. I have run without the fan, but find that for even a short hill I need to wait about five minutes for the engine to cool down. The engine has the Fafnir two-speed gear and free engine attached to it. This gear has not even been inspected, let alone adjusted, during its 4,000 miles' working, so I consider it fool-proof. A similar gear on the first tricar ran even longer than this without adjustment. The best of all the good points in this gear is the fact that the belt pulley is *twice* the usual size, and runs at half the speed of the engine. The bugbear of belt slipping round a small diameter pulley is done away with, and, as an adjustable pulley has been fitted, any gear can be got between $4\frac{1}{2}$ to 1 and 9 to 1 on the high speed, with the corresponding low gears of $6\frac{3}{4}$ and $13\frac{1}{2}$ to 1. The belt is a $\frac{7}{8}$ in. Whittles link-grip, and has done over 4,000 miles. Another thousand miles will see the end of it, but this is a splendid record.

Tyres—and Tyres.

The tyres are $2\frac{1}{2}$ in. Palmer Cord, with a rubber puncture-proof band inside between cover and tube. These tyres have worn remarkably well. All three wheels have the same size tyres, and all three tyres have been on the back wheel in turn, and they are now on the second turn round. Neither has yet shown the need of retreading. The tyres are always kept up hard—in fact, harder than is comfortable. As for punctures, the only time I have ever stopped for a puncture was when a clock wheel spindle went through cover, band, and tube. I had another make of tyre—and a reinforced one, too—wear down to the canvas in less than 500 miles on a previous tricar.

A word or two about minor fittings may not be out of place. The machine has long, rubber covered, brass bound footboards, and these are found very comfortable and convenient for the "running mount."

The engine has a starting handle, but I prefer to give one push on the low gear, and off it goes.

For winter riding a pair of plated brass wind shields are screwed on to protect the feet. The tank is made of one piece of sheet steel, with the seam on the top. It holds two gallons of petrol and three pints of oil, with a *double* partition, soldered and riveted, between. The ends are recessed, soldered and riveted, and a baffle plate in the petrol portion is likewise fixed in. In fact, the tank would stand quite a respectable steam pressure if tested. It has oil and petrol gauges, which are "worth a guinea a box"—I mean each. The filler caps are as large as a five-shilling piece, and at most garages I hear the remark, "That's something like a filler, that is." A very small petrol filter is fitted under the tank, and

Is the Tricar Dead?—

the "lovely view," as a Birmingham lassie called it one Sunday night, obtained by looking through the jet when obstructed is seen no more. A flexible petrol pipe is now fitted after breaking two rigid copper ones. Several "cone" joints, metal to metal, have been done away with, and leather washer joints substituted. These can be made petrol-tight with very much less screwing up and straining of parts. The control is by a small Bowden lever on the handle-bar (working the throttle), and the spark lever is on the tank. The two-speed gear lever is on the top tube; when pushed forward we get the high gear, backwards the low gear, and when upright the free engine. The clutches are metal to metal, and revolve in an oil bath.

The machine is braked by a pedal operating a large band brake on the back wheel, and the pedal is so placed that it can easily be stood on to give greater power. There are also a pair of band brakes on the front wheels operated by a powerful side lever. The saddle is Brooks's latest spring seat, and is found to be very comfortable. The wiring is encased in thick indiarubber pipe for protection, and the high-tension lead passes through a celluloid tube made from a discarded tyre inflator. The coil is a non-trembler of good make, and the original platinum contact breaker points are still in use. I have no wish for a current-consuming, platinum-devouring trembler coil while I get such good results from my non-trembler.

The lamp brackets, specially designed, project above the lamp sockets, and have a tapped hole in which a

padlock can be inserted or a quarter-inch screw screwed in, to prevent the lamps being stolen or jolted off. In the toolbox is a small plate, size to carry an ordinary cycle lamp, which can be screwed to the lamp brackets, so as to be able to carry a borrowed cycle lamp when the proper lamps are forgotten or for some reason are unusable for the time being. A small electric lamp is also carried to be run off the spare ignition battery for inspection purposes, but it has not yet been used. The locker in front of the seat should prove a useful buffer in an end-on collision. This idea was in view when this pattern was chosen.

The engine pulley supplied by the makers of the Fafnir is too large for a tricar. It gives gears of $4\frac{1}{2}$ and $6\frac{3}{4}$ to 1, and only the most level of roads can be travelled with such high ratios. About eleven thousand miles have been covered by the writer with this size of engine, who finds that from 6 to 7 to 1 are the most suitable gears, with corresponding low gears of 9 and $10\frac{1}{2}$ to 1. Over-heating? Not a bit of it. Oil every ten miles; and always run down hill with the ignition off, to cool the engine. After a mile of full throttle on the low gear on a 1 in 11 rise, the engine will take the high gear as sweetly as on the level, and knocking is unknown.

Those who want an economical passenger machine, and are content to run at, or near, the legal limit, cannot do better than invest in a light tricar. To be a success, it must be light (and not a small car on cycle wheels), be belt-driven by a suitable belt, have a two-speed gear and a free engine.

A NEW MODEL ZENETTE.

MESSRS. ZENITH MOTORS, LTD., although they have found their spring frame model to have been a great success, have turned their attention to the production of a lighter rigid

frame model, suitable for those riders who are willing to sacrifice a slight degree of comfort for a little extra speed uphill.

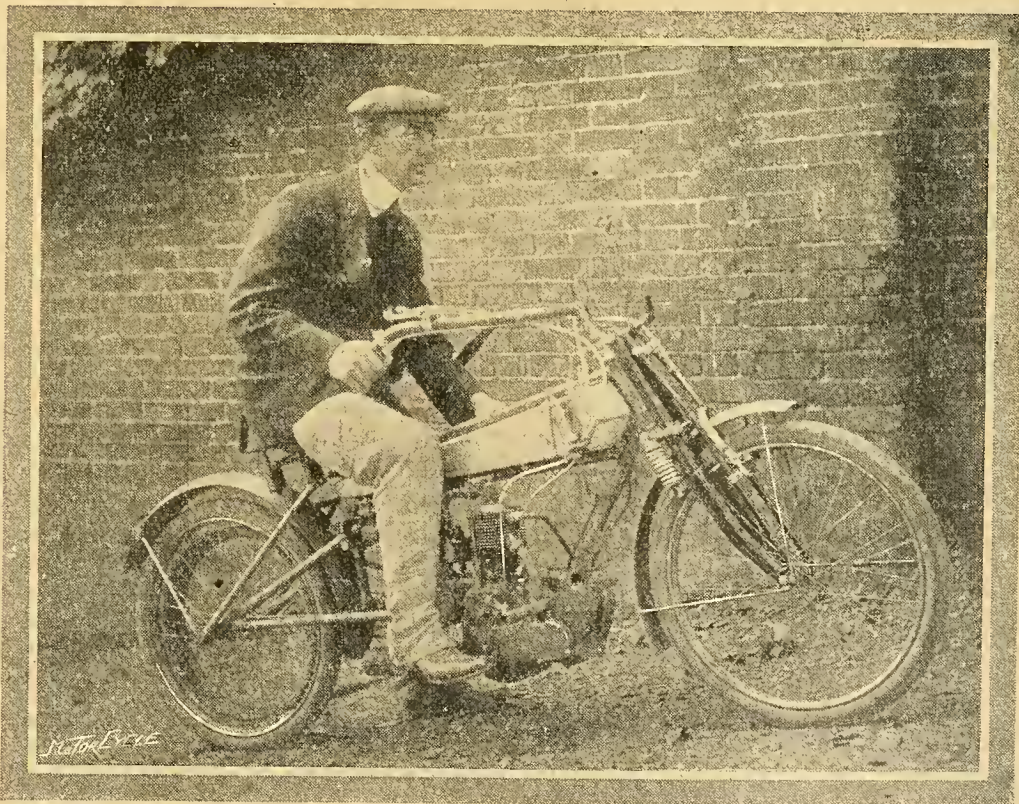
The machine which we have under consideration is a really sound job, and from the short trial we were able to enjoy in the dual capacity of both witness and participant we expect it to meet with considerable success. It will be seen that, as in the case of the spring frame Zenette, the top tube is sloping, thus giving the rider a low saddle position, and we must congratulate Zenith Motors, Ltd., on utilising the sloping tube, long ago obsolete in cycle practice, in order to obtain this end.

The machine is fitted with an 85 by 85 mm. $3\frac{1}{2}$ h.p. m.o.v. engine, gear-driven magneto, Longuemare carburetter, handle-bar control, Druid spring forks, and Gradua gear—that most ingenious contrivance the excellent working of which we can vouch for personally after an extensive trial.

The motor bicycle is shown on the one in six portion of Swain's Lane, Highgate, one of the steepest hills in the London area. It twice ascended the hill in excellent form, and restarted on the gradient from a standstill without the slightest effort. In the saddle it is most comfortable, and after a short ride we found it

to be easy to control, fast, and a good hill-climber.

The Gradua gear has now been before the public for some months, and the makers have been wise enough to enter machines fitted with the gear in this year's long

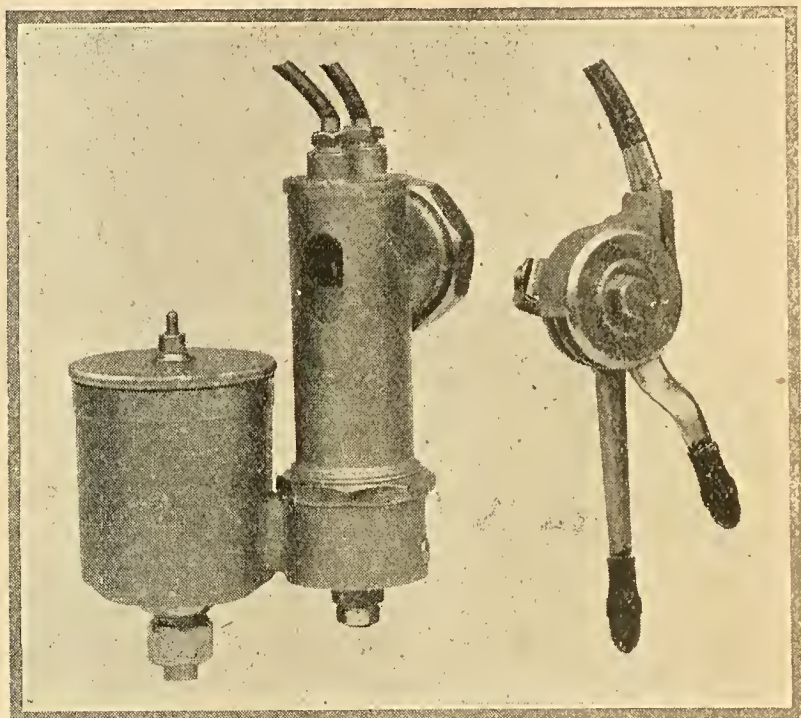


F. W. Barnes starting from standstill on the steepest portion of Swain's Lane Hill (gradient 1 in 6). His left hand is on the operating wheel of the Gradua gear.

distance trials—the End-to-end Run in particular—and it emerged with flying colours.

THE 1909 B. AND B. CARBURETTER.

CARBURETTERS and their details are always of interest to motor cyclists, because a good carburetter which provides a uniform mixture enables an engine to be easily started, and is not too sensitive, renders a machine a joy and pleasure to its owner, whereas a bad carburetter, *i.e.*, one that, however it is adjusted, causes difficulty in starting, and is constantly flooding, giving too rich a mixture, etc., is just the reverse of pleasant. The B. and B., made by Brown and Barlow, 16 and 17, Loveday Street, Birmingham, has been on the market for several years, and is acknowledged to be one of the best carburetters it is possible to obtain for motor cycles. Early this year the firm adopted handle-bar control in a neat



The 1909 pattern Brown and Barlow handle-bar controlled carburetter.

form, and for next year the details have been still further improved over the one last described and illustrated in these pages.

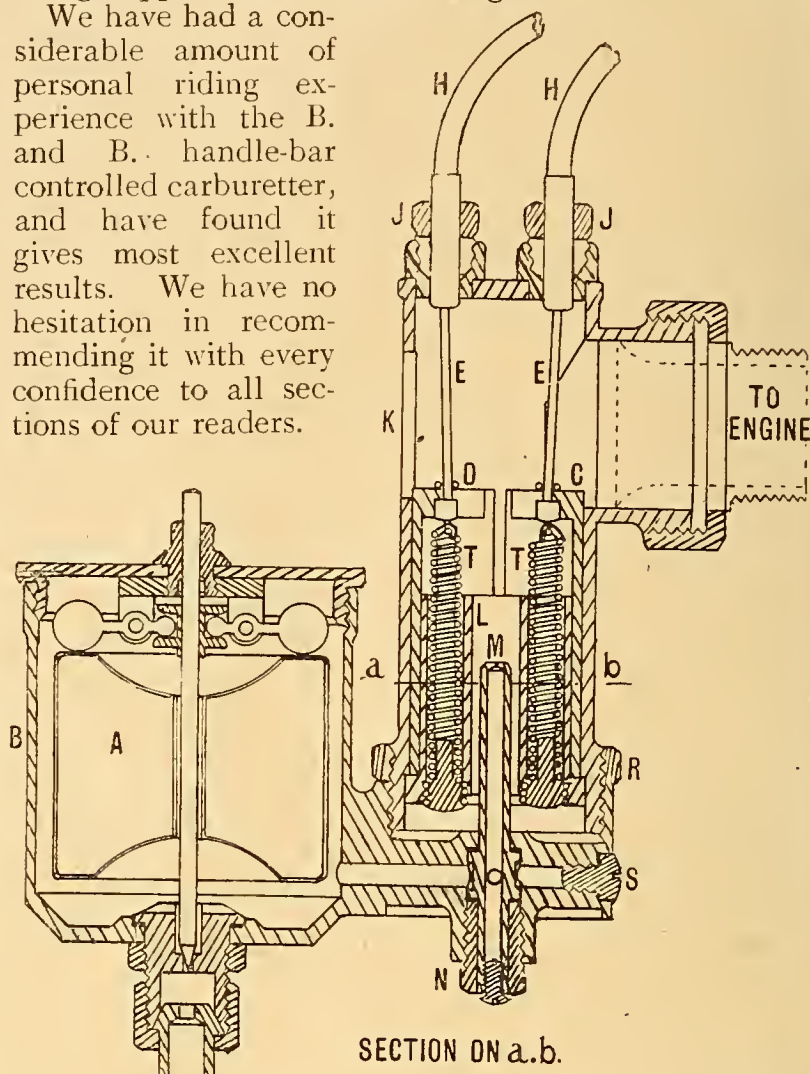
In the 1909 model the jet has been made to come out from the underside, simply by unscrewing the nut N at the base of the spray chamber. Provision for the adjustment of the two cables is also made by the two screws J J at the top of the spray chamber. The ends of the cables are protected by metal sleeves, and the nuts J J being conical and split, they grip the sleeves tightly when screwed into the top of the carburetting chamber. The coiled springs have been increased in length over last year's pattern, consequently providing increased elasticity. The valves C and D are held in position by the oval adapter L, as they slide down between the walls of the chamber and the outer edge of the adapter. To dissect the spray chamber portion, all that is necessary is to loosen the two nuts J J at the top, when both cables can be pushed through and the throttle and air valves disengaged from their respective wires.

Among the improvements in the float chamber are the lid or cover which is now pressed, the guide for the needle being a separate piece of metal nutted to the lid by the bracket or carrier for the balance weights.

This carburetter is, of course, made for single and twin-cylinder engines. The single-cylinder model is

illustrated, a different top to the carburetting chamber being supplied to suit a twin engine.

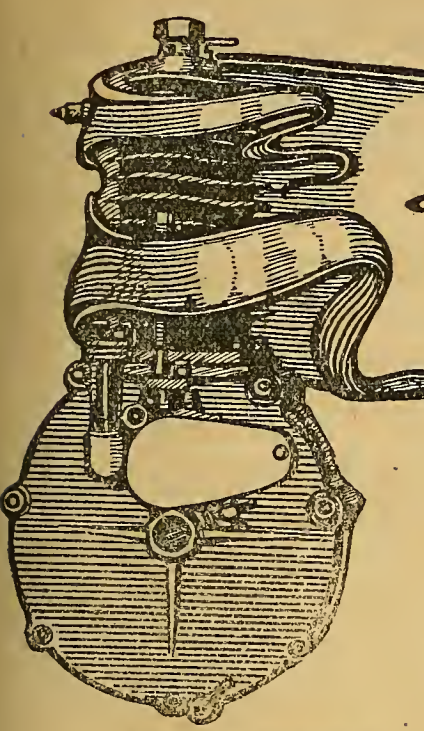
We have had a considerable amount of personal riding experience with the B. and B. handle-bar controlled carburetter, and have found it gives most excellent results. We have no hesitation in recommending it with every confidence to all sections of our readers.



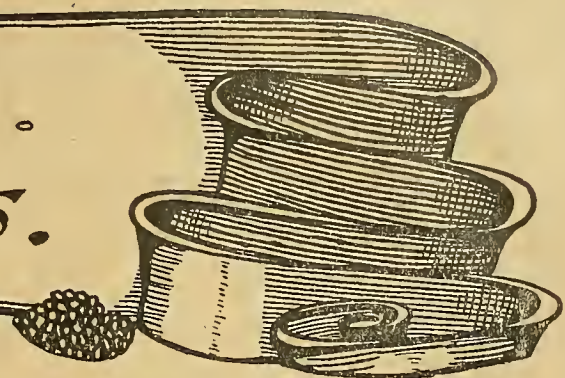
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|---|-------------------------------|
| A. Float. | K. Extra air opening. |
| B. Float chamber. | L. Oval shaped adapter. |
| C. Throttle valve or slide. | M. Detachable jet tube. |
| D. Air valve or slide. | N. Nut for removing jet tube. |
| E.E. Wire cables controlling air and throttle valves. | P.P. Fixed air openings. |
| H.H. Bowden flexible cables. | R. Lock nut. |
| J.J. Adjusting screws for ditto. | S. Draining screw. |
| | T.T. Coiled springs. |

A GOOD REPAIR.

A few weeks ago Messrs. Tufnell and Co., 527, High Road, Leytonstone, N.E., asked us to place at their disposal a motor cycle engine which required rebushing and cylinder grinding out and fitting with new piston, in order to give us a real idea of the quality of their work. Complying with their request, we sent them a 3½ h.p. Brown engine which has been in constant use for about two years, during which time it has covered about 8,000 miles. We are pleased to say that the engine has been returned to us perfectly overhauled, and is quite in its old form again, pulling as well as it did when new. The piston is splendidly fitted in the cylinder, as also are the new bushes. There is a very slight amount of play on the big end of the connecting rod, but as this bearing is provided with a steel bush which must have a fair amount of clearance for oil, the amount of play at this point is necessary.



Questions... and Replies.



A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

Storing an Accumulator.

? Will you please inform me how to clean and dry an accumulator so that I can put it away during the winter?—W.W.M.

The best thing to do is either to charge fully and then to wash out the accumulator thoroughly two or three times with clean water, fill up with clean water and put vaseline on the terminals, or to run down completely through a four-volt lamp, wash out, drain, and vaseline the terminals.

Altering the Air Supply.

? How can I give my $3\frac{3}{4}$ h.p. N.S.U. more air. At present it can take all the extra air with throttle only about a quarter open, and consequently I have not the power I think this machine should give.—A.P., N.B.

All N.S.U. carburettors are fitted with movable air slides on the side and back of the carburetter, in addition to an extra air controlling valve on the top of the tube, which stands above the top tube. If you make these holes larger by moving the outside perforated plate you will be able to admit as much air as necessary. Do not make the openings larger than necessary, or you will render your machine more difficult to start.

Misfiring at Speed.

? (1.) My 1907 Triumph (magneto) misfires when it has got up to a speed of about 20 m.p.h. if I have the spark lever fully advanced. I bring it back a notch and it is all right. Why is this? Timing wrong? (2.) My engine won't take all the air allowed, no matter how far I open the throttle. In fact, engine misfires altogether if I open throttle more than half-way, whether I give little or much air. Why is this?—E.J.H.

(1.) Most probably the contact breaker of the magneto is worn. The parts most likely to wear are the platinum points, the ball head of the steel piece holding the movable platinum point and the fibre ring. If you replace these probably the trouble will vanish. (2.)

Perhaps when you have remedied the ignition you will be able to give more air, when the engine will run faster. Also, you had better take down your carburetter and see if the jet and petrol pipe are clean; this also might account for the fact that the engine will not take the right quantity of air. Also test the level of the petrol in the jet.

Timing of Magneto and Pre-ignition.

? I have a 5 h.p. twin-cylinder motor bicycle. After the engine has been running for a few miles it starts knocking when I advance the magneto lever, and does not stop until I retard it about half-way. If I slow down at a corner and then advance the spark to pick up it knocks very badly. The same thing happens when I mount the machine and the engine is warm. The gear is about $3\frac{3}{4}$ to 1. Is it too high? I can only get about fifty-five miles to a gallon of petrol. Is it right to advance the spark lever fully to start? The carburetter is an A.M.A.C. The machine is a new one. I may say that the engine starts very easily and pulls very well up hills, and when I run it at full speed with the spark lever fully advanced there is no sign of a knock. After I have been running for about forty miles, and then cut-out the magneto, it keeps on firing until I close the throttle or use the brakes. Kindly explain the cause?—J.S., Sheffield.

Your engine is probably timed too fast, and for starting and ordinary running you must keep the lever slightly retarded, and advance it gradually when gathering speed. Carbon deposits on the cylinder and piston would also cause the knocking, likewise bad oil. You do not mention your weight. A gear of $3\frac{3}{4}$ to 1 is certainly rather high for winter riding; 4 to 1, or slightly lower would be advisable. Generally speaking, the magneto has to be practically fully advanced to start, but some makers time their engines faster than others. The fact that the engine continues firing when the magneto is cut out shows that it gets far too hot, and pre-ignition occurs.

Cylinder Packing and Lift of Valve.

? (1.) Would you kindly inform me if there is any packing or washer required for my $2\frac{3}{4}$ h.p. M.M.C. engine between the crankcase and cylinder? If so, what thickness would it need to be to give the proper compression ratio? (2.) The exhaust valve barely lifts 3-16in. There is no wear on the cam, and just the proper clearance between tappet and valve. Do you think it will be correct?—R.R.

(1.) The packing in question is, generally speaking, brown paper soaked in boiled linseed oil. This is to prevent the oil leaking out. (2.) Such a small thickness should not noticeably affect the lift of the valve, but should you notice any loss of power grind in the exhaust valve, which will improve the compression, and lengthen the stem sufficiently to make up for the difference. The exhaust valve should open $\frac{1}{4}$ in.

Timing a Twin-cylinder Engine.

? Kindly assist me in the timing of a 6 h.p. twin J.A.P. I had the engine down recently, and in the assembling I timed the exhaust valve to close just after the piston had turned, instead of dead on top as usual. I did this, as the exhaust valve opens very early indeed probably owing to the abnormally long stroke, with the idea that the velocity with which the exhaust gas is expelled would continue to clear the cylinder after the push of the piston had ceased. By moving one tooth back I can, of course, close it dead on top. In view of the long stroke do you recommend me to close the valve dead on top?—R.W.

First make sure if the timing gear is marked, as it certainly ought to be, and set it according to these marks. If it is not, you had better follow the accepted rule and get the valve to close when the piston is dead on the top of its stroke; then test the engine for running, and if it is not giving its original power set the valve to close one tooth back. The more lead you give to exhaust the faster engine will run, but it may not pull so well.

The Life of Dry Batteries.

?

I am about to convert my motor cycle from accumulator to dry battery ignition with trembler coil. On looking through some back numbers of *The Motor Cycle* of last year I saw a letter from a gentleman stating that he had used a Hellesen dry battery in connection with a plain coil with very good results, as he could get from 800 to 1,000 miles of running on a battery, but a friend of his who used one with a trembler coil could only get about 350 miles out of it. Was this in your opinion due to a faulty coil, or would a trembler coil be so much inferior to a plain coil for dry battery ignition?—J.L.H.

Owing to its wastefulness a trembler coil can only be used with a dry battery for a very short time, as the battery soon becomes exhausted. If, however, a good plain coil is used, it will allow the dry battery to be run for some considerable time.

An Underpowered Tricar.

?

I have a 2½ h.p. motor tricar, and lately have had trouble with overheating. I have had two wind funnels fixed which are very satisfactory, but there is still room for improvement. Do you think if I had a larger exhaust pipe fixed it would do any good? The present one is only about ¾ in. bore, and nearly 3 ft. long to silencer. Also the engine knocks at times, not always when running fast, and then without any alteration is quiet again. What would be the likely cause?—E.B.W.

A larger exhaust pipe would enable the burnt gases to escape more freely, and would tend to keep the engine cooler. The knocking you complain about is due to overloading the engine. Either the gear is too high for the little engine, or ignition too far advanced. If it occurs at intervals and not when the machine is very hard worked, it points to carbon inside the cylinder becoming incandescent and causing pre-ignition.

Preventing Leakage of Oil.

?

Oil oozes out at two places between the two halves of the crankcase of my engine. What is the best way to rectify this?

I notice that oil also creeps up along the exhaust valve tappet and escapes in rather considerable quantity. Can you suggest a remedy? Does the increase of pressure within the crankcase as the piston descends cause any escape of oil from it if it is properly made? Can you tell me of any device whereby this increase of pressure could be diminished or avoided? I have connected the crankcase by means of a tube with an additional oil chamber open to the air by a small opening, and from which the oil can be drained away as it collects. Do you think that such a device will interfere with the lubrication of the engine? I find that it does not prevent the leakage above-mentioned in any marked degree.—OIL.

Some crankcases have no packing between the halves, depending solely on a perfect fit to prevent leakage of oil. If

your engine has a brown paper joint, make a new packing, soaking the brown paper in boiled linseed oil. The fact that oil escapes through the exhaust tappet hole seems to indicate that the bush is worn. Another cause for oil escaping to an excessive degree is that the relief valve does not work properly, causing an extreme amount of pressure inside the crankcase. If you fit an extra relief valve it should help to remedy the trouble. Thin oil will leak at most joints. If you are using thin oil try a thicker grade. If you will send us a sketch of your device we will give you our opinion on it. Personally, we think it should not be necessary.

Cannot Attain Speed.

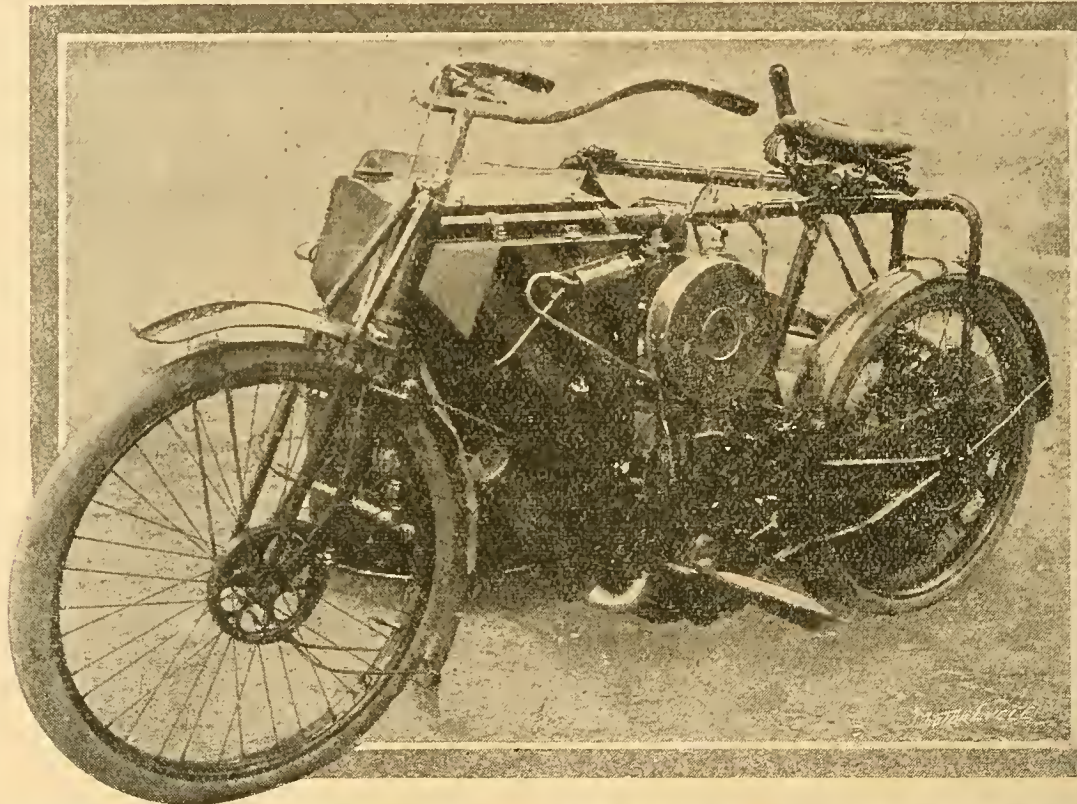
?

I am having considerable trouble with my 2½ h.p. Centaur, and from the following facts I should be glad if you can give me any assistance. The compression is good, also the ignition. When on the stand, with half gas and half air, the engine will respond to the sparking lever up to

Accumulator Charging and Compression

?

Am I doing right by charging my accumulator by connecting it to a tumbler switch which controls eight 32 c.p. lights? The current is continuous and 220 volts. The charging rate of accumulator is one and a half ampères for twelve hours at five volts (this is a little beyond me). The accumulator gets fully charged in about five hours, and the celluloid gets very warm (almost hot), and the liquids inside gas very profusely. I stood on the pedal of a new machine recently and the compression was so good, I believe I could have stood upon it for an hour before the pedal would go down. Now mine is just the reverse. If I stand on my pedal it will go down in about two seconds. The valves are an accurate fit, having just been ground in (inlet a.o.v.) and the piston rings are new and a good fit, and the slots are in their proper places, about a third round from each other, and yet the compression is bad. I can go at a splendid



A motor cycle street sweeper. Last week (page 825) we briefly described the above three-wheeled machine, which was exhibited at the International Road Congress in the Tuileries Gardens, Paris, where it attracted considerable attention.

great speed without any sign of misfiring, also when running very slowly, but as soon as I mount the machine on the road and advance the spark with the same amount of gas and air the engine immediately fails and finally stops. Have tried different mixtures of gas and air when riding, but the engine will not respond to the sparking lever after being advanced half-way.—L.T.

We think you will find your trouble is due to the reduced lift of the valves. Either the cams have worn or the distance between tappet and valve stem is too great. The proper clearance is 1-32 in. A new exhaust valve spring would also improve matters. The carburettor very likely requires cleaning. Also examine the contact breaker and see that this is working properly.

rate on the level, but uphill I have to pedal. Engine about three years old, 2½ h.p. De Dion pattern. Inlet valve opens about 3-32 in.—C.S., Birmingham.

If you remove four or five of the lamp you will reduce the charging rate to about one and a half ampères. The fact that you have fitted new piston rings may account for the compression being poor. The cylinder and piston of your engine are probably worn out and require replacing. Also try and see if you can detect any leak between the inlet valve dome and the seating into which it fixes in the cylinder, the seating of the sparking plug, and around the compression tap. Oil or soap suds spread over the joints will locate the place of leakage for you. The leaky washers should be replaced with new ones.

MUDLARKING ON A LIGHTWEIGHT.

By B. H. DAVIES.

LONG distance riding against time becomes a dubious business when October is near. However fond one may be of "breakfast runs" in summer, they are less agreeable when darkness only begins to fade towards 6.30 a.m., and when its departure is too often blurred by lingering fogs; at the day's other end the lamp is needed sooner in practice than by law, and the law calls for it as early as 7 p.m. After grease and mud all day, one has little stomach left to face a mixture of mire, gloom, fog, and drizzle after the evening meal, and so I felt rather dubious in planning the double journey from Northampton to Durham and back for a four days' leave in the last week of September.

When it came to the point, my first free day (a Monday) opened with such a downpour that I hadn't the pluck to start till 4 p.m. A little Douglas romped me into Newark by lighting up time very comfortably indeed, and I had meant to push on to Doncaster for the night, but the fog deterred me, and I stayed at the Clinton Arms instead. I arose most virtuously in time to start north again at 7 a.m. on the Tuesday, only to find a most grey and "parky" fog greeting me outside the hotel—a fog which soon changed into a steady downpour. This rain, added to volleys of mudclogs from the ploughed-up roads, set up chronic slipping in both my rubber belts, with the result that I did not reach Durham till 6.30 p.m. Wednesday, again, was wet and misty, and Thursday opened ditto, so I preferred to return ingloriously by train, and my planned test ride of 440 miles degenerated into a mere 220. This distance, however, proved ample to bring out the manifold excellences of the little $2\frac{3}{4}$ h.p. Douglas twin. A better machine for mud-plugging no one could possibly desire.

No Signs of Side-slip.

When I left Northampton the roads were more greasy than muddy, and I never like facing grease on a strange machine; but within a few miles I was remorselessly outraging legal limit, inspired by a sense of absolute security. The balance of the machine is good, and a low geared horizontally opposed engine is devoid of tug at the rear wheel; moreover, this wheel was shod with a basket tread Continental, which clung to its track as rigidly as a ring of iron spikes, so that all nervousness on this score soon evaporated. Beyond Stamford the roads were dry, though pot-holey, and fast time was made into Newark (seventy-five miles). By the way, it is sad to see those in charge of a great national highway like the North Road content to tackle pot-holes by shovelling in a barrowful of coarse metal, and plastering mud on top of it. As previously stated, I meant to dine at Newark and push on to Doncaster afterwards in the dark, but threatening whorls of grey fog deterred me, and I took a bed at the Clinton Arms. Sallying forth at seven next morning I was greeted by a very thick mist, which soon became tinged with a fine drizzle, and presently diluted itself into a horrid, penetrating downpour, lasting the entire day. I had two rubber belts with me, both in excellent order, but neither of them could withstand the combined attacks of rain from above, and wet mud from

below. They slipped and slipped and slipped, until tightened so that they almost bound the pulleyside bearing of the engine, and even at that exaggerated degree of tautness they would only pull on the flat. As soon as a grade as contemptible as 1 in 100 was struck, or even if the engine were rapidly accelerated on the level, they utterly declined to grip the engine pulley. I could not test its groove for wear without detaching the external flywheel, but over and over again I longed for one of my own trusty leather Watawatas. Luckily the North Road is distinctly flattish, and when a hill was encountered I could always get up at about eight miles an hour by keeping the spark retarded and the throttle almost shut, while lending hearty assistance with the pedals. In this fashion I progressed in great misery, mud flying all round me, water running almost audibly down the small of my back, and trickling in torrents off my cap. The machine plugged along as if the roads were dry, never slowing to less than twenty-five miles an hour on the heaviest level going except at my command, and only prevented from storming up gradients by the treachery of the belt. The magneto sparked away merrily for the whole of that awful 140 miles except on one occasion. Here the road was practically under water, and I met a great Daimler car, spurning the pools in great fan-shaped swirls from all its wheels.

Trouble with the Belt.

After it was passed, the machine was simply one huge damp clod of wet earth, and I was ditto. I propped it up, and plunged my hands into it cast away great fistfuls of mire; then I scooped off minor encumbrances with a screwdriver, and finally seeking shelter under some handy trees polished it up a little with some dry rags, after which it sparked once more. I tried every conceivable device for making the belt grip; swapped it for a new one, mopped out both pulleys, cleaned and dried the sides, tightened and tightened and tightened, but all to no purpose, till at Doncaster I realised it would slip till the roads dried up.

Hereabouts I noticed a lane with a signpost "To York," and decided to take the main line train at York. The lane presently became a mass of wet, slithering leaves, but as the Douglas stood up, I persevered; it then turned into a canal for a hundred yards, but as the engine continued firing I swished on through the water. Then it began to rise, and simultaneously the grass invaded it, and gradually lengthened, till it was knee deep. I turned back, and went on towards Boroughbridge. At Boroughbridge events proved that the age of miracles is not yet past. Kindly notice I had wasted hours trying to humour the miserable belt south of Doncaster. Since Doncaster I had abandoned it hopelessly to its evil ways. Well, from Boroughbridge onwards it gripped like a chain running in an oil bath, and I again began to make my average look respectable, with the result that I safely reached my destination some miles nor'-west of Durham without recourse to the railroad. Who can explain these caprices of india-rubber?

My appreciation of the little Douglas after such a

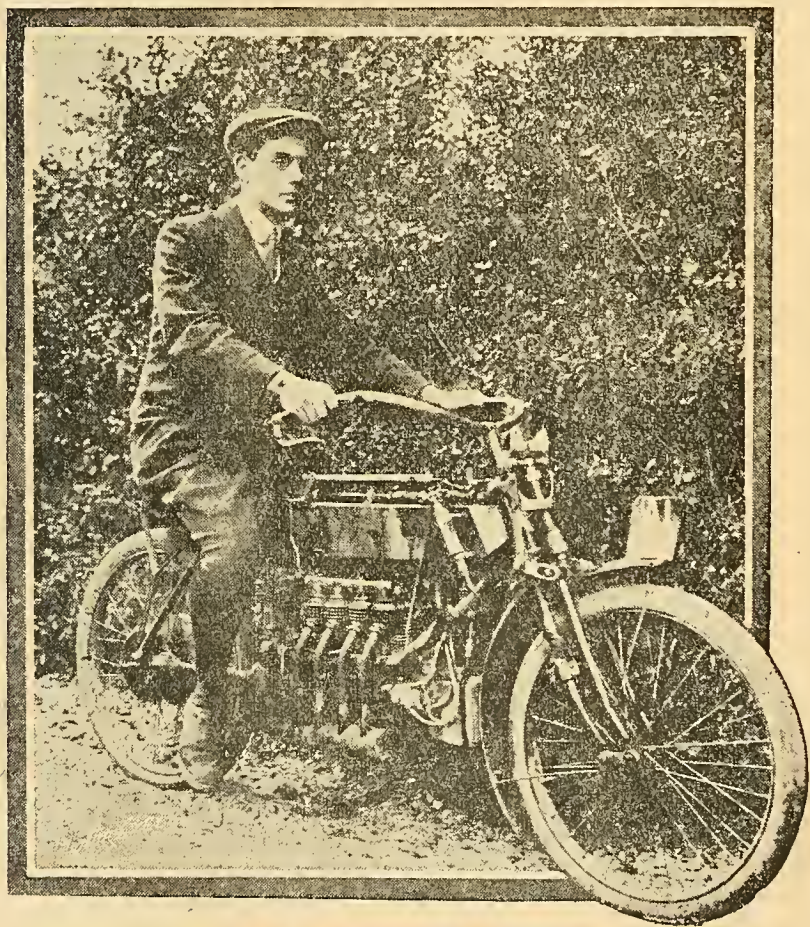
Mudlarking on a Lightweight.—

trying ride was naturally profound. Few magnetos are so entirely waterproof. Its position high up on top of the crank case has doubtless much to do with this. The little engine swallows all its own vibration, for I never once felt any tremor from it, and it pulled like a good 'un through the frightful mire. The belt-slip is possibly explained by the fact that the pulleys had been through the End-to-end and the Plymouth runs. The steering is delightful, and the brakes sound; the rear wheel is fitted with a coaster hub, which type of brake is very conveniently actuated in combination with footrests; the top pedal lay against the calf of my leg, when my feet were on the rests, and could be powerfully applied by simply stiffening the calf muscles against the pedal. The control is good, consisting of a tank spark lever, a thumbscrew air

adjuster, and a handle-bar trigger throttle. I noticed the carburetter was not delicately adjusted, as the machine would start and run with the air lever in any position whatsoever, while the throttle control had a critical point reminding me of passing from the chest voice to the head voice in singing—i.e., there was a point of setting, before which it was weak and beyond which it was strong, without much delicacy of range. I found the Druid spring fork in combination with the well-balanced engine to produce a vibrationless machine. The wheels and rims are very strong indeed, and in conjunction with heavy-treaded $1\frac{3}{4}$ in. tyres leave nothing to be desired. This machine apparently does not rank in the 80 lb. class, as the sample submitted to me for test weighed 144 lbs. in full touring kit. This mount is a most comfortable and reliable machine, especially adapted to winter riding.

A MOTOR CYCLIST'S FOUR SUCCESSES.

UNDoubtedly the most successful rider of an F.N. four-cylinder motor bicycle during 1908 is R. O. Clark, of Norwich. He has entered this machine for several of the most strenuous and searching tests organised for motor cycles, with no small amount of success. In the M.C.C. London to Edinburgh run he was a successful competitor, also completing the return journey in schedule time, thereby winning the double journey gold medal. He followed up this success by winning the ten miles handicap race for touring machines at the Essex M.C. race meeting at the Stadium. In the Tourist Trophy Race he finished third in the multi-cylinder class, his average speed being $37\frac{3}{5}$ miles per hour, whilst his consumption was at the rate of 90.8 miles per gallon

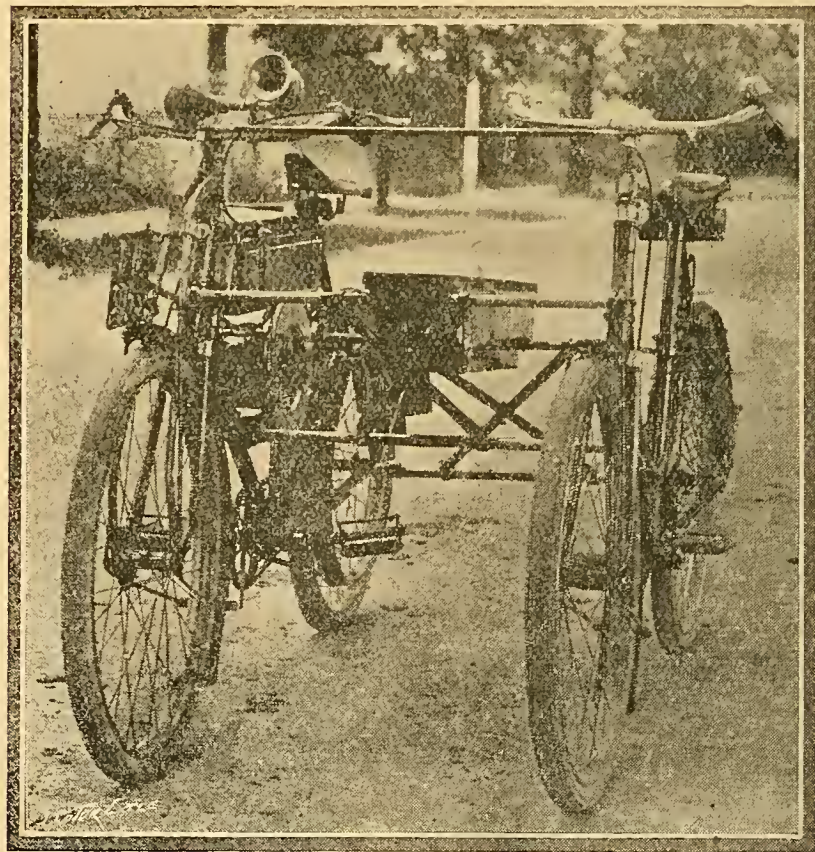


R. O. Clark and his four-cylinder $4\frac{1}{2}$ h.p. F.N.

—the lowest in his class. Mr. Clark's fourth success was in the last Brooklands handicap race (October 3rd), when he gained second place.

A NEW CYCLE COUPLER.

THE latest type of coupler is shown in the annexed illustration. It is called the Telco, and is made by a company of the same name, whose temporary address is 147, Shooters Hill Road, Blackheath, S.E. The coupler is attached to and detached from the motor cycle and cycle by a simple twisting movement of the main tubes, the ends being



The Telco Cycle Coupler in use.

held in a patent bayonet joint, which we hope to describe in detail at a later date. The joint allows the machines to be telescoped on the main tubes of the coupler, so that the combination can pass through a narrow doorway without uncoupling. The illustration shows a standard $2\frac{1}{2}$ h.p. Fairy coupled to a strongly-built lady's bicycle, the combination making a rigid four-wheeled vehicle. We understand that it has been tested for several thousand miles. It is claimed by the makers that there is no tendency whatever to side-slip, and that the position of the riders is more companionable than on a tricar or sidecar. The weight of the attachment is about 12 lbs.

WORLD'S

**OVER 70 MILES
COVERED IN AN HOUR!**

At Brooklands, on October 8th, Mr.
C. R. Collier, riding a 10 h.p. twin-
cylinder "Matchless" fitted with

DUNLOPS

Trade



Mark.

broke the hour motor cycle record
—covering 70 miles 105 yards,
beating the previous best by no less
than 6 miles 787 yards!

Trade



Mark.

Messrs. Collier & Sons write as follows :

"At the conclusion, the marvellous condition of the tyres was much commented upon; on the front one—an ordinary 28 x 2 beaded-edge Dunlop—the beads were quite discernible, despite the fact that for some distance they were subjected to the speed of 73 miles an hour."

Particulars of Dunlop tyres for motor cycles and
tricycles in booklet, gratis and post free.

DUNLOP TYRE CO., LTD.,

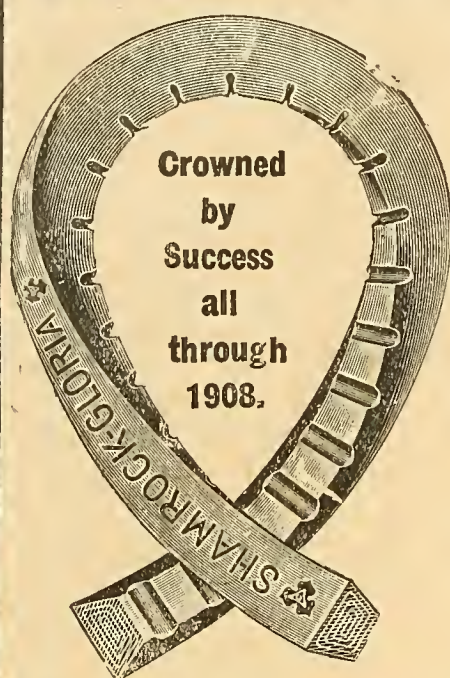
Aston, BIRMINGHAM ; Alma St., COVENTRY.

Branches : London, Nottingham, Manchester,
Newcastle, Norwich, Bristol, Leeds,
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RECORD

In answering this advertisement it is desirable that you mention "The Motor Cycle."

Shamrock-Gloria



Tourist Trophy:

J. Marshall
and 5 next
used
S.G. Belts.

C. R. Collier
in his
remarkable
performance
creating
new
World's Hour
Record
used a
S.G. Belt.

Mr. Gordon Gibson winning the Brooklands
Handicap used a S.G. Belt.

Last A.C.U. Quarterly Trials:

Many non-stops and again fastest times
on Dashwood and Gore Hills.

The Invincible S.G. BELT is the most popular
belt on the market.

S.E. Rubber Studded Tyres outclass all others.



End to End Run:

15 Gold
Medals.
2 Bronze
Medals.

London- Edinburgh:

22 Gold
Medals.
2 Silver
Medals.

All sizes 24 and 26 inch made; also 26 by 1½
for Lightweights.

We will convert your tyre into a Non-Skid by
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29-31, Old Street, London, E.C.

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Useful Books for Motorists and Motor Cyclists.

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A Guide to the Motor Car. How to select, maintain, and drive an automobile. Well illustrated.
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"THE AUTOCAR LOGBOOK"

and Motor Cyclists' and Cyclists' Record. Containing list of Agents who stock petrol, competent repairers, list of hotels, mileage, and maintenance records, and other information useful to autocarists, motor cyclists, and others. Morocco case, elastic band, back loop pencil.
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THE MOTOR CAR REGISTER."

A diary and record of mileage; petrol expenses, with yearly summary; also forms for tyre register; capital accounts; list of accessories, insurance details, etc., to which is added a copy of the "Motor Car Act," a list of Town and County index letters, and a speed reckoning table. Bound in leather, with pocket for inserting licence. Price 3/- nett, post free 3/3.

All the above books may be obtained
by post if ordered (with remittance) from
"The Motor Cycle," Offices, 20, Tudor
Street, London, E.C.

OCCASIONAL COMMENTS.

By "IXION."

Automatic Variable Pulleys.

Quite a number of brains appear to be busy with the automatically variable pulley just now. In addition to Mr. Lloyd's patent, described on page 785, I have heard of two during this year. One was Mr. Holt-White's oil pressure system, by which the engine pulley not only contracted and expanded automatically, but also simultaneously worked a jockey pulley or "idler," as they call it in America, which automatically took up the slack of the belt. Again, in the Lutterworth district, there is a home-made sidecar running about, fitted with an automatic pulley working by a spring, and very similar to the Lloyd idea. It will be a great boon to us all if Mr. Lloyd's device is found suitable for all conditions, as it will render two-speed gears unnecessary for solo work on all machines of 3 h.p. and upwards.

Twins in The T.T.

Some riders have expressed surprise that the fastest twin was slower than the winning single. They fail to realise that on the flat a $3\frac{1}{2}$ h.p. single can keep up with a 5 h.p. twin. If the conditions are not so unfavourable that a great deal of power is absorbed in overcoming wind and road resistance, maximum speed is very largely a matter of engine revolutions. A twin and a single can both attain an engine speed in the neighbourhood of 2,500 r.p.m. If they are equally geared, as is often the case, and the conditions are so favourable that the extra 2 h.p. of the twin is not required very pressing, both machines will do a flying mile in nearly equal time. In the T.T. the further question of a limited supply of petrol comes into operation, and there is little doubt that the twins were slightly more handicapped proportionately than the singles in this respect. Were the petrol consumption unlimited, we should see the twins beat the singles nine times out of ten.

Domed Pistons.

We hear that one or two makers are abandoning the flat-topped piston in their 1909 engines, and substituting pistons with convex heads. I remember several years ago seeing an engine with a concave-headed piston, the idea being that this formation would give a larger area for the explosion to concentrate itself upon, and would also centre the charge better, and prevent so much of it acting by rebound from the walls of the combustion chamber. This design was soon abandoned by the designer referred to, though I never heard his exact reason. The domed piston (domed in a convex direction) is, I believe, quite a new idea, and if it proves to be a real advance, car designers will no doubt copy it. Presumably its main idea is to reduce carbonisation of the piston head. Whatever constituents are found in piston deposits, and whatever the proportion of these several constituents, the foundation of all such deposits is obviously oil. Neither road dust nor metallic dust could fail to be swept off the piston head by the flames of repeated explosions were it not that the piston is usually coated with a glutinous substance to which they adhere, and that gluten must surely consist solely of oil which has found its way up past the piston rings, whether by suction or capillary

action. The suggestion is that if the top of the piston be domed, convexly less oil will climb on to its head, and what oil does reach the head will be less likely to stay there and form a glutinous coating to which the road dust and metallic scrapings can adhere. It would be interesting to make two tests in one engine, running it first a thousand miles with a flat piston, and then a thousand miles with a



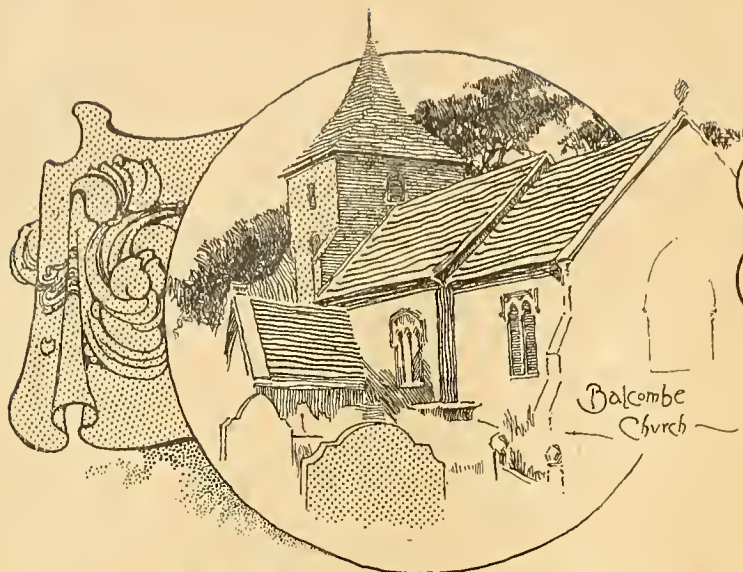
Mrs. Luther Myers, the first lady member of the Bradford Motor Cycle Club.

domed piston, one man driving all the time, and remaining constant to a single brand of oil and a strict rule of lubrication. Any differences in the weight and character of the deposit removed after each test would be very instructive. No doubt the makers concerned have performed these tests, and learnt a good deal from them.

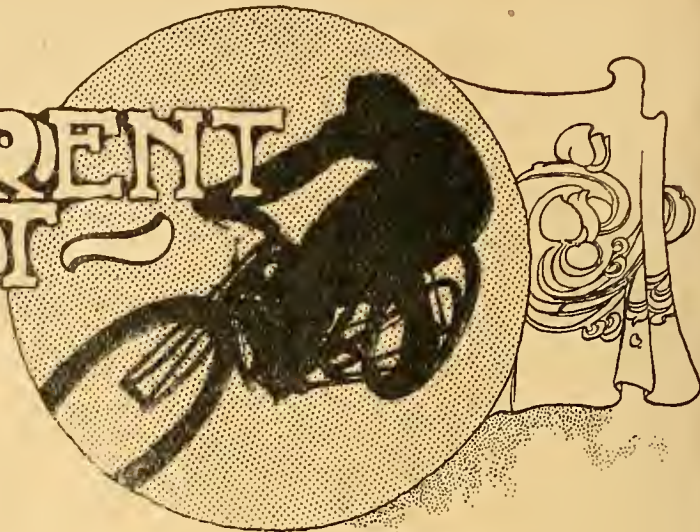
Float Chamber Design.

I find in my notes on an ideal carburettor I scarcely laid sufficient emphasis on certain excellent principles of float chamber design, which are embodied in the Amac, and possibly in others. A reference to the line drawing on page 777 will show that the needle valve is Λ shaped instead of the ordinary V. Consider the operation of this under road shocks. The first bounce of the machine attempts to throw the needle upwards, and only has the effect of holding it more closely against its seat. The recoil tries to jerk the needle down, but the spirit inside the chamber presses the float up against the crossbar of the needle, and so counteracts the effects of the road vibration. In other words, with a V needle valve the pressure of the spirit and the road shocks both act in the same direction—hence the needle is often jerked off its seat and flooding occurs; with a Λ valve the spirit pressure and the road shocks compensate each other, and so flooding is obviated, and no damping device for the needle tip is necessary.

Will Dorset rider who wrote to "Ixion" recently regarding a $1\frac{3}{4}$ h.p. F.N. kindly forward his address?



CURRENT CHAT



TIME TO LIGHT LAMPS.—Oct. 28th, 5.41 p.m.; Oct. 31st, 5.36 p.m.; Nov. 4th, 5.28 p.m.

"The Motor Cycle" Show Numbers.

In connection with the forthcoming Stanley Show, three special issues of *The Motor Cycle* will be published, dated November 18th and 25th, and December 2nd.

Leather Helmets.

Dudley R. Clarke appears to be the only British track rider to adopt the sensible Continental idea of wearing a "casque" or leather helmet, his head-gear being a familiar object in races throughout the season. There is no doubt that the casque affords excellent protection to perhaps the most vulnerable part of the rider in the event of a fall.

Trend of Design in America.

It is regarded as a foregone conclusion in motor cycling circles in America that twin-cylinder motor bicycles will dominate the Madison Square Garden Show, New York, in January next. It is also hinted that three manufacturers who have up to the present marketed only motor cycles with chain transmission will also add to their patterns by incorporating a belt drive.

Motor Tricycles for the Mexican P.O.

We are advised that the Mexican Post Office authorities have purchased a dozen Laurin and Klement motor bicycles and sidecars for carrying mails, similar to the one illustrated on page 831 last week, and appear to be thoroughly satisfied with their acquisition. Generally speaking, the vehicles are identical with the type which has been adopted by the Austrian P.O. The machine propels nearly 4 cwt. of postal matter.

Yankee Ruling Treated as a Joke.

Theodore K. Hastings, of New York, has been transferred to the professional class by the Chairman of the F.A.M. Competition Committee "on account of his competition against professionals in the English End-to-end Run." Hastings came over here after making enquiry and being warned that he would forfeit his amateur status "if he entered the lists with foreign cash takers." English riders will, of course, treat the ruling as a huge joke, and so did Hastings apparently, or he would not have come over. The ruling will not affect him, as he did not intend to take part in any more American competitions.

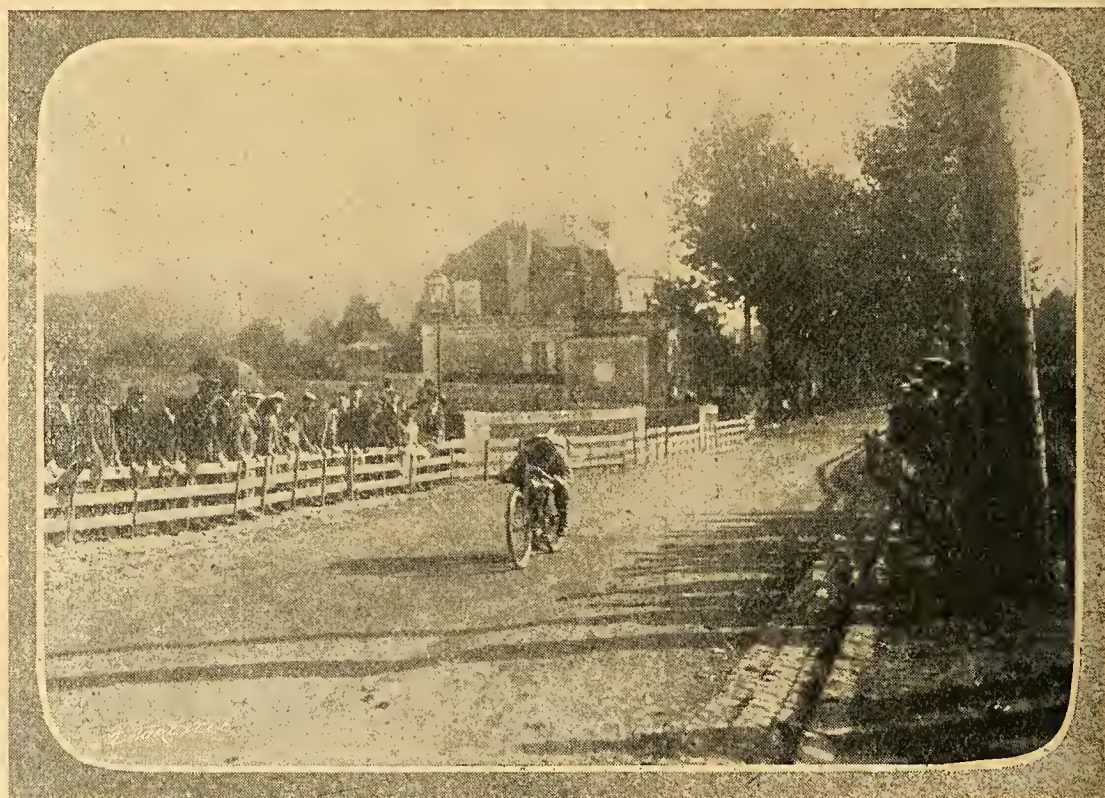
Motor Cycle Frightens a Horse.

At North Ormesby on Tuesday of last week the inquest was resumed on the man Chas. Peacock, who was knocked down by a horse which took fright at a motor cycle ridden by J. H. Calvert. It appears that the horse did not begin to prance until the motor cycle was about level with it, and one of the men with the horse was sitting on the shafts, and the deceased was at first walking by the side, but not at the horse's head. Mr. Calvert was travelling at six to eight miles an hour, and did not look round after passing, as he thought there was no need to. He knew nothing of the accident until he was told about it afterwards. The jury returned a verdict of accidental death.

The Chateau Thierry Hill Climb.

Chateau Thierry is in the department of Oise, about sixty miles from Paris. The annual hill-climbing contest which took place there on the 18th inst. was a great success. Giuppone repeated his Gaillon Hill performance by making the fastest time on a motor bicycle, and fastest time of any motor vehicle

with the exception of a racing Opel-Darracq car. Giuppone's time on a Peugeot weighing under 110 lbs. was 50 $\frac{2}{5}$ s. Jørns, on an Opel-Darracq with cylinders 121 by 130 mm., occupied 44 $\frac{1}{5}$ s. for the same distance. There were in all six classes for motor cycles, and the Moto-Rève was victorious in two. In the class for machines under 62 lbs. Noel (Moto-Rève) was first in 1m. 31 $\frac{4}{5}$ s., and the same rider competing under the Auto Cycle Club de France category was again first in 1m. 29 $\frac{2}{5}$ s. An Albatross and a Lurquin-Coudert respectively won the quarter litre class in 1m. 45 $\frac{1}{5}$ s. for Class A and 1m. 34 $\frac{2}{5}$ s. for Class B. In the third litre class Giuppone went up in 1m. 6 $\frac{3}{5}$ s. in Class A. A Quentin was driven up in 1m. 24 $\frac{3}{5}$ s. in Class B. In the class for machines over 110 lbs. a Lurquin and Coudert (which won) made 17 $\frac{1}{5}$ s. slower time than Giuppone on a machine under 110 lbs. The Ronteix tricar won the racing class in 1m. 53s. A class for tricars weighing not less than 3 cwt. 3 qrs. 20 lbs. was won by Madame Guerry, who drove a Guerry and Bourguignon.



Giuppone, on a Peugeot, making fastest time in his class at the Chateau-Thierry Hill-climb (France). He was only beaten by 6 $\frac{1}{5}$ secs. by a four-cylinder Darracq racing car.

Police Traps.

A police trap is working between Oldham and Delph, on the main road to Huddersfield.

There is another in operation between Putney and Walton-on-Thames.

Collier V. Olieslagers.

The recent professional Stadium sports and Marathon race were such an unqualified success that it has been decided to hold another meeting next year on an even grander scale. A motor cycle contest between Collier, the British champion, and the fastest European rider, possibly Olieslagers, for a substantial purse and the world's championship, will, in all probability, be one of the attractions. The races will be over short distances.

Motor Union Notes.

At the October meeting of the Motor Union, which was held at the Piccadilly Hotel, W., on the 21st inst., it was reported that seventy-two motor cyclists had joined under the 10s. 6d. subscription and seventy-eight under the 21s. subscription. Among them may be mentioned Mr. M. J. Tuchman, who has been appointed a member of the Motor Cycle Committee, and another well-known cyclist, Mr. S. H. Fry, of Highbury, N. The total receipts of the M.U. for the nine months ending September 30th amounted to £11,906, as against £9,370 for the same period last year.

A Caution.

Motor cyclists journeying through Altrincham, Cheshire, should exercise extreme care not to exceed a speed of about eight to ten miles an hour. The police are very particular about the speed, especially on Sundays during the hours of divine worship. In all cases when motor cyclists are passing through towns and villages on Sundays, particularly during the hours of service, the use of the horn should be avoided as much as possible, and under no consideration should the cut-out be left open.

M.C.C. Closing Run.

The M.C.C. held its closing run to Redbourne on the 18th inst., which was well attended. A detailed report of the meet is published on page 847.

Two Speedy Riders.

The first British rider to cover a mile a minute on a motor cycle stands to the credit of Harry Martin; he accomplished this on the road in the Gordon-Bennett speed trials in Ireland, 1903. To Collier, of course, belongs the honour of being the first motor cyclist in the world to cover seventy miles in one hour.

Auto Cycle Union Notes.

The paper by Mr. Basil H. Davies on the subject of "Tricars—Dead, Living, and Unborn," will be read before the members of the Auto Cycle Union on Thursday, November 5th, and not on

Engines and Magnetos Stolen.

Some time during the night of the 21st the premises of Mr. J. Taylor, 318, Percy Road, Birmingham; were broken into and the following articles stolen: One Bosch magneto, DA2L, No. 224,131; one Bosch magneto, DAVL, No. 220,596; one Bosch magneto, DAVL, No. 220,597; one Peugeot engine, 2½ h.p. single-cylinder, No. 17,592; one Peugeot engine, 3½ h.p. twin-cylinder, No. 12,993. Should any reader be offered a Peugeot engine or Bosch magneto bearing one of the above numbers, or similar articles with the number obliterated, he is asked to communicate with Mr. Taylor immediately.

Danger of Loose Handle-bars.

A regrettable accident occurred at Shenstone, Staffs., last week, Mr. Richard Wilcox, of Sutton Coldfield, being thrown from a motor cycle he was riding and receiving injuries from which he died. It is not known exactly how the accident happened, but a witness heard a grating noise and saw deceased fall over the handle-bars, but an experienced motor cyclist who examined deceased's machine gave it as his opinion that the accident was due to the handle-bar stem being very loose in the socket, causing the machine to become uncontrollable.

The Paris Salon.

The President of the French Republic, Monsieur Fallières, will open the Paris Salon on Nov. 28th. All items of interest to motor cyclists will be described and illustrated in *The Motor Cycle* of December 9th.

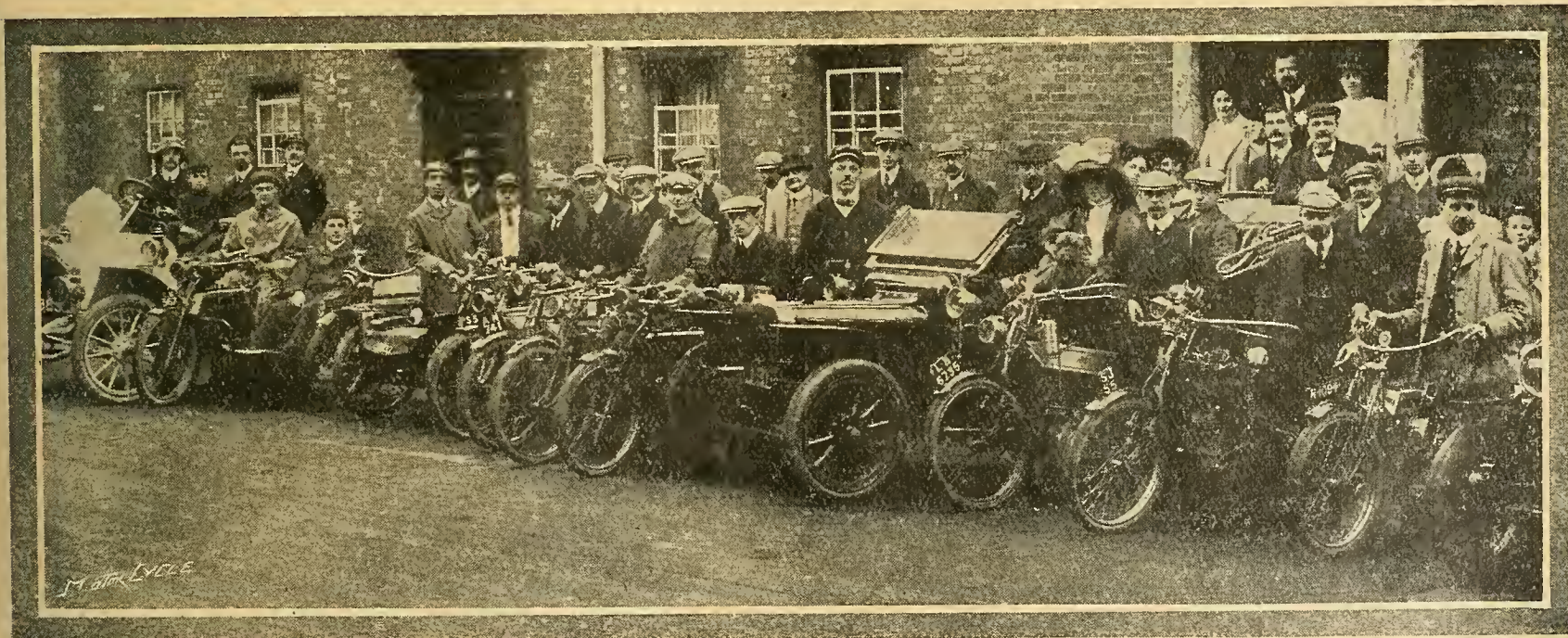
The Triumph Company's Profits.

It is gratifying to note that the directors of the Triumph Cycle Co., Ltd., Coventry, this year recommend a dividend of seven and a half per cent. on the ordinary shares of the company. This is two and a half per cent. increase over the last two years, and five per cent. increase over 1905.

FUTURE EVENTS.

- Nov. 5—Paper before members of the Auto Cycle Union, "Tricars—Dead, Living, and Unborn," by Mr. Basil H. Davies.
- " 13-21—OLYMPIA AUTOMOBILE EXHIBITION.
- " 18—Motor Union Annual Dinner at the Hotel Great Central, London.
- " 20-28—THIRTY-SECOND ANNUAL STANLEY SHOW, at the Agricultural Hall, Islington.
- " 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.
- Dec. 16—Motor Union General Committee Meeting.
- Jan. 16-23—Motor Cycle Show at Madison Square Garden, New York.

Friday, November 6th, as already announced in the *R.A.C. Journal*. The alteration has been made in order not to clash with the Stanley Club's annual smoking concert, which is to be held on the later date. The paper will be given at the Associates' premises, 112, Piccadilly, at 8 p.m., and this will afford those who have not previously availed themselves of the opportunity to see the excellent accommodation provided for members at this address.



The Motor Cycling Club closing run to Redbourne on the 18th inst. A group of members and friends photographed at the Bull, Redbourne.

Motor Cycling Adventures in Tasmania.

HOME readers of *The Motor Cycle* are always interested to hear of the doings of brother motor cyclists in the Colonies. The following extracts from a most interesting letter, sent by Mr. Cecil M. Dyer, of Launceston, Tasmania, will be sufficient to convince readers what can be accomplished with a motor cycle over the heavy mountainous roads of Tasmania:

"Since July 12th this year to September 12th my mileage table shows 2,829 miles. A careful record kept of stoppages shows that, outside of tyre troubles and sooty plugs (which are merest incidents in a motor cyclist's life), the involuntary stoppages during this period totalled ten, made up as follows:

"Broken porcelain (front plug)	1
Choked carburetter	3
Inlet valve cotter adrift	2
Skid into a road cutting	1
Plunger of Truffault spring unshipping	3

"The trouble with inlet valves I have since obviated by having valve stems filed up and threaded, two nuts taking the place of the cotter; a much better adjustment of spring tension can thus be obtained. The Truffault fork trouble was caused by driving fast over bush tracks. I fitted two long spiral springs as a rebound check. They act admirably, and are far safer than the set screw at the bottom of head. This sheared off the first time the plunger came unshipped.

"You may perhaps think, in these days of End-to-end non-stop runs, that 2,829 miles, with ten involuntary stoppages, is not a very meritorious performance. On well-made English roads it is not, but under totally different conditions, of which I will give you a brief outline, the claim of the Vindec Special to be 'the motor cycle of merit' is amply justified.

Far Away from Civilisation.

"My vocation as a traveller for a firm who trade in wool, furred skins, and a few other lines, takes me far away from civilisation (as represented by petrol supplies and macadamised roads) often for weeks at a time, petrol supplies being 'cached' at various points. Early in May my wanderings commence amongst the mountainous and heavily timbered districts to the camps and depots of hunters and trappers of opossum, kangaroo, wallaby, and other native animals, whose furs have a high commercial value. Right back into the heart of the Tasmanian forests my Vindec goes, the exhaust often scaring healthy specimens of Tasmanian carnivora, *i.e.*, tiger (or so-called hyæna), and the Tasmanian 'devil' into a most undignified and hurried retreat. Until the end of September, periodical visits are made to these camps and depots, the furs being most valuable in winter time, which is a bad time out here for travelling.

"In three seasons of this work I wore out two motor cycles—not Vindec's though.

"For hours I ride over mere bridle tracks, through bush, scrub, and forest, then over tussock, grass plains, and away over rocky boulder-strewn trails (that's where the Truffault forks get a quilting). Rain, snow, sleet, frost, and ice are often served up as 'trimmings' for these most 'delectable' rides; and when I tell you that after every trip my wheels have to be retrued, dents taken out, and new spoke nipples fitted, you can guess what the frame has to stand.

"Once (when the crate was opened) my machine was a beautiful creation in French grey and black; now, alas! its pristine beauty has vanished, and a coating of mud and clay protects the enamel. But, although the tank is battered and the whole outfit looks the worse for wear, it's only externally; I get there every time, and that's the main thing. If there is another motor cycle in the southern hemisphere gets such a 'doing' as my Vindec, I'd like to meet its rider.

"On the main roads, which are excellent, the pulley is adjusted to give a $3\frac{1}{4}$ to 1 gear, and it fairly flies. Out in the bush and mountain country it is often necessary to lower the gear to the lowest point; then it goes anywhere. Night riding on bush roads is trying for machine and rider alike. The prospect of a 'night out' does not appeal to me; still, at times I have to do some ticklish work by lamplight.

"Notwithstanding the rough usage and adverse conditions under which I work, the Vindec is positively reliable, and has yet to leave me stranded; but I'm not afraid of that very much.

A Bad Sideslip.

"I have some slippery rides sometimes; for instance, on one trip I had to ride over twenty-four miles of greasy soapstone track in two and a half hours. Nineteen times I had to dismount, owing to particularly serpentine movements landing me in the scrub. Sideslip is but a daily happening in the winter, and one soon gets used to it. Once, however, a skid landed me properly; I had to take out Truffault forks and travel per boots seven miles to a farm where I knew a forge was to be had. The suspender bar was set back $1\frac{5}{8}$ in., and would not clear the magneto to turn the front wheel for steering. A couple of hours' work soon put matters right again, and I was enabled to reach camp at Bicheno before dark.

"On another trip through Piper's River country I got bogged. I had to walk a mile or two to a timber camp, and 'humped' back two big sheets of bark (about 14ft. by 2ft.)—as much as I could stagger through the scrub with. When I got back to the bicycle only the forepart was above mud and water; it seemed quaint, and seemed to have touched bottom. I had a job to dig it out, but after making a little 'Brooklands' with the slabs of bark it was a bit easier, and I at last struck solid earth again. It looked a picture! Nothing like that in the End-to-end runs, I hope. A week or two in the Midlands on excellent roads soon recompenses for the hardships, and a bit of good surface is greatly appreciated.

A Tasmanian Sutton Bank.

"From *The Motor Cycle* (which almost all motor cyclists read here from cover to cover and duly appreciate) I should judge Sutton Bank to be a warm climb. Well, imagine a Sutton Bank with but a rough bush track in place of a road, often commencing with a water splash at the bottom, and then you will have some idea of the work my machine does almost daily; you will understand why I'm delighted.

"Fully half the mileage mentioned in the earlier part of this letter has been done in the wildest and roughest parts of Tasmania, the balance being over our good roads. Rain, hail, or snow, I've got to get there, and I do."



Wakefield M.C.

The second reliability trial to Scarborough and back took place on the 18th inst., starting from headquarters. There were nine starters, and five competitors finished to schedule time, namely, Mr. Spivey, Dr. S. Reader, Mr. C. Nicholson, Mr. F. Boulby, and Mr. E. Moore. Mr. Spivey will hold the silver cup, value £10 10s., presented by the vice-presidents, and a gold medal; second, silver medal; 3rd, bronze medal.

Western District M.C. (London).

The result of the petrol consumption test held by the above club on the 11th inst. is as follows:

Rider and machine.	Figure of merit.
1. F. W. Ritchie (5 h.p. Peugeot) ...	9.43
2. W. F. Ritchie (5 h.p. Rex) ...	9.32
3. H. Beech (5 h.p. Vindec) ...	8.04
W. Canham (3½ h.p. London) ...	7.19
A. R. Canham (3½ h.p. Brown) ...	6.70
H. Vowler (3½ h.p. Triumph) ...	6.29
Boxall (3½ h.p. Triumph) ...	6.04
R. King (3½ h.p. Triumph) ...	5.24

The above club held a most successful hill-climb on the 18th inst. Results:

Twin-cylinders: 1, H. Beech (5 h.p. Vindec); 2, F. W. Ritchie (3½ h.p. Peugeot); 3, W. F. Ritchie (5 h.p. Rex); 4, F. H. Mullett (5 h.p. Kerry).

Single-cylinders: 1, W. H. Kennedy (2½ h.p. Ariel); 2, R. Tomkins (3 h.p. N.S.U.); 3, H. Vowler (3½ h.p. Triumph); 4, A. Canham (3½ h.p. Brown); R. King (3½ h.p. Triumph); W. Canham (3½ h.p. London); I. Babbage (2½ h.p. Rex).

On Sunday, November 1st, there will be an inter-club run with the N.W. London M.C.C. Meet at Gerrard's Cross at 11 a.m.

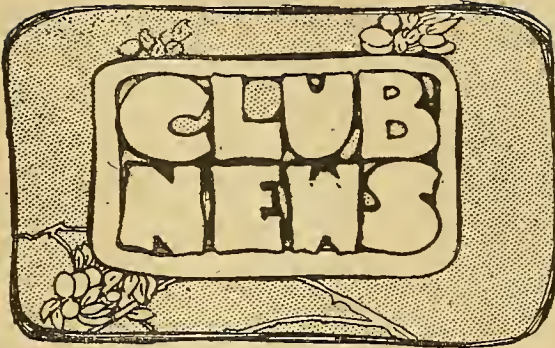
The Worcestershire M.C.C.

On the 17th inst. the above club held its first annual dinner at headquarters, the chair being taken by Mr. C. H. Wakeman, at 7 o'clock. After an excellent repast, the Chairman rose to toast "The King," and then went on to say a few words about the club, complimenting the organisers on the very successful year they had had, and also upon the present financial condition of the club. Other speeches were made by Mr. J. Burgess, Mr. N. C. Polloch, Mr. E. Burgess (captain), and H. C. Pickering (secretary), after which followed a musical programme, under the direction of Mr. Polloch, supported by Messrs. C. A. Williams, G. Deeley, Baldwin, and Bertram Evans.

Newcastle M.C.

The club opened its winter programme on Wednesday evening last, when Mr. William Dunn (captain) delivered a lecture on "Motor Cycling," illustrated with 148 lantern slides. The lecture was divided into three sections, viz., sporting, recreation, and reliability, and some pertinent references were made to police traps. The North-country motorists have suffered somewhat severely from the tactics of over zealous police officials, and probably the police trap pictures were the hit of the evening. On the screen was shown a comparison of the old and new ways of extorting "dues" on the highway; in the first place showing a highwayman of the real type astride his steed and fully armed, and subsequently portraying the modern "highwayman" lurking behind hedges. Mr. A. J. Lucas (the president) occupied the chair, and there was a large attendance of members and their friends.

The next social event is a Bohemian concert, to be held at the Continental Restaurant, Newcastle-on-Tyne, on December 2nd, at which prizes won during the year will be presented.



The Harrogate and District M.C.C.

This newly formed club held its first speed-judging competition on the 18th inst. The competition was, however, spoiled to a great extent by the inclement weather. Nevertheless, a few sporting riders turned up, and made splendid time over a difficult course of fifteen miles. The winner proved to be J. Mackay (3 h.p. Triumph), he being 3m. under his time; 2, F. Strafford (2¾ h.p. Peugeot), 3m. 59s. under time. The third and fourth were respectively W. Grange (3½ h.p. Triumph and sidecar) and W. Turner (3½ h.p. Triumph). The first prize was a gold medal, presented by Mr. J. A. Tindali; the second prize is valued at 10s. 6d.

The M.C.C. Closing Run.

On the 18th inst. the M.C.C. held its annual closing run to Redbourne, lunch being taken at the Bull, the country headquarters of the club. Fortunately, the weather was fine and the roads good, so that there was an excellent muster, between sixty and seventy members and friends sitting down to an excellent lunch, after which short speeches were delivered by Messrs. S. J. Sewell, W. H. Wells, and A. G. Reynolds.

A photograph was taken at Redbourne (see page 845), and members who would like copies can obtain them from Messrs. Ashworth and Meredith, Clarendon Road Works, Watford, Herts. The price is 1s. each, mounted.

The Stanley Show run will take place on Sunday, November 22nd, and the annual dinner on Saturday, December 12th. Particulars will be sent to members in due course. Arrangements are being made for a series of winter entertainments similar to those held in previous years.

Leeds M.C.C.

This club will hold its first whist drive this season on November 6th at the White Horse Restaurant, Boar Lane, Leeds, commencing at 8.15 p.m. prompt. Numerous valuable prizes will be given, and it is earnestly hoped that a representative gathering will be present. The committee appeal to the members to give them their support this winter to a far larger degree than they did last year, and assure them that they will find the various entertainments provided of first-class quality, and in every way enjoyable. Tickets for the whist drive, price 1s. 6d. each, can be obtained from any member of the committee.



RICHMOND AND DISTRICT M.C.C. CHALLENGE CUP.

The Carpmael Cup, presented by Mr. A. Carpmael, jun.

The President's Cup, presented by the Marquis de Mouzilly St. Mars.

Club News.—

Richmond and District M.C.C.

A committee meeting was held at the residence of Dr. Paul, Kingston Hill, on October 8th, at which the hon. secretary formally handed over to the committee the two challenge cups which have been kindly presented by the president of the club (the Marquis de Mouzilly St. Mars) and the captain of the club (Mr. A. Carpmael, jun.) respectively, and these were presented to the successful competitors. The President's Cup was won by Mr. K. Lankester in a reliability trial of about 200 miles, held on August 15th, and the Carpmael Challenge Cup was won by Mr. F. C. Wood in a reliability trial of about 180 miles, held on July 11th.

It was decided to hold the annual dinner on November 20th next, when the members of the club are invited to meet at the Motor Show at Olympia at four o'clock in the afternoon. After visiting the show, the members will then adjourn for dinner in the evening.

Motor cyclists living in the district of Richmond and Surbiton who are wishing to join the club are invited to write to the hon. secretary, Mr. H. C. King, of Walton House, Surbiton Road, Kingston-on-Thames, who will be pleased to forward full particulars of membership.

Manchester M.C. Invitation Petrol Consumption Test.

A special test took place on Saturday, October 17th, amongst the officials and the first four winners in the car and cycle sections, to verify the distance covered in the last petrol test, in which E. J. Chambers (16 h.p. Bell car) covered a distance equal to 43 car miles and 60 ton miles per gallon; V. G. New (18 h.p. Siddeley), 38.9 car miles and 63.6 ton miles. In the cycle section, J. Tytler (3½ h.p. Triumph) did 192 miles per gallon; J. L. Rose (four-cylinder F.N.), 132 miles; and A. J. Moorhouse (5 h.p. Rex), 131 miles.

Although the day appointed was not an ideal one for a competition of this class, the previous results were easily beaten both in the car and cycle sections.

Special officials were appointed to check the weights and petrol allowance. The petrol allowance was measured out by Messrs. Higginson and Hunt. Inspectors of engines and starters, Messrs. J. Baines and McNeil.

The same twenty-five mile course was chosen, and extra officials were appointed to check the whole of the distance.

In the cycle section, J. L. Rose could not compete, and A. J. Moorhouse (5 h.p. Rex), who won the first petrol test of the year, again proved winner on formula, beating his previous distance by about two and a half miles. C. E. Kettle (3½ h.p. Triumph), who came second, did a distance equal to 198 miles per gallon. It is interesting to note that Mr. Kettle used a White petrol economiser.

Great credit is due to the efficient way in which the whole of the course was checked by Messrs. J. T. Ward, H. Reed, Andrews, and Jones.

Walthamstow M.C.

A non-stop and speed-judging competition was held on Saturday, October 24th, over a course of sixteen miles. Results are as follow:

	Time allowed.	m.	s.
G. Humphreys (5 h.p. Peugeot)	48m.	7	45 fast
W. S. Low (3½ h.p. Rex)	56m.	4	48 fast
J. W. Percival (6 h.p. Fafnir tricar)	56m.	3	3 fast
R. J. Lisles (5½ h.p. Fafnir)	50m.	2	6 slow
F. W. Applebee (5 h.p. twin Rex)	53m.	18	slow
C. W. Lee (3¼ h.p. Rex tricar, 1904)	58m.	10	slow
W. H. Applebee (3¼ h.p. Rex tricar, 1904)	stopped.		

Winners: 1, C. W. Lee; 2, F. W. Applebee; 3, R. J. Lisles.

The remarkable part of this competition was that the first and second competitors were within seconds of the actual time set. No watches were carried, and the competitors did not know the time they started.

Mr. J. W. Percival has been declared the winner of the 100 miles annual dinner cup competition and gold medal.

The annual dinner has been fixed for Saturday, December 5th, at the City Arms, St. Mary Axe, E.C.

Stockport and District M.C.C.

A speed judgment, petrol consumption, and reliability trial was lately organised by this club. The idea was to ride from Stockport to the Cat and Fiddle, *via* Buxton, returning to Stockport *via* Macclesfield, making a distance of forty miles, which had to be covered at sixteen miles per hour. The time each competitor left Stockport was recorded, also the time each rider arrived back, making a deduction for the stop allowed at the Cat and Fiddle. It will be interesting to note that all the competitors exceeded the speed limit allowed.

Each competitor started with the same number of marks, namely: Speed, 150; reliability, 100; petrol, for every ounce remaining in the tank at the finish, 10 marks. Deductions: 10 marks were deducted for any stop. Speed: A deduction of 1 mark was made for every minute below or after the time allowed.

Results:

CLASS 1.—Single-cylinder machines.

	Total marks.
1. W. Slater (3½ h.p. Triumph)	1627.5
2. E. W. Wheeldon (3½ h.p. Triumph)	1511.0
3. F. Briggs (3½ h.p. Midget Bicar)	1464.0
4. H. Swain (3½ h.p. Rex)	1259.5
5. F. Allen (2½ h.p. Peugeot) retired.	

CLASS 2.—Multi-cylinders.

1. R. Rogers (4½ h.p. F.N.)	1425.0
2. W. C. Norman (5 h.p. Rex)	907.25
3. J. Woodrow (5 h.p. Rex)	519.5
4. H. Marsden (5 h.p. Rex) retired.	

At the meeting held on Wednesday last, it was decided to hold the first annual dinner on December 4th, at the Mersey Hotel. Tickets, 4s. each, may be obtained of any members of the committee.

THE ENCYCLOPÆDIA OF MOTORING.

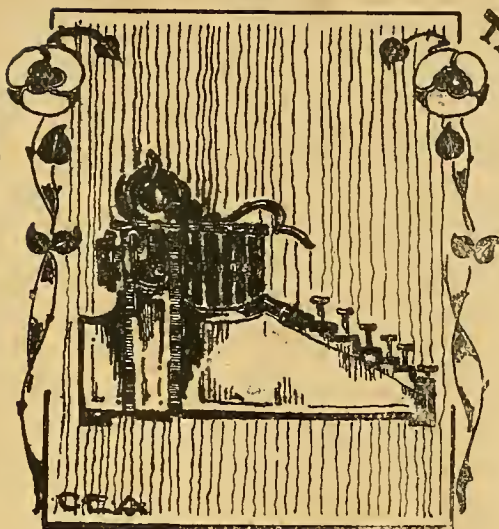
THE latest edition of this work on motoring is a handsomely bound volume consisting of 672 pages of descriptions and illustrations of the detail working parts of motor cars, many parts of which also apply to motor cycles, notably the chapters on change-speed gears, carburetters, ignition, internal combustion engines, two-stroke engines, etc. On page 357 a short article is devoted to the motor bicycle and passenger motor cycles. "The Encyclopædia of Motoring" will be found most interesting to any motor cyclist who is thoroughly interested in the mechanism of the machine he rides, and also aspires to knowledge regarding other vehicles he meets on the road. Armed with a copy of this book, and from the knowledge already gained from the manipulation of his own machine, the motor cyclist should be able to gain a very comprehensive insight into general motor and engineering construction. The book is published by Mecredy, Percy, and Co., Lower Abbey Street, Dublin,

and Iliffe and Sons Ltd., 20, Tudor Street, London, E.C., price 7s. 6d. The work is edited by that well-known motorist, Mr. R. J. Mecredy, and he is to be congratulated on the result of his labours.

The Junior and Otav Cars Co., Ltd., inform us that they have changed their telegraphic address from "Bertelli," London, to "Juniotav," London.

Referring to "Ixion's" remarks regarding the correspondent who complains that he is unable to fix a cyclometer to his spring forks, a correspondent informs us that he has a Quadrant with spring forks to which an ordinary Veeder cyclometer is attached with perfectly satisfactory results. At first he lost two of these instruments in quick success, owing to attaching them in too vertical a position, the movement of the front wheel in striking a bad rut in the road forcing the cyclometer against the forks and breaking it.

LETTERS TO THE



THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

A Problem to be Solved.

[3624.]-In reference to the subject "A Problem to be Solved" in recent issues, may I suggest that by raising the exhaust valve slightly, the amount of work previously expended by the engine in so doing is converted into extra r.p.m.

A. G. FENN.

Automatically Variable Pulleys.

[3625.]-With reference to letters 3619 and 3620 from Messrs. Parkinson and Lloyd Wright in the issue of October 21st, in which both gentlemen mention that they have for about twelve months been running a pulley made somewhat on the lines of Mr. Lloyd's automatically variable pulley, illustrated in your issue of October 14th, we would like to point out that Mr. Lloyd is fully aware of variable pulleys having been made in the past actuated by a spring, but it will be noticed, even from the line drawing in your issue of the 14th, that Mr. Lloyd's construction differs very materially in several points, and we would particularly emphasise the ball bearing device, which will come into operation when the pulley is used to give a free engine.

THE LLOYD MOTOR AND ENGINEERING CO.

Sparkign Plugs and Compression Ratio.

[3626.]-I have recently purchased a $3\frac{1}{2}$ h.p. Quadrant 1908 motor cycle, a.o.v. model, magneto ignition, which, owing, in my opinion, to high compression, makes short work of sparking plugs. In 500 miles I have used no less than six different sparking plugs (all magneto type):

1. Oleo—porcelain broke in pieces first day.
2. A good mica plug—inside blown clean out.
3. Warrior—metal base softened, causing the plug to be shot out of the cylinder.
4. Pogon—porcelain cracked.
5. Peto and Radford—porcelain broken.
6. Standard—has run about fifty miles, and is standing well.

Most of them went when climbing steep hills at speed.

Perhaps some of your readers will state their experiences with sparking plugs in high compression engines.

The bicycle itself is giving the greatest satisfaction in every way.

RAYMOND CRAWSHAY.

Fast Times in America.

[3627.]-Having been a subscriber to *The Motor Cycle* for the last two years, I wish to compliment you on the way you conduct your publication, and only wish we had a similar one here. You are not prejudiced in favour of or against any make of machine, and always give without hesitation accounts of any trouble riders may have with their machines in endurance runs, hill-climbs, and race meets. One very seldom sees anything in our magazines like that.

I have just returned from Indianapolis, Indiana, where a motor meet was held on a mile track, with 4ft. of banking on the turns, and a fairly hard surface. Fred Huyck, an Indian rider, on a 7 h.p. twin, rode ten miles in 9m. 38s., or an average of 57 $\frac{4}{5}$ s. to the mile. His fastest mile was 55 $\frac{2}{5}$ s. in this event.

Three weeks ago he rode ten miles in 9m. 17s. at Detroit, Mich., on an unbanked track, or 55 $\frac{2}{5}$ s. average for each mile. His best mile in this event was 53s.

I thought some of these times might be of interest to your readers.

Again wishing you success with your magazine,
Chicago.

G. W. LYON.

All letters should be addressed to the Editor, "The Motor Cycle," 20 Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Carburettors.

[3628.]-"Ixion's" article on carburettors is very interesting indeed, and will do the motor cyclist good in the future.

Like "Ixion," I have never found a carburetter that admits of enough extra air, that is, to run an engine very slowly and very fast.

I have now a B. and B., and I find by having a hand slide to cover the holes where the air is supplied to the mixing chamber I can get over the trouble, and one is able to start without flooding. Also in traffic where one must slack down, the slide can be partly closed, and the engine with the throttle slightly open can be made to run exceedingly slowly and sweetly.

I am a believer in this method of governing the carburetter from the main air intake, as well as the extra air.

EXPERIENCED.

The Gianoli Magneto Transmission.

[3629.]-With reference to the letters which have appeared in recent issues respecting the Gianoli drive as applied to the magneto on the Moto-Rêve, "F.P." is in error in assuming that the pitch line of the Moto-Rêve gear wheels is circular, which, as he conclusively proves, is impractical and unsatisfactory; even if deeply-cut teeth were used, as he suggests, they would alternately play fast and loose. In the case of the Moto-Rêve, the depth of tooth required to allow for meshing would be so great as to prevent the teeth clearing, and would simply lock the wheels.

We are sending you a full set of wheels, and you will notice that the eccentric ones are ellipses.

THE MOTO-REVE CO., LTD.

[We have examined the two eccentrically-centred driving pinions of the Moto-Rêve magneto transmission, and find they are ellipses. The ellipticity or deviation from a true circle is so slight that it certainly does not exceed the amount mentioned by Mr. Sommerville and quoted in "Current Chat" (page 806), viz., nine one-thousandths of an inch.—Ed.]

Spring Frames on Sidecars.

[3630.]-Having read with a considerable amount of interest the various letters which have appeared from time to time in your most excellent paper on the subject of sidecars, I think perhaps it might be of interest to your readers to hear the experience of a private owner with what I believe is entirely a new idea in the sidecar world. I refer to the new spring frame sidecar which was illustrated in your paper a few weeks ago. Seeing that it was being made by the Oakleigh Motor Co., West Dulwich, and being rather attracted by the design, I called on them and had a full trial. I must say that the result astonished me. It is truly a revolution in sidecars. One cannot feel the road shocks at all, and this in Dulwich, where there are about the worst roads about London, means something. By the courtesy of Mr. Durant, the manager, I was allowed to drive one as well as to ride in one. It certainly seems to steady the machine more than any other sidecar I have previously tried. My advice to everyone who is interested in sidecars is to try one.

I need scarcely say I have no interest in the firm in question.

LB 808.

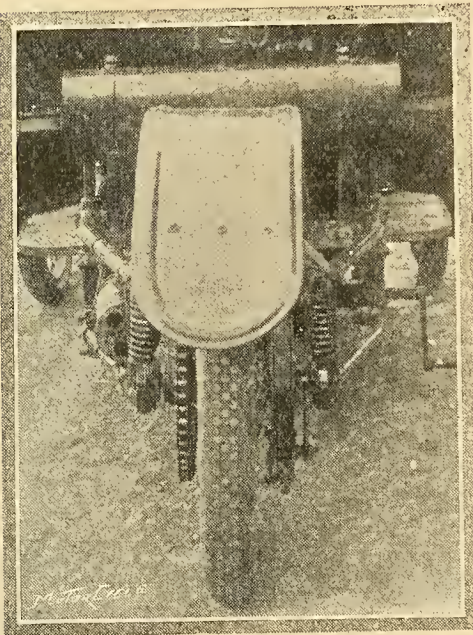
Is the Tricar Dead?

[3631.]-Apparently so by the few to be seen on the roads, and yet there is a little tricar made by the Rex Co. which ought to become popular. I am referring to the Litette. I have been the proud possessor of one of these

light, strong, powerful, and speedy machines for about fourteen months, and have made many pleasant and long tours with it. My latest and most pleasant trip took place early in October. I and a fellow passenger with a somewhat weighty portmanteau left Clacton-on-Sea one bright glorious morning for a trip to the Midlands and West of England, our first day's destination being Leamington Spa *via* Cambridge, Wellingborough, and Northampton. Leaving Clacton-on-Sea at 8.30 a.m. we reached Leamington at 5 p.m. I will not now trouble to give the route followed for the six days, as this would serve no useful purpose, but I would like to say that during the six days' running the only mishap we had was the breaking of an inlet valve cotter pin, which as I had no spare cost me 1½d. to replace. We did not even experience a puncture, which is no doubt in a measure due to the Litette being shod with Continental "Modèle de Course" tyres, which are wearing splendidly. The drive is by a Whittle link grip belt. Before starting on tour I purchased one of Warner's belt cleaners, as described in *The Motor Cycle* of September 16th. I found this a very useful little tool, and just the thing for cleaning a leather belt. The Litette is a real good hill-climber, as very seldom, with all the weight we carried, had we to resort to the first speed. I have never dismantled the engine, and the same sparking plugs as supplied with the machine are still in use. I have no interest in the Rex firm, and only desire to say that anyone wanting a light, strong, comfortably sprung tricar might by purchasing a Litette secure much fun and pleasure at a very low cost for upkeep and running expenses.

H. R. C.

[3632.]—I send you herewith a photograph of the rear of my tricar, which may interest your readers.



A rear sprung tricar described in the accompanying letter.

The frame is sprung on coil springs, which work on steel guides, doing away with the tendency to roll. The seats are side by side in the centre of the machine where the least vibrations are felt. The back air tube can be removed without taking the wheel from the frame. Engine, 84 x 84. The speed averages above the legal limit, and it has been running fourteen months. During that time it has covered 4,000 miles. The replacements have been two exhaust valves, one trembler blade, and back cover retreaded. It does sixty miles to a gallon of petrol, and I

have yet to experience a broken chain. MONT. SMITH.

Lightweight Singles and Motor-assisted Tandems.

[3633.]—I have noted the remarks in your valuable paper *re* the above, and as one who formerly used a 3½ h.p., I should like to say that I have given up for ever the idea of ever riding one again, as I find that one can get all that is required out of a lightweight of 1½ h.p.

I am 12 st. 7 lbs., and have been carried across Dartmoor from Exeter *via* Moreton Hampstead to Plymouth, taking all hills with perfect ease. Further, I have ridden from Taunton *via* Bath to London on the aforesaid 1½ h.p. in nine hours!

It may interest your readers to know that at the present moment I have a 1½ h.p. motor attached to a heavy tandem, and that I carry a lady thereon, together with 35 lbs. of baggage, and have found no trouble, provided both passengers give a little pedal assistance on the steep hills.

As I am anxious not to unduly advertise any machine, I will content myself by saying that the upkeep of such a machine as regards tyres and petrol is purely nominal. One pair of good extra heavy 1½ in. roadster tyres will do from 4,000 to 5,000 miles, and a gallon of petrol will carry a rider

of my weight at least 140 miles, and two riders about 115 miles. I am of the opinion that there is no need for heavier tyres than the above on 1½ h.p. motor bicycles.

Evidence is not wanting that we are getting back to light-weights permanently, both as regards motor bicycles and motor cars. Let me here suggest to any of your readers the idea of giving a trial to light motors such as I have mentioned on tandem bicycles. It will be found safer than sidecars, and infinitely more exhilarating and pleasant for both, as the slight pedalling as occasion may from time to time demand in hilly country affords a pleasant and healthy relaxation for both riders.

I have no hesitation in recommending those who need an enjoyable time on their tandems to try the 1½ h.p. motor attachment which I now use. The motor-assisted tandem is the cheapest and most delightful pastime that can be imagined, and should come as a boon to our numerous friends who have light banking accounts. J. W. CHALFONT.

[3634.]—You have published several letters lately on "The Lightweight," and perhaps you would not mind me adding a little to what has been already said.

A few months ago I found myself without a motor cycle and had to decide on what to get. I wanted a machine that was easy to handle in traffic, as my principal riding would entail about fifteen miles of it before getting clear of London. Next, I wanted a machine that was economical in upkeep and comfortable to ride. My choice fell on a 2 h.p. Moto-Rêve, and having done 1,200 miles on it, I am as pleased with it as I was on my first ride. For comfort and reliability it has been without an equal, and purrs up and down hill at an average of twenty miles per hour for any length of time. My only troubles have been belts, owing, I think, to the small engine pulley. Tyres wear well, but are not big enough to prevent stones denting the rims.

I suppose I must say I have no interest in the firm except as a satisfied user of what I consider to be the best lightweight on the market, and wish the makers all the success that is due to them. Also I must say a word for the most courteous way in which I have been treated in all transactions with the makers. G. L. ANDREWS.

Passenger Work, by Two-speed Gear and Otherwise.

[3635.]—I have been much interested in reading the varied correspondence on this subject in its various aspects.

To begin with, the belt undoubtedly has its limitations for passenger work in hilly country. My experience, extending over twelve years, is that leather belts are apt to slip when called upon to do double duty, and that rubber ones very soon pull out, especially when put to the extra strain of changing from low to high gear.

I have often wondered that no mention has ever been made of that excellent compromise, the Simkins chain band. I adopted it some time back on my 3½ h.p. Minerva, after trying one or two two-speed gears, which failed miserably to come up to expectations, and the consistent reliability and freedom from worry which this simple contrivance gave me I shall never forget. By its means I was able to reduce my gear (permanently, of course) to 7½ to 1, and thereby to surmount, with passenger, all the severe gradients on our main roads about here. The low gear made starting very easy, and, with careful driving, overheating did not occur. It is, of course, quite easy to have more than one engine sprocket, and to change over, as in the case of pulleys. To anyone not wishing to incur the expense of a two-speed gear I can confidently recommend this device.

There is no doubt, however, that a change speed gear is the ideal thing, and I hesitated a long time in view of my previous experience, before giving up the trusty Simkins band for another experiment. I have, however, quite recently, sent my machine (the same 3½ h.p. Minerva) to Messrs. Wall for their Roc conversion. I have as yet had little opportunity of giving it a long trial, but the work it has done so far has been of a very trying description. I must say I am most favourably impressed, first, by the very substantial and businesslike way in which the conversion has been made and the excellent finish put on it, and secondly by the really delightful way in which the gear and clutch operate. Everything has been well thought out, and is most convenient, and, as a driver of many cars, I must congratulate the firm upon having produced something very much more pleasant to manipulate than the average small car con-

trol. It is indeed a "conversion," and I am prepared to accept any reasonable offer for my pedal gear, now resting in a corner of the motor shed.

A correspondent of a few weeks ago asked about the reliability of the Hellesen dry cells. I have had a set in use since last Christmas, and I may almost say that until his query appeared I had really forgotten all about them, for they never cause a moment's worry. I remember putting a volt and ampèremeter over them last Easter, and found the current at its original strength. I have not thought of them since. I used to carry a smaller set as spares, but one day I dropped them on the road, and apparently smashed them up. However, they have been doing electric bell work indoors for the last six months with complete satisfaction.

Devon.

(Dr.) CLAUDE A. P. TRUMAN.

The Knight Slide Valve Engine.

[3636.]—In a paragraph in "Occasional Comments" in your issue of the 21st inst., your contributor states that he has been unable to hear that Mr. Knight has granted a license for his engine to any motor cycle manufacturer in any country. We should have thought that, before penning this, your contributor might have ascertained whether our license includes such rights, for he must be aware that our company constructs motor cycles as well as motor cars. We may inform you that the license granted by Mr. Knight to the Daimler Motor Co. as well as to ourselves provides for all internal combustion engines.

We are considering whether we will eventually fit the slide valve engine to our motor cycles, and if we decide to do so, it will be the best proof that we have found that the advantages claimed for the new engine also apply to the motor bicycle without any drawbacks.

MINERVA MOTORS, LTD.

Hill Climbing.

[3637.]—In reply to Mr. Karslake's doubting letter, may I quote the following extract from Mr. H. C. Lafone's article entitled "Haigh Exmoor" in *The Autocar* of September 26th?

Mr. Lafone is an experienced motorist, as well as an excellent writer on motoring topics, and his words therefore carry weight. "Mr. Totterdell, who drove me, made promise of providing me with sensations, and he kept his word, for he proceeded to take me down to the Barnstaple-Lynton Road by a gentle slope entitled 'Beggar's Roost,' with a reputed gradient of 1 in 3! I am rather sceptical of local information concerning the steepness of hills, but I can only say that if this Beggar's Roost was not 1 in 3, I never want to encounter a hill that is. The name of the hill is odd, for I do not think I ever came across a beggar who would have mustered up the energy to get even half-way up such a hill to 'roost' on it. Words fail in attempting to describe this gradient. Those who were on the 2,000 Miles Trials will get some idea of it when I say that Amulree was child's play compared with it."

In Lynmouth we were assured that the hill was called Beggar's Roost, sometimes Riddaway Hill, and occasionally Barbroke Mile Hill.

IVAN B. HART-DAVIES.

A Warning.

[3638.]—I must protest against the misrepresentation practised by a certain class of second-hand advertisers in *The Motor Cycle*. The latest example to come to my notice is in connection with a 3½ h.p. Vindec Special which is offered for sale. It happens that I have seen this particular machine, and can vouch for the accuracy of this statement. The advertisement stated it to be a late 1907; yet the makers will tell you that this machine was sent out in May, 1907. I submit that too free a use is made of the word "late" by these advertisers, as it leads buyers to believe that a machine has had considerably less wear than is actually the case. In this particular instance a person would conclude that the engine has had only one season's wear, whereas the facts show that it has been through two seasons. This is particularly reprehensible, in that the buyers most likely to be misled, and possibly disappointed, are novices, who are, of course, unprepared for such practices.

I know full well that your good selves would be the first to condemn, in the strongest possible terms, any attempt at deception in advertising, yet at the same time it is practically impossible to guard against it. I hope, however, that some good may be done by publishing this letter, in the hope that it

may catch the eyes of prospective purchasers, and warn them to fully satisfy themselves as to the age of a second-hand motor cycle before paying over what may be to them a large sum of money. Experienced motorists know, but, as a rule, beginners do not, that a motor car or cycle depreciates somewhat quickly in market value, and that a season or so makes a considerable difference in the price. G. C. SWEET.

[We recommend readers to adopt the deposit system in all cases when dealing with unknown advertisers. Full particulars of this system are published in each issue.—ED.]

The A.C.U. 5s. Membership Scheme.

[3639.]—If you would open your correspondence columns for the discussion of the above scheme I think you would be doing hundreds of motor cyclists who live in the country a real service.

Who wants a 5s. membership scheme? What we do want are real live local social motor cycle clubs established where motor cyclists are numerous, and if the A.C.U. would spend some of its time, organisation, and money in assisting into being such clubs it would eventually repay it tenfold more than the 5s. scheme.

Clubs with a good social element in them will prove a success, and the establishment of such will make the A.C.U. and motor cycling a power. That something of the kind is needed is shown by the fact that between Highgate and Barnet (as far as I am aware) no motor cycle club exists, although there are hundreds of motor cyclists who live close to one of the finest roads out of London.

If one of the benefits to be given to us country motor cyclists is the *Journal*, then it is one which we can very well do without. A good chatty journal run in connection with these proposed clubs would be a real pleasure to the members. I cannot see any real benefits can be offered for this paltry sum.

My wife and I touring as members of the C.T.C. some years ago had the following amusing experience. At one hotel the bill was brought, and mentioning to the maid we were members of the C.T.C. the account was taken back for correction. When it was returned the amount was more than the original plus the discount.

I do not think we want a discount scheme in connection with hotel charges, but we really do want an hotel scheme. Charges have gone up fifty per cent. in most places during the last two years. In many hotels in addition charges are made for storing at the rate of 1s. and 1s. 6d. for motor bicycles; in fact, if a car were being used instead of a cycle the charges would be about the same. Our touring wants are good accommodation and at a reasonable rate. This question is a very urgent one, for very often when arriving in the evening, perhaps dusty and tired, you are shown to some miserable room. Why can we not have an hotel list in *The Motor Cycle*, where we could see the names of the hotels to make for when on tour, and where at the same time we should be welcomed?

The A.C.U. did give us an afternoon's real pleasure on October 3rd by having the penalty run, some of the factors contributing to make it so being the small entrance fee, and the early start, the latter enabling those of us who had ridden a distance to get home the same night.

Why can we not have more of them, or something similar? and at the same time a change of route, and thus stir up the dormant motor cyclists in these districts where no club exists?

If the A.C.U. or Motor Union will do some of these things for us it will get our enthusiastic support.

C. C. COOKE.

EXPERIENCES WANTED.

"F.B.," New Brighton, would like readers' experiences with a Mabon clutch on a 7-9 h.p. twin Peugeot with side-car, weight of passenger and driver twenty-four stones. Also brand of oil most suitable for the above engine.

"Maori" (New Zealand) would like readers' experiences of the 1¼ h.p. lightweight F.N., particularly as to the method of manipulation to obtain the slowest possible speed, ease in starting, care of transmission gear, and efficiency of brakes. Also general suggestions likely to benefit an inexperienced rider of 11 stones in a very hilly country with bad roads, necessitating care and slow speed.

RECENT PATENTS.

By ERIC W. WALFORD, F.C.I.P.A.

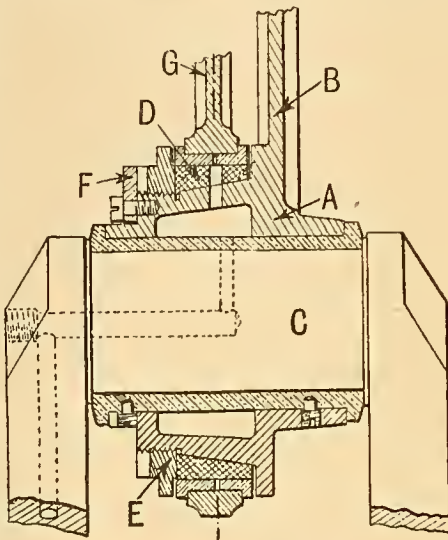
A Butted Air Tube.

The illustration represents diagrammatically an air tube enclosed within its cover. The ends A and B of the tube have secured to them circular tapered ends C D, the walls of which are of gradually increasing thickness. The object of this increasing thickness is that the ends may better withstand the air pressure set up by the rotation of the wheel on the ground.—T. H. R. Craig, No. 20,797, 1907.



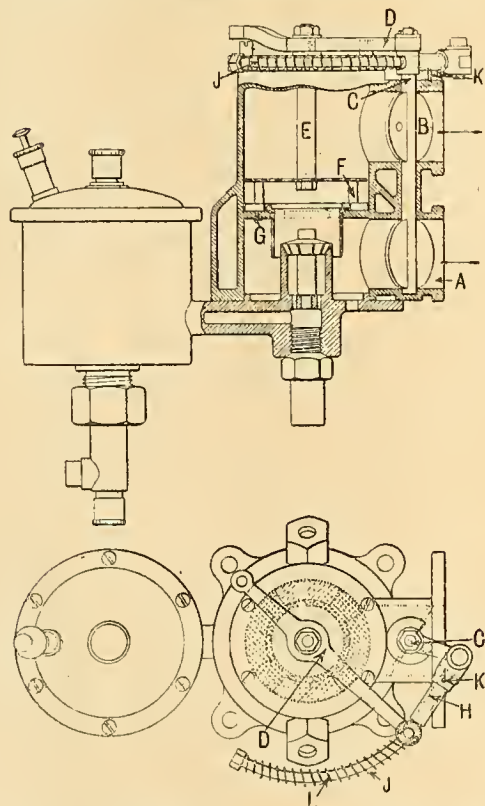
Big Ends for Two-cylinder Engines.

This invention has particular reference to the type of two-cylinder engine in which two connecting rods are mounted on the same crank pin. The big end A of the connecting rod B is mounted directly upon the crank pin C, and its exterior surface is formed conical. Upon this conical portion is placed a ring D, which is coned internally to correspond with the exterior of the big end, and this ring is locked in position by a nut E and lock nut F. The exterior of the ring D is formed cylindrical, and provides a bearing for the second connecting rod G.—De Dion-Bouton (1907), Ltd., No. 1,443, 1908.



A Single Lever Carburetter Control.

The pure air inlet A and carburetted air outlet B are each provided with a shutter, both shutters being mounted upon the same spindle C. At its upper end this spindle is provided with a crank and connecting rod H, by which it is connected to the operating lever D, which is arranged in the central plane of the carburetter. The lever D carries a depending spindle E, which carries at its lower end a register device F, which co-operates with a partition G in the carburetter to permit, at certain times, pure air to pass through the carburetter without passing through the restricted area around the jet nozzle. The connecting rod H is extended as shown at J, and a spring L surrounding this extension is adapted to hold the operating lever D and connecting rod H normally in the position shown. In operation, when the lever D is rotated to open the inlet and outlet passages A and B the register device F is also rotated, but not sufficiently to open the air passages therethrough. When, however, the passages A and B are fully open their connecting rod H comes in contact with a stop K, which prevents further

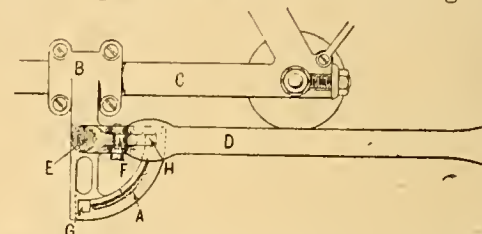
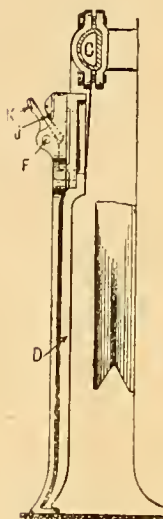


B the register device F is also rotated, but not sufficiently to open the air passages therethrough. When, however, the passages A and B are fully open their connecting rod H comes in contact with a stop K, which prevents further

movement thereof. But the operating lever may travel still further, compressing the spring L, and further rotating the register device F. This opens the air passages therethrough, and air is allowed to pass through the carburetter without passing through the restricted space around the jet. A small opening shown in the shutter B permits a small amount of gas to pass when the engine is running "light."—Soc. F. et G. Longuemare Frères, No. 9,202, 1908.

A Locking Device for Stands.

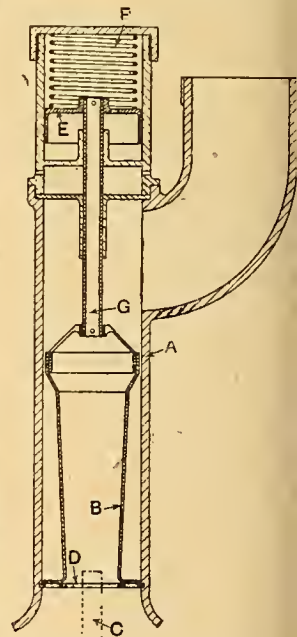
The quadrant A is formed integral with clip B, which is bolted to the chain stay C. The leg D is pivoted at E, and is provided with a catch F adapted to engage holes G and H in the quadrant and hold the leg in the



desired position. The catch is impelled to shoot into the holes G and H under the influence of a spring G, and is formed with an extension K, by which it can be easily depressed when it is desired to withdraw the catch and move the stand.—T. Price, No. 7,520, 1908.

A Belgian Carburetter.

This carburetter consists of a casing A, in which is arranged a conical induction chamber B. The lower end of this chamber surrounds the jet nozzle C, and its walls at this point are extended radially and lie on a perforated disc D, through which the air to be carburetted must pass. The disc D is provided with a central orifice through which the jet nozzle C projects, and also with a number of annular orifices around the central orifice, these annular orifices being closed at low speeds by the radial extension of the walls of the induction chamber B. A spindle projects upwardly from the chamber B, and carries at its upper end a piston E, between which and the carburetter wall is arranged a light spring F. The spindle is made hollow in order to put the space between the piston and the carburetter body into communication with the induction chamber B. At low speeds all the air entering the carburetter passes through the central orifice of the disc D, but on the suction increasing, the induction chamber B is lifted, due to the pressure of air on its under surface and the vacuum created in the space between the piston E and carburetter wall, thus allowing additional air to enter through the annular orifices in the disc D.—J. Fagard, No. 9,170, 1908.



THREE SPECIAL SHOW ISSUES of "The Motor Cycle" will be published on the following dates November 18th and 25th, and December 2nd.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

The Motor Cyclist's great need is a perfect system of luggage carrying equipment. This is best provided for in the latest pattern Motor-cycle Bag set—the

BROOKS

complement of every modern Motor Cycle.

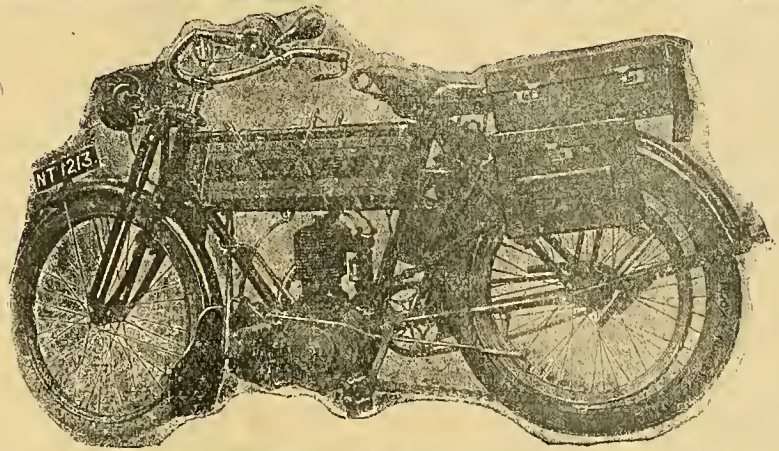
The set consists of Carrier, Pannier, and Frame Bags as shown by accompanying illustration.

Provision is made for Clothing, Spares, Tools, Maps, etc., and ingenious receptacles are included for various purposes.

The whole are made of finest quality water-proof canvas on special fibre board, have strong locks, and are fastened securely to prevent rattling.

These bags are rain and damp-proof and afford the safest protection for all luggage. Ask for our Motor Cyclists' List.

J. B. BROOKS & Co., Ltd.,
Dept. 45, Gt. Charles St., Birmingham.



BROOKS Motor Cycle Baggage Equipment.

THE MOTOSACOCHE

possesses advantages over all other motor cycles which cannot be disputed or under-estimated. It is very light. All its motor mechanism can be removed from the cycle in the space of a few minutes. It is clean. It is reliable. It is silent. It will travel from 5 to 30 miles per hour. It will ascend gradients of 1 in 10 without pedal assistance. AND, it is economical both in first cost and upkeep.

The MOTOSACOCHE is £30 only.

Write for full particulars:

H. & A. DUFAUX (England), LTD.,
65, Holborn Viaduct, LONDON, E.C.

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

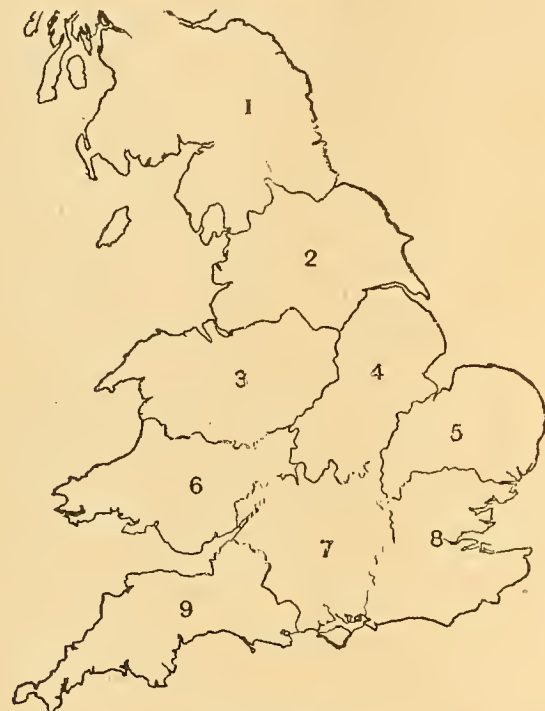
All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London (20, Tudor Street, E.C.), by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



- SECTION I.**
Northumberland, Cumberland, Durham, and Westmorland.
- SECTION II.**
York and Lancashire.
- SECTION III.**
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.
- SECTION IV.**
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.
- SECTION V.**
Norfolk, Suffolk, Cambridge, Huntingdon and Bedford.
- SECTION VI.**
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.
- SECTION VII.**
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.
- SECTION VIII.**
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.
- SECTION IX.**
Somerset, Devon, Dorset, and Cornwall.
- SECTION X.**
Scotland.
- SECTION XI.**
Ireland and Isle of Man.

THE CLAIM

of the PREMIER CO. to be the LARGEST FIRM in the WORLD dealing in NEW and SECOND HAND CYCLES is based on FACT. There are OTHER CLAIMANTS to this distinction—BUT their claims have OTHER FOUNDATIONS.

SECOND-HAND & SHOP-SOILED BARGAINS.

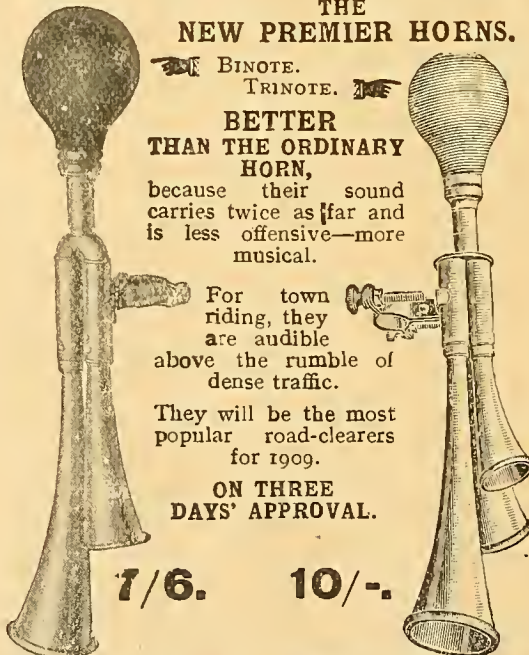
SINGLE CYLINDERS.

TRIUMPH, 1907, magneto, overhauled and re-enamelled	£30 0
TRIUMPH, 1906, magneto, spring forks, good order	£21 0
ROC, 1908, two-speed, magneto, 4 h.p.	£33 0
N.S.U., 1908, magneto, 3½ h.p., shop-soiled, £40 machine	£30 0
N.S.U., 1907, spring forks, Roc two-speed gear	£28 0
REX DE LUXE, 1908, two-speed, 3½ h.p., shop-soiled	£35 0
F.N., lightweight, magneto, spring forks	£20 0
ROC, 1907, magneto, clutch, spring forks	£19 0
WARWICK, 1908, shop-soiled, two-speed, clutch, magneto, spring forks, £50 machine	£31 0
QUADRANT (Birmingham), 3½ h.p., spring forks	£15 0
SINGER, 3 h.p., magneto, belt drive, Mabon clutch, perfect order	£15 0
ASTER, spring forks, Longuemare carburetter, tyres sound, good order	£9 0
WHITLEY, 3 h.p., spray carburetter, girder forks	£7 0
ROYAL ENFIELD, M.O.V., vertical, lately re-enamelled, etc.	£10 0
MINERVA, 2 h.p., spray carburetter, M.O.V.	£8 0

TWINS.

N.S.U., 1908, magneto, 4 h.p., shop-soiled, £50 machine	£39 0
BROWN, 1908, shop-soiled, 5½ h.p., two-speed, Palmer tyres, cost over £67	£45 0
ROC TWIN, 5 h.p., magneto, clutch, show model, done 300 miles, perfect	£30 0
VINDEC, magneto, spring forks	£25 0
ROC, 5 h.p., Peugeot engine, magneto, clutch	£22 0
KERRY, 5 h.p., two-speed	£16 0
REX TOURIST, 5 h.p., magneto, spring forks	£25 0
REX, 5 h.p., spring seat, spring forks	£17 0
WERNER, 4 h.p., spring forks, good order ..	£11 0
MILLS & FULFORD SIDECAR, shop-soiled, Palmer cord 2½ in. tyre	£9 10
RILEY TRICAR, 5 h.p., twin, two-speed, coach-built, lamps, spares, etc., perfect order	£50 0

THE NEW PREMIER HORNS.



PREMIER TUBULAR CARRIERS.—Fit all makes. 7/6 each. Approval.

PREMIER GENERATORS.—As supplied with the famous Searchlight. 6/- each. Approval.

CLINCHER BRAND NEW TUBES.—26×2½ in. 6/6 each. Approval.

PREMIER ACCUMULATORS.—The cheapest and most durable.

WRITE FOR LISTS.

PREMIER MOTOR AGENCY,

Aston Road, BIRMINGHAM.

Telephone 4,310. Telegrams: "Primus, B'ham."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

31 h.p. Minerva, 26in. wheels, long handle. 32 bars, low frame, good condition; £14 10s.—Below.

2½ h.p. Noble, Chater-Lea frame, 26in. wheels, 2½ h.p. De Dion engine, spring forks, good condition; £12. — Richardson Cycle Depot, Mandale Road, Thornaby.

BAT Motor Cycle, with spring frame, tyres and belt quite new, 3 h.p. De Dion engine; £12. — Rae, Thornton Street, West Hartlepool.

PHILON and Moore Motor Cycle, 1908, with 3½ h.p. engine and two-speed gear, almost like new; £38.—Rae, Thornton Street, West Hartlepool.

HILL-CLIMB Winner, Beeston Humber 3 h.p., 28in. Continentals, free engine, handle starting, Longuemare, Brooks saddle accumulators, complete, perfect condition; any trial; nearest £18 cash.—Geo. Burns, 286 Stanhope Road, Tyne Dock.

SECTION II.

York and Lancashire.

£6 will buy 3½ h.p. motor.—Particulars from Carter, 12, Stanley Street, Preston.

31 h.p. 25 Guinea Rex, 1907, as new, unused; what offers?—1, Bank Terrace Whitworth.

1908 Triumph, new condition, complete with headlight, horn; £36. — Cross, jeweller, Rotherham.

TOURIST Trophy Triumph, new in July prize winner; £38, or near offer.—4 Grange Avenue, Leeds.

BAT, 4½ h.p., spring frame, new tyres, starting handle; genuine bargain, £16.—Dudley, Wadsley Bridge.

1908 3½ h.p. N.S.U., as new, done 500 miles, £2 extras; £35, near offer.—Bentley, Mount Terrace, Eccleshill, Bradford.

2½ h.p. F.N., new back cover and tube, just overhauled; £10, or nearest offer.—Johnson, 35, Chorley Old Road, Bolton.

£15.—3½ h.p. Rex, perfect condition, new Palmer tyres, tubes, belt, all accessories.—12, Cambridge Street, Sheffield.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

5 h.p. Twin Kerry, Palmers. Whittle belt, grand climber; lowest 13 guineas.—Eastrop, Spencer's Wood, Reading.

5-6 h.p. Westfield, spring forks, Chater-Lea, excellent condition; best offer, or exchange 3½ h.p. single.—F. Rowley, Slough.

CYCLE, 2½ h.p. Brown engine, spray, Clinchers, Basse coil, spares, etc., splendid running order; £7.—Freemantle, Bell Street, Romsey.

MIDGET Bicar, 3½ h.p. Fafnir, Clincher tyres, Advance adjustable pulley, sound machine; £17.—Apply, Head, 25, Liverpool Road, Reading.

5-6 h.p. Phenomen, magneto, two-speed gear, complete with sidecar, Continental and Peter-Union tyres, in perfect condition throughout, many spares; £35.—Heybourn, Motors, Maidenhead.

3 h.p. Triumph, magneto, Mabon clutch, endless inner tubes (three), spares, tools, F.R.S. lamp, Palmer cord, Clincher A Won; £22 cash, or offers; no exchange.—Bath, Petworth House, Landsend, Chippenham, Wilts.

3 h.p. 1906 Triumph, Shamrock studded back, 1908 variable pulley, three new butted tubes, two belts, valve, plugs, spares, no signs of wear, never stopped mechanically; £24 cash, offers.—Lloyd Wilson, Merton College, Oxford.

£10.—Excelsior, genuine M.M.C., 3 h.p., long bars, new Dermatine, low, Lycett's saddle, two accumulators, re-enamelled, in thorough good condition, usual accessories, grand climber; photo.—Ellerslie, Hillside Avenue, Bitterne Park, Southampton.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

5 h.p. Peugeot, gold medal 400 miles Reliability.—7, High Street, Plaistow, Essex.

21 h.p. Singer's, magneto ignition; £6 10s.—Hall, 103, Jedburgh Road, Plaistow, E.

J.A.P., 4 h.p., nearly new, all latest refinements; £35.—Jones, Lynwood, Orpington.

23 h.p. Caswall Motor Bike, splendid order; £11.—Carthy, 1, Lind Street, St. John's, S.E.

TWO Motor Cycles for push bike and cash, or sell cheap.—2, Bandon Road, London.

F.N., 3½ h.p., 1908, magneto, spring forks, beautiful order; great bargain, £17 10s.—Below.

WERNER, 1908, 4½ h.p., twin separate cylinders, spring forks, practically new, unscratched; £16 16s.—Below.

BAT, 3½ h.p., genuine De Dion engine, like new; £16 10s.—Whittle, 41, Skelbrook Street, Wandsworth.

13 h.p. Minerva, good order, complete; £5 10s.—D. Fellows, 49, Hertford Street, Mayfair.

MINERVA, 3½ h.p., 1907; £25, no offers.—Tyler, King's Parade, High Street, Croydon.

£12.—Twin motor cycle; must sell; only wants seeing.—17, Gardner Street, Brighton.

1908 Moto-Reve, just been overhauled; £25.—East Ham Garage, High Street South, East Ham.

31 h.p. Excelsior, fine hill-climber, very fast; £12; must sell.—478, High Road, Tottenham.

23 h.p. Brown, perfect condition guaranteed, fast, reliable; £9.—8, Crieff Road, Wandsworth.

3 h.p. Elleham, Peugeot engine, run 500, perfect; £10, bicycle part.—D., 21, New Road, Rochester.

2 h.p. Werner, long bars, low saddle, foot-rests; £7 10s.—Regan, 62, Guildford Road, Greenwich.

5 h.p. Twin Rex, in good order; £17, or nearest offer, a bargain.—Goodwin, 108, Cobourg Road, S.E.

Entire Satisfaction Guaranteed

When dealing with us.

THE FAIR FACTORS.

50/- DOWN AND 5/- WEEKLY SECURES

REX, 3½ h.p., vertical engine	£8 10
MINERVA, 2 h.p. M.O.V., spray	£8 0
HUMBER, 2½ h.p., splendid condition	£10 0
ORMONDE, 2 h.p., spray	£7 0
F.N., 2½ h.p., handle-bar control	£8 0
WERNER, 3½ h.p., twin, latest model	£13 0
ARIEL, 3 h.p., 26in. wheels, M.O.V.	£12 0
MINERVA, 3½ h.p., 26in. wheels	£11 0
QUADRANT, 2 h.p., good condition	£7 0
JAP, 2½ h.p., spray	£8 0
WERNER, 2 h.p.	£9 0
EXCELSIOR, 3 h.p., very good tyres	£10 0
SINGER, 2 h.p., magneto	£8 0
REX, 3½ h.p., 1905, 26in. wheels	£13 0
PHENIX, 2½ h.p., good tyres	£8 0
HUMBER, 2 h.p., splendid condition	£8 0

OTHER MODELS.

ANTOINE, 5 h.p., twin, 1907 model	£20 0
SAROLEA, 5 h.p., twin, spring forks	£20 0
MABON, 3 h.p., high tension magneto	£14 0
REX, 5 h.p., twin, 1907 model	£18 0
WERNER, 3½ h.p., twin, 26in. wheels	£13 0
MINERVA, 4½ h.p., twin	£19 0
F.N., four-cylinder, magneto	£18 0
CLYDE, 3 h.p., magneto	£10 0
CLARENDON, 3 h.p., Peter Unions	£9 0
BAT, 3½ h.p., spring frame	£15 0
GIVAUDAN, 3 h.p.	£15 0
QUADRANT, 3 h.p., spray	£12 0
LLOYDS, 2½ h.p.	£10 0
F.N., 2½ h.p., splendid machine	£10 0
ARIEL, 3 h.p., brand new	Offers
ARIEL, 2½ h.p., lightweight, 1908, new mag.	£33 0

TRICARS.

REXETTE, 8-10 h.p., two speeds and reverse; a perfect article	£60 0
GARRARD, 5 h.p., three speeds, water-cooled	£32 0
MINERVA Pattern, 3½ h.p., spray, good tyres	£16 0
REXETTE, 8 h.p., open frame, two speeds, perfect order	£38 0

CARS.

24 h.p. DARRACQ, perfect order throughout, trial run	£110 0
14 h.p. GOBRON-BRILLIE, four speeds, two-cylinder, five-seater	£80 0

SIDECAR.

BAT, 26in. wheel, Clincher	£4 10
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ACCESSORIES.



"THE LATEST."

Treble Twist Horns. Absolutely the finest Horn ever marketed. Cannot be beaten for noise. Money returned if not absolutely satisfactory. Only 6/6.

The ACME Variable Pulley.

Instantly adjusted. No need to remove belt, and doubly locking. Standard sizes stocked. 14/- each.

PALMER TYRES (Cord).

Cover Tube	Cover Tube	Cover Tube
26 x 2 43/6 10/-	26 x 2½ 59/3 16/3	28 x 2½ 63/6 11/-
26 x 2½ 58/9 11/-	28 x 2 50/3 10/-	28 x 2½ 64/3 17/6

10/- allowed on old covers, and 2/- on tubes.

TUBES (fully guaranteed).

26 x 2in. .. 5/6	26 x 2½in. .. 7/6	28 x 2½in. .. 7/-
26 x 2½in. .. 6/6	28 x 2in. .. 6/6	28 x 2½in. .. 7/6

APPROVAL.

TUBES (butt-ended).

You cannot do better than try one. Money returned IN FULL if not perfectly satisfactory.

26 x 2in. .. 7/6	26 x 2½in. .. 8/3	28 x 2½in. .. 7/9
26 x 2½in. .. 7/6	28 x 2in. .. 7/6	28 x 2½in. .. 8/3

ALBANY BELTING.

¾in. 7d., ¾in. 8d., ¾in. 9d., 1in. 10d. per foot. Approval. Immediate delivery.

MAUDE'S MOTOR MART, Powell St., HALIFAX

(behind the Victoria Hall).

National Telephone 433.

MOTOR BICYCLES FOR SALE.

3½ h.p. Excelsior, Longuemare, very low. new tyres; £10.—Horton, 6, Derby Road, South Hackney.

4½ h.p. Chater-Lea-Minerva, latest pattern, just delivered; accept £23.—H. Soper, 307, Clapham Road, S.W.

31 h.p. 1906 Rex, spring forks, Longuemare, good condition; £15.—30, Bickerton Road, Highgate, N.

TRIUMPH, 1908, equal to new, and perfect condition; 36 guineas.—G. Matthews, 96, West Green Road, Tottenham.

£7 10s.—2½ h.p. genuine Minerva, M.O.V., perfect order and condition.—35, St. Stephen's Road, Bow, London.

WERNER, 2½ h.p., long, low, in good condition, Dunlops; £9.—191, Cricklewood Broadway, London, N.W.

£6 10s., or nearest.—2 h.p. Quadrant, non-skid, and spring seat-pillar.—H.S., 87, Landcroft Road, East Dulwich.

£6 15s.—Minerva, 2½ h.p., powerful, fast, splendid condition.—Write particulars, 114, Rutland Street, Stepney.

21 h.p. Peugeot, Dunlop and Bates, as new, stand, horn, tools, complete—£9, or offer.—52, Perry Hill, Catford.

£5—4 h.p. Twin, good condition, exchange for single or twin, any condition.—Motorist, 31, High Cross Road, Tottenham.

h.p. Triumph, Jap engine, vertical, two accumulators, in good order; £12.—Greenwood, 36, Chatham Place, Hackney.

4 h.p. Twin N.S.U., magneto, spring forks, etc.; £25; appointment by letter.—E. Nicholson, 32, Crescent Grove, Clapham, S.W.

3 h.p. Werner, very powerful, Clincher tyres, hardly scratched; £9 15s.; perfect condition.—198, High Road, Wood Green.

STAMFORD HILL—5-6 h.p. twin Rex de Luxe, 1907, Roc clutch, H.T. magneto, twin back tyres, as new, property of doctor—£25.

STAMFORD HILL—2½ h.p. Rex, B. and B. carburetter, excellent machine, in perfect condition, lightweight; £7.

STAMFORD HILL—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL—1½ h.p. Quadrant Lightweight, Minerva engine, two brakes, all in very good condition and perfect order; £5 10s.

STAMFORD HILL—2½ h.p. Precision engineered lightweight, in good running order, and very good condition; £6 15s.—128, High Road, Tottenham.

1907 Rex, 3½ h.p., spring forks, low build, very powerful, quite equal to new; 16 guineas.—22, The Avenue, Bruce Grove London.

IF You Want Bargains in second-hand motor cycles you can get them at Wauchope's, 9, Shoe Lane, Fleet Street, London.

2½ h.p. J.A.P., in good running order, complete, with lamp, and two accumulators; £8.—C. Milsted and Sons, Tenterden, Kent.

MOTOSACOCHE, nearly new, spring forks, accessories; best offer over £20.—Seen at The Anglo-Saxon Co., 31, Newgate Street, City.

19 Guineas, near cash offer.—As new, Coronet, 3½ h.p., Bosch magneto, Chater.—3, Bexhill Terrace, Merton Road, Southfields.

31 h.p. N.S.U., magneto, Druids, Mabon clutch, rubber studded tyres, extras, as new; £25.—125, Station Road, West Finchley, N.

BARGAIN—2½ h.p. De Dion, Chater-Lea, low built, only wants seeing; £12 12s., no offers.—Brazier, 5, Gowland Place, Beckenham.

PEUGEOT, 5-6 h.p., 18in. Chater-Lea frame, beautifully equipped, and condition guaranteed; £23 10s.—47, Camden Grove, Peckham.

3½ h.p. N.S.U., magneto, excellent condition, many spares; will accept £17 10s. for quick sale.—Connew, 17, Park Road, Forest Hill.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

IF You Want Good Bargains in second-hand or new motor cycles you cannot do better than come to Rey, 5, Heath Street Motor Works, Hampstead.

HAMPSTEAD for reliable machines; 3½ h.p. Quadrant, spring forks, grand condition; only £15.

HAMPSTEAD.—1908 Lightweight N.S.U., magneto, only shop-soiled; £19, with all accessories.

HAMPSTEAD.—3½ h.p. N.S.U., late model, magneto, 24in. wheels, new condition, guaranteed perfect; only £18.

HAMPSTEAD.—3½ h.p. 1908 Triumph, handle-bar control, new condition; £37, with all accessories.

HAMPSTEAD.—1½ h.p. F.N., 1908 model, new condition; £18, with all accessories; great bargain.

HAMPSTEAD for new machines, F.N.'s, 5-6 h.p., late models from stock; exchanges entertained.

HAMPSTEAD.—5 h.p. Twin Peugeot, Chatter-Lea No. 6 frame, splendid condition, like new; £24.

HAMPSTEAD.—New Griffons at second-hand price; £4 under catalogue price, only shop-soiled.

HAMPSTEAD.—3 h.p. Fafnir, good condition, low, with all spares; £10, guaranteed.

HAMPSTEAD.—Four-cylinder F.N.; £25; complete with all spares, almost new, bargain.

HAMPSTEAD.—Four-cylinder F.N., 1908, two months old, complete with all accessories; £28.

HAMPSTEAD.—Sole Agents for Griffons, F.N.'s, Minervas, Vindecs, Triumph, etc., cycle, sidecar, or low power in part payment; liberal allowances on old machines for new, any make.—Rey, 5, Heath Street Motor Works, Hampstead. Tel. 2678 P.O.

4 h.p. N.S.U., w-speed gear, magneto ignition, spares, sidecar; trial run by appointment; price £35.—Browning, 21, Ealing Road, Ealing.

ROVER Lightweight, about 100 lbs., h.p. 2½ full, low built, handle-bar control, Clinchers, excellent machine; no time; £12.—161, Essex Road, N.

24 h.p. Minerva, Longuemare carburetter, trembler coil, Chatter-Lea fittings, excellent order; £9 18s. 6d.—Davis, oilman, Manor Park, E.

4 h.p. Twin Werner, handle-bar control, horn, two acetylene lamps, stand, tools, spares; £17 10s.—Sutton, 62, Amott Road, E. Dulwich.

32 h.p. Minerva, Chatter-Lea frame and fittings, 2½ Palmer cord tyres, very little used; £21, or offer.—Westall, 64, Great Portland Street, London.

TRIUMPH, 3 h.p., accumulator, excellent condition, tyres perfect, £17, also Rover Tricar, 3½ h.p., £16.—Eversleigh, Devonshire Road, Tooting Junction.

HUMBER, 2½ h.p., chain drive, Longuemare, good climber, and in fine condition; £7 10s., or offer.—Marshall, 170, Pentonville Road, King's Cross, N.

MOTOSACOCHE, 1½ h.p., 1908, condition better than new, horn, stand, many spares; owner buying car; £20.—Motor, 10, Jordan Road, Blackheath.

£13 10s.—Genuine 3½ h.p. Minerva Motor Cycle, Continental tyres, perfect order and very powerful; bargain.—Schlotter, 36, Mayola Road, Clapton, N.E.

32 h.p. Clarendon, long bars, footboards, new Watawata, very fast and reliable; £14 10s.; seen by appointment.—A., 22, Rectory Lane, Tooting.

TRIUMPH, 1906, perfect condition, 1907, forks, magneto cover, two spare belts, many spares, valve, tools, horn, etc.; £22 10s.—30, Fulham Road, S.W.

31 h.p. Rex, long handle-bars, low saddle, Longuemare carburetter, new back almer, splendid condition; £9 10s.—Bernard, 54, Kentish Town Road, N.W.

£7 15s.—3 h.p. Quadrant, Longuemare, Brown accumulator, long bars, low seat, spares, good condition; a bargain.—Penn, 10, Holly Place, Enfield.

£26 5s. GIVEN

for 1908 magneto LIGHTWEIGHT in part payment for brand new 1908 3½ magneto REX with ball bearing engine, price 38 guineas.

Owing to an unprecedented demand for second-hand 1908 REX Lightweights, we will make a special allowance of £27 6s. for this model. This is one guinea more than actual cost. BUT—"Don't delay." The number of 1908 3½ REXES is limited.

5-6 h.p. Twin Rex. £18 18s., or £4 and '07 Single Rex, or £6 and 3½ Rex, or level exchange with Single Magneto Rex.

1908, magneto, Twin REX, little used	£27 10
5 h.p. Twin VINDEC, magneto, Truffault ..	£29 10
5½ h.p. REX DE LUXE, 1907, brand new ..	£31 10
5½ h.p. Twin REX, spring forks, black finish ..	£18 18
Twin REX, black finish, new tyres ..	£18 13
6 h.p. Twin REX, non-skids both wheels ..	£18 18
Twin KERRY, Chatter Lea, with Sidecar	£22 10
5½ h.p. Twin REX, magneto, 1907	£22 0
4-5 h.p. Twin ALCYON, N.S.U., two-speed ..	£20 0
5 h.p. Twin SAROLEA, long frame	£18 18
6 h.p. Twin ANTOINE, R.O.M. ignition	£22 0
5 h.p. Twin ONAWAY, very low, spring forks ..	£19 0
6 h.p. Twin ANTOINE, spring forks	£22 0
Four-cylinder F.N., guaranteed	£19 19

TRICARS.

5½ h.p. REXETTE, W.C., two speeds	£35 0
REX TRICAR, coach built	£13 10
Twin REXETTE, W.C., two speeds, 8 h.p. ..	£47 10
4½ h.p. STEVENS Tricar, very low built	£15 0
5 h.p. HUMBER, open frame, W.C., 2 speeds ..	£35 0
REX, Phoenix Two-speed, coach built	£18 10

Extended payments to suit all requirements. If you can't pay cash down, write and state what credit you require, and we will endeavour to accommodate you.

Ten 1907 5½ h.p. REX DE LUXE, Roc clutch, magneto, twin tyre spring forks, spring seat, handle starting, Best sidecar machine on the market, £27 10. Some of these are like new.

SINGLES—Cash Offers Wanted.

1908 new 3½ h.p. REX, magneto, ball bearings ..	£39 18
1908 3½ h.p. REX, 2-speed, nearly new	£31 10
1908 MOTOSACOCHE, splendid condition ..	£19 10
1908 N.S.U. Lightweight, magneto	£19 10
1907 3½ h.p. Magneto REX, black finish	£19 10
1907 3½ h.p. N.S.U., magneto	£21 10
3½ h.p. N.S.U., magneto, guaranteed	£17 10
3 h.p. TRIUMPH, magneto	£24 10
3 h.p. TRIUMPH, spring forks	£21 0
3 h.p. RIP, brand new, very low	£16 0
3½ h.p. Magneto REX Racer, a flier	£25 0
3½ h.p. 1906 REX, spring forks, long bars	£15 10
2½ h.p. Magneto REX, 1908, shop-soiled	£19 19
3½ h.p. MINERVA, M.O.V., vertical, spray	£16 10
3 h.p. GIVAUDAN, Newly new, very low ..	£16 0
3 h.p. QUADRANT, spray, spring forks	£13 0
3 h.p. LLOYD'S, 26×2½ in. Palmers	£13 10
4 h.p. ANTOINE, vertical, M.O.V., spray	£16 0
2½ h.p. MINERVA, fine condition, M.O.V.	£13 10
2½ h.p. CLYDE, magneto, vertical, spray	£15 0
4 h.p. ANTOINE, 26×2½ in. tyres	£13 10
3½ h.p. SIMMS, magneto, 2½ in. Palmers	£17 10
3½ h.p. CENTAUR, free engine, M.O.V.	£16 0
2½ h.p. F.N., special frame, reliable	£12 10
3 h.p. HUMBER, spray, good climber	£10 10
3½ h.p. REX, 22in. frame, trembler coil	£11 10
2½ h.p. MINERVA, 26×2½ in., spray, vertical ..	£11 10
3 h.p. BROWN, spray, guaranteed	£12 10
4 h.p. ATELIER, long bars, low saddle	£13 10
3½ h.p. EXCELSIOR, spray, trembler coil	£10 10
2½ h.p. COVENTRY EAGLE, vertical spray	£10 0
3½ h.p. Two-speed REX, suit sidecar	£13 10
2½ h.p. F.N., light, low, smart appearance	£12 0
2 h.p. CLEMENT, very low, good order	£11 0
2½ h.p. KERRY, spray, low, reliable mount ..	£10 10
2 h.p. RALEIGH, spray, smart	£8 0
2½ h.p. ROYAL, vertical, spray, trembler coil ..	£7 15
2½ h.p. HASKARD, spray, smart	£11 10
1½ h.p. MINERVA, spray, suit light rider	£5 10
2½ h.p. EXCELSIOR, trembler coil	£8 0
2 h.p. HUMBER, chain drive, trembler coil ..	£6 10
2 h.p. PEUGEOT Lightweight, smart	£9 10
2 h.p. MINERVA, spray, smart, good	£7 0

Gnawiter Rubber and Canvas Belting.

3in. 10d.. 3in. 1/1, 3in. 1/4, rin. 1/9 per foot.

3/- allowed for old belts.

The Halifax Motor Exchange,

Agents REX and N.S.U.

16, Westgate, Halifax.

Telephone: 766.

Telegrams: 'Perfection.'

MOTOR BICYCLES FOR SALE.

STANTON'S Absolute Clearance Sale.—Every machine in sound and perfect condition; convincing trials given by appointment; great annual opportunity.

TRIUMPH, 3 h.p., 1906, spring forks, guaranteed perfect, most reliable machine extant; £20; ride 60 miles to meet buyer.

KERRY, 2½ h.p., 1906-1907, practically brand new, light, reliable, splendid hill-climber; ride 60 miles to meet bona-fide buyer; £12.

REX, 3½ h.p., magneto, 1907 (late), 1908 finish, brand new condition throughout; ride 60 miles to meet bona-fide buyer; £20.

REX de Luxe, 6 h.p., twin-cylinder 1907, twin back wheel, absolutely perfect condition; any trial given; £22 10s.

MINERVA, 2½ h.p., 1906, magnificent condition, absolutely good as new; any severe trial; great bargain, £15 10s.

HUMBER, 3½ h.p., excellent working condition, very powerful, suitable for sidecar, 26in. wheels; £11, or good bicycle and £8 cash.

CLYDE, 2½ h.p., 1906, spring forks, just overhauled; genuine bargain, £12.

QUADRANT, 3 h.p., spring forks, just re-enamelled, neat, light, handy mount; absolute bargain, £12.

SCOUT, 2½ h.p., magnificent condition, engine bearings firm as a rock; exceptional bargain, £12.

FALCON, 3 h.p., 26in. wheels, low, Brooks B100 saddle, tyres excellent, Longuemare carburetter, belt drive, most comfortable, reliable, good hill-climber; thundering bargain, £9 10s.

JAP, 2½ h.p., lightweight, direct drive, V belt, new condition, very efficient; £13.

REX, 3½ h.p., 50 guinea model, swan-neck saddle pillar, long handle-bars, most powerful and reliable; £10.

ALL above are genuine Bargains, being cleared to make room for new 1909 models; none are in any way faked up, but are in genuine condition, ready to ride away anywhere; greater value is offered by no other dealer, nor privately; machines are offered subject to being unsold; secure a bargain at once.—A. T. Stanton, 86, Colvestone Crescent, Dalston, London. (See also under Tricars.)

1907 Twin Rex, 5 h.p., cantilever, spring forks, Longuemare, absolutely new condition; £22, or good 3½ h.p. and cash.—43, Kilmorie Road, Forest Hill.

6 h.p. Twin Rex, new Shamrock tyres, synchronised ignition, good condition throughout; £19, or near offer.—Ritchie, 36, King Edward's Gardens, Acton.

£12 10s., Peugeot, 2½ h.p., new condition, lamp and stand, £9; Bowden, 2 h.p.; £6, Werner, 1½ h.p., lat, £25; in good order.—Cycle, 21, Balfour Road, Ilford.

2½ h.p. Brown, Longuemare, Palmers, two accumulators, stand, all accessories, excellent condition, good hill-climber; £10.—62, Colvestone Crescent, Dalston.

2½ h.p. Motor Cycle, free engine, Crabbe band brake, long handles, low saddle; sacrifice £9 15s.; room wanted.—James, Chemist, 182, Stroud Green Road, N.

3½ h.p. Rex (late 1906), condition almost equal new, tyres unpunctured; £15, or exchange magneto machine, cash adjustment.—K., White House, Buckhurst Hill.

31 h.p. Minerva, spring forks, Palmers, £16; 2½ h.p. Minerva, £14; 2 h.p. Minerva, £12; each in perfect order and condition.—36, Stroud Green Road, London, N.

31 h.p. Chatter-Lea-M.M.C., M.O.V., Palmer cords, copper torpedo tank, rubber covered footboards, long bars, very low, absolutely reliable, new last May; £18.—7, Tudor Road, Upper Norwood.

14 h.p. F.N. Lightweight, 1908 model, in splendid condition, and ready for immediate use, stand-carrier, horn, numbers; owner giving up riding; £21 10s.—Flitwayt, 11, West View, Highgate Hill, N.

TRIUMPH, 3 h.p., 1906, magneto, spring fork, excellent running condition, fully equipped, spares, tools; first reasonable offer.—L.S., 66a, High Street, St. John's Wood (can be seen cycle shop same address).

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TRICARS FOR SALE.

REXETTE, 8-10 h.p., twin-cylinder, 1907 model, seats two in front, two speeds forward and reverse, twin tyres on back wheel, perfect condition; any trial; £65.—J. Davis and Son, Moseley, Birmingham.

h.p. Water-cooled Tricar, coach front, bucket back, pedal clutch, free engine, handle starting, absolutely reliable, good condition; £19, or exchange motor cycle and sh.—20, Thurlstone Road, West Norwood, E.

RICAR, Clement-Garrard, 4½ h.p., water-cooled, good condition, three speeds, coach-built front, spring frame back, Palmer tyres, hardly worn, handle starting, clutch; £23.—Hibbert, 173, Market Street, Hyde.

PHENIX Trimo, 3½ h.p., two speeds and free engine, chain drive, fan-cooled, coach-built, new Michelin, with detachable on back wheel, splendid going order; price £25.—Shepherd, R.H.C., Englefield Green, Surrey.

LEY Tricar, 6-8 h.p., three speeds and reverse, coach-built, upholstered red leather, painted French grey, wheel control, heavy car tyres, non-skid back, lamps, horn, spares; £60.—George, 92, Drakefell Road, W Cross, S.E.

h.p. W.C. Aster-engined Tricar, open frame, heavy Renold chains, two-speed car, handle starting, 700 by 85 tyres, new on back, perfect running order; £30, offers, and motor cycle part.—P., c/o 266, Buxton Road, Macclesfield.

h.p. Chater-Lea Coach-built Tricar, twin Antoine, new condition, B.B. latest car-etter, handle-bar control, 1in. belt, tyres on back, 2½in. sides, new; £25, or cash exchange for small two-seater car.—Yarwood, Penbank, Northwich.

Y 10 h.p. Water-cooled Lagonda Three-speeded Tricar for sale, winner in several competitions, in splendid going order, 100 miles trial to bona-fide buyer; price £55.—Apply by letter, F. Cozens, 8, Adhurst Drive, Leyton, Essex.

h.p. Garrard Tricar, water-cooled, free engine, three speeds, worm drive, handle starting, spring frame, pedal controlled, footboards, in splendid condition, all spares; £30, a bargain.—Adkin, 2, Regess Road, East Ham, London.

h.p. Ormonde (Kelecom engine), with coach-built forecar attachment, splen- running order, handle-bar control, ing handles and seat-pillar, three lamps, horn, and spares, tools, etc.; £15; trial en.—Richmond, Matlock Road, Brighton.

15, or offer.—Wolf tricar, 3½ h.p. Whitley engine, aluminium forecarriage, bucket ring seat, two speeds, chain transmission, t drive, non-skid back, handle starting, ing order, horn, two spare valves.—St. mund Motor Works, Abington Square, Hampton.

HAT Offers for nearly new 10 h.p. Lagonda, special machine, weighs only wt., three speeds, can do 55 miles per r, fully equipped for touring, lamps and rying, absolutely the most perfect ma- ne produced; best cash offer accepted.—Else, Leawood, near Matlock.

h.p. Riley Tricar, three speeds and re- verse, recently upholstered, perfect ng order, fine climber, electric side and lamps, accumulators, tools, tool box, up, jack, Michelin non-skid back, Dun- front; trial; bought car; £63, or near r.—Box 1,082, The Motor Cycle Offices, Covy.

RICAR, 5 h.p. twin Antoine, a.c., 1908 Roc clutch, and two speeds, R.O.M., Whittle , Bowdens latest 8in. brakes, side lamps, r lamp, spare belt, accumulator, contact, ves, three new covers, tubes, two tool- s, plenty of tools, done about 300 miles- or nearest offer; must be sold; trial w.—T.C., 165, Grundy Street, Poplar, don, E.

h.p. Rexette, King of Tricars; owner bought car, must dispose, room- uted; enamelled green, red lined, two- ed, wheel steering, open spring frame, rying in first-class condition, coach- it seats, w.c.; trial given; £40, or ex- ange for motor cycle from 3 to 5 h.p. and a.—Harrison, Church Street, Westhough- Lancashire.

WAUCHOPE'S,

9, SHOE LANE, FLEET ST., LONDON, E.C.

First cheque secures each bargain. The following bargains are offered subject to their being unsold. Every machine thoroughly overhauled and guaranteed:

MOTOR CYCLES.

2½ h.p. ANGLIAN, two-speed gear, genuine De Dion engine	£22 0
5 h.p. VINDEC SPECIAL, 1908 model, enamelled cream, light tourist	28 10
1½ h.p. MOTOSACOCHE, 1908 model	21 0
3½ h.p. PHELON & MOORE, 1908 model, two-speed gear	35 0
3 h.p. BRADBURY, magneto, 1908 model ..	17 10
4½ h.p. Four-cylinder F.N., 1908, magneto ..	28 0
5½ h.p. N.S.U., magneto, 24in. wheels	25 0
4 h.p. ROC, magneto, 1907 model	22 10
5 h.p. VINDEC SPECIAL, 1907 model, mag.	27 10
5½ h.p. N.S.U., new 1908, magneto	35 0
3½ h.p. MINERVA, 1908 model	19 19
2½ h.p. GRIFFON, 1908, magneto in tank ..	19 19
5½ h.p. Twin REX	13 10
5-6 h.p. PEUGEOT, Rec, magneto	15 15
3½ h.p. TRIUMPH, 1908 model, magneto, spring	35 15
2 h.p. PEUGEOT, vertical engine	8 10
3½ h.p. (new) 1907 TRIUMPH, 1908 engine ..	41 0
2 h.p. WERNER	6 10
6 h.p. Twin J.A.P., free-engine clutch	28 0
1½ h.p. WERNER	5 0
3½ h.p. REX	6 10
3½ h.p. REX	6 10
4 h.p. C.I.E., magneto	16 10
2½ h.p. J.A.P.	6 10
2½ h.p. HUMBER	15 0
6 h.p. BUCHET, top tappets, twin	16 10
2½ h.p. HUMBER	6 10
5 h.p. Twin REX DE LUXE, magneto, free engine	25 0
2½ h.p. Lady's CLEMENT-GARRARD	15 0
2 h.p. Lady's SINGER, magneto	6 10
3 h.p. QUADRANT	10 10
4 h.p. J.A.P. throughout	15 0
2½ h.p. DE DION	10 10
3½ h.p. TRIUMPH, 1908 model, second-hand ; offers.	15 0
3½ h.p. N.S.U.	15 0
5 h.p. Twin ROC, Peugeot engine	25 0
5 h.p. Twin REX	15 0
2½ h.p. FAIRY, twin horizontal engine, 1907 model	15 0
2½ h.p. KERRY	12 10
6 h.p. Twin REX, Antoine engine, Mabon clutch	17 10
5 h.p. VINDEC, magneto Truifault	27 10
5 h.p. ONOWAY, 2-speed gear, dual ignition ..	19 19
3½ h.p. QUADRANT, 1906 model	17 0
2½ h.p. LURQUIN & COUDERT Lightweight, magneto, 1908 model; offers.	8 10
3 h.p. ARIEL, latest model	22 10
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LIGHT CARS.

Tricars, Light Cars, and Runabouts at sacrifice prices. Making room for 1909 models.

6½ h.p. WOLSELEY Light Car, three speeds and reverse, Cape hood, every complement of tools and accessories. Price £35.

10-12 h.p. DECAUVILLE Four-seater Car, equal artillery wheels, two speeds and reverse; £37 10.

4½ h.p. DE DION Two-seater Car, engine in front under bonnet; £22.

TRICARS.

9 h.p. RILEY, three speeds and reverse, Dunlop tyres, non-skid on back wheel, open frame, wheel steering, coach built, twin-cylinder engine. Price £55.

9 h.p. Twin-cylinder RILEY Tricar, open frame, wheel steering, two-speed gear. Price £38.

3½ h.p. TRIUMPH Tricar, two-speed gear; £15.

5½ h.p. Twin-cylinder REX Tricar, Whittle belt drive; £15.

3½ h.p. HUMBER, free-engine clutch; £15.

3½ h.p. ROVER, fitted with two-speed gear; £17 10. Garaged at Wauchope's.

3½ h.p. MINERVA Tricar, fitted with two-speed gear; £22 10. Garaged at Wauchope's.

5½ h.p. REXETTE, two-speed gear, open frame, coach built, wheel steering; offers. Garaged at Wauchope's.

8-10 h.p. REXETTE, twin back wheel, open frame, wheel steering, coach built; £40.

5 h.p. STEVENS Tricar, two-speed gear, coach built, two bucket seats, open frame, wheel steering; £35.

5-6 h.p. PHENIX, two-speed gear, coach built, open frame, and wheel steering; £32 10.

2½ h.p. M.M.C. Tricar; £10 10.

3½ h.p. QUINTON Runabout, water-cooled engine, Norman two-speed gear, quite new, bucket seat to the back; £19 10.

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PHENIX Forecar, coach-built, splendid condition; £5 10s., lowest.—G.W., 47, Montague Road, Dalston, London.

FORECAR, 26in., side stays, cane, band brakes, complete, less tyres; 52s. 6d.—Lewis, 23, Arden Road, Handsworth.

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SIDECAR, fit any frame, perfect condition, 26in. Palmer motor tyre; sacrifice £4 5s., lowest price.—C. A. Edgar, 123, Holloway Road, London, N.

COACH-BUILT Rex Forecar, £4 15s.; wicker forecar, fit Rex, £3 17s. 6d.; rigid sidecar, 26 by 2½ tyre, £4 10s.—Halifax Motor Exchange, Westgate, Halifax.

MILLS-FULFORD Spring Frame Forecar, less seat, adjustable, aluminium, long stays, good condition, tyres 2½, wing guards; £5 10s.—Nicholls, Llanfairfechan.

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DUPLEX Steering (Mills and Fulford, left-side) Sidecar, 28 by 2 wheel, Palmer tyre, little used (see advantages claimed by B. H. Davies, last week's *Motor Cycle*); price £4.—49, Endsleigh Gardens, Ilford.

OAKLEIGH Sidecars are popular all the year round. Why? Because they don't side-slip, and they are all guaranteed for five years. Made all in one piece of tubing, lowest built; price £5. Have your sidecar built by the inventors of the attachment. We are exhibiting at the show.—Oakleigh Motors, Ltd., West Dulwich.

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2½ h.p. De Dion throughout, in good running order, Dunlop tyres, nearly new; £5; engine alone worth the money.—Missin, Cottingham, Hull.

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TRAILER, for motor cycle, cane body, upholstered; bargain, £2 2s.—12, Bull Ring, Birmingham.

SMART Light Trailer, adjustable, splendid condition, for 45s.—C. Pickering, George Street, Tamworth.

TRAILER (motor), upholstered, 26 by 2 tyres; £2, or close offer.—67, Claxton Grove, Hammersmith.

QUADCARS.

TWO-CYLINDER Phoenix Quadcar, 7-8 h.p., two speeds and reverse, canopy, spares, etc.—Apply, F., 47, South Street, Chichester.

10 h.p. Two-cylinder De Dion Racing Spider, splendid condition, very fast; £55, or near offer; trial by appointment.—T.R., 212, High Road, Lee.

WHAT Offers?—Genuine De Dion, 3½ h.p., free engine, clutch, and gear nearly new, Michelin tyres; would entertain motor cycle.—Harrison, 144, Silver Street, Edmon-ton.

PHOENIX Quadcar, four-cylinder 12-16 h.p. Fafnir engine, Continental car tyres, non-skid drivers, extraordinary hill climber, very fast on level, new April, 1907; cost £170, accept £85, ready for road; would take 1908 motor cycle, Triumph, Minerva, or F.N., in part payment.—108, Balsall Heath Road, Birmingham.

CARS FOR SALE.

PALMER.—5½ h.p. Baby Peugeot, two-seater, two speeds, reverse; trial; £29.

PALMER.—6½ h.p. Darracq, two-seater, three speeds and reverse, more than smart; £35.

PALMER.—10-12 h.p. Tony-Huber, tonneau, twin-cylinder, M.O.V., good as new; £55.

PALMER.—9 h.p. Sizaire et Naudin, two bucket seats, racing type; £75.

PALMER.—12-16 h.p. 1907 Winton, side entrance, four-cylinder, magneto ignition, perfect; £100.

PALMER.—16-20 h.p. De Dietrich, tonneau, four-cylinder, magneto, four speeds, fast, reliable; £125.

PALMER.—24 h.p. Hurst and Lloyd, side entrance, four-cylinder, three speeds, cardan; £95.

PALMER.—15 h.p. Darracq, tonneau, four-cylinder, hood, screen, splendid car, reliable, speedy, silent; £125.

PALMER.—3½ h.p. De Dion quad, two speeds; £12 10s.—L. N. Palmer, 190, Mel-lison Road, Tooting. Telephone, 208, Streatham.

SIZAIRE, 8 h.p., good order; £80; trial by appointment.—Telephone, 8531 Central.

10-12 h.p. Humber, four-cylinder, late 1907, long chassis, Cape hood, in perfect order; £195.—Below.

10-12 h.p. Peugeot, tonneau, honeycomb, two ignitions, hood, very fine order; £80.—Below.

14-16 h.p. Daimler, four-cylinder, tonneau, gate change, fast, silent, bargain; £75.—Below.

6½ h.p. Wolseley, two-seater, three speeds, very smart, excellent condition; £50.—Below.

6½ h.p. Clyde, two-seater, Aster engine, excellent order; £40.—Below.

7 h.p. M.M.C., three-seater, three speeds, and reverse, nice condition; £30.—Eclipse Eng. and Motor Co., 255, Earlsfield Road, Wandsworth. Phone: 1135, Putney.

SPLENDID Little Car, did 200 miles last week; £25; photo.—7, Broad Walk, Stratford-on-Avon.

10 h.p. Panhard, three speeds, Dunlop grooved tyres, in splendid condition; any trial; 48 guineas.—Below.

12-14 h.p. Singer, Cape hood, glass screen, gate change, new tyres, lamp, Cape hood and screen cost £40; any trial or particulars; 95 guineas.—Below.

SIMMS-BOSCH High Tension Magneto, four-cylinder, new; £12 10s.; see Exchange.—Ryder, Heathfield.

10 h.p. Jackson Car, has two sets wheels, etc.; bargain, £38, or exchange.—98, Potterneton Lane, Leeds.

HUMBERETTE, just fitted with 8 h.p. De Dion, guaranteed perfect; sell or exchange; stamp, reply.—Morris, jun., Retford.

ABSOLUTELY New 8-10 h.p. Jewel Runabout, two speeds and reverse, trembler coil, 4-30 miles per hour, hood, screens, and lamps, complete; can be seen in London; offers invited.—Power, c/o Streets, 30, Cornhill, E.C.

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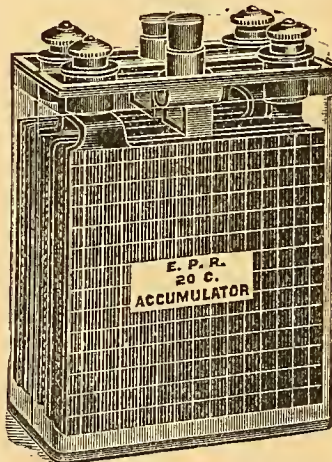
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10-12 h.p. Forman, twin-cylinder, equal wheels, cardan, tyres new, splendid condition, £70; offers, exchange.—1, Towall Road, E. Dulwich, S.E.

STAMFORD HILL.—5 h.p. Pieper small seated car, w.c., two speeds and reverse, fine running order, very good condition, nice little lot; £19.

STAMFORD HILL.—10-12 h.p. twin Pieper two-seater, new 4½ Colliers on back, two speeds and reverse, in excellent condition and perfect running order; £25, great bargain.

STAMFORD HILL.—10-12 h.p. twin Pieper four-seater tonneau, three speeds and reverse, 760/90 equal artillery wheels, all splendid condition and excellent running order, fast and powerful; £40; photos, further particulars, and trials with pleasure exchanges.—128, High Road, Tottenham.

6-8 h.p. Pick, two-seater, two speeds and reverse, solid tyres, rear luggage carrier, brass lamps; bargain, £19 10s.—Church Street, Camberwell.

6½ h.p. Darracq Car, two or four-seater, cardan, three and reverse, lamp spares, tools, splendid puller; £38, bargain.—98, Potterneton Lane, Leeds.

15-20 h.p. Darracq, side entrance, Cardan hood, folding screen, very fast, and in excellent condition; a bargain, £110.—Hilderton Road, South Bermondsey, S.E.

RUNABOUT, three wheels, 4 h.p. Antoinette, two speeds, fast, perfect, bucket seat as new, also tyres, wheel steering; £22 10s. exchange magneto bike.—Lord, Mountfield, Prestwich.

SPECIAL 9 h.p. Riley car of May last, fitted up specially throughout, in perfect condition, with three months' guarantee, cost £205; price, £125.—E. W. Walford, Hertford Street, Coventry.

3½ h.p. Quinton Runabout, Norman type, 3½ speed gear, water-cooled engine almost new, bucket seat for driver, wheel steering, open frame; £17 10s.—Wauchope's, Snod Lane, Fleet Street, London.

£50, bargain.—8-10 h.p. Siddeley-Wolsley two or four-seater, grand order, £40 two-seater, 6½ h.p., bucket seats, three and reverse, direct on top, sacrifice, cash Owner, 21, Balfour Road, Ilford.

BABY Peugeot, 6 h.p., artillery wheels, three speeds forward and reverse, two-seater, leather hood, many spares, tyres good, splendid running order; 50 guineas. Atkings, Longmoor Camp, Hants.

8 h.p. Regal, genuine De Dion engine, three speeds and reverse, very smart and roomy tonneau body, guaranteed in first class order; £60, absolute bargain.—Garham, 28, Woodbridge Road, Ipswich.

8-10 h.p. Twin Decauville, two-seater, three speeds, cardan drive, appearance same as 9 h.p. Riley model, everything perfect, great bargain, £35; also 8 h.p. De Dion, two or four-seater, wind screen, spare parts, etc.—East Ham Garage, High Street South, East Ham.

ROVER, 6 h.p., absolutely perfect condition, first-class running order, sea three, fast, magnificent hill-climber, and thoroughly reliable; convincing trial given, absolute bargain, £70; good motor cycle part exchange.—R., 86, Colvestone Crescent, Dalston, London.

6½ h.p. Humber Two-seater, side door, dust screen, recently overhauled, painted, and varnished, jack, lamps, 80 rev. Dunlops, spare cover and tubes, good hill climber; £65, or accept Triumph motor cycle part exchange; trial.—G. Smith, Northumberland Road, Coventry.

6 h.p. Genuine De Dion, water-cooled, twin lamps, coil, accumulator, etc., old fashioned body and tyres, but engine and gear box perfect; £20, or nearest offer, or would sell piecemeal, engine alone is worth the money; seen by appointment.—Green, 48, Harrison Street, Pendleton, Manchester.

EXCHANGE.

EXCHANGE 6 h.p. N.S.U., magneto, perfect condition, for Triumph, or other good make.—Sunnyside, 33, Huron Road, Balam, S.W.

and 2½ h.p. Minervas, for small gas engine, screw cutting lathe, vulcaniser, sell £8 and £10.—1, Bank Terrace, Whitworth, Lancs.

EXCHANGE ¾ h.p. 1907 Quadrant, perfect condition, for 1908 Motosacoche or Moto-Reve, in new condition.—Motorist, 14, Synedoch Place, Edinburgh.

EXCHANGE 2½ h.p. inclined engine, carburetter, pulley, silencer, for 3-¾ h.p. Otto, cash adjustment, or sell.—C. Pickering, George Street, Tamworth.

MART Light Steam Car, two cylinders, special fittings, paint, etc., as new; 25, or exchange good motor cycle or tricar. 98, Potternewton Lane, Leeds.

EXCHANGE 5 h.p. Garrard tricar, three-speed, worm drive, water-cooled, for 7 p. Oldsmobile or other light car.—No. 1,092, The Motor Cycle Offices, Coventry.

WILL Exchange two black Pomeranian bitches, good pedigree given, for good motor cycle, ¾ h.p., no rubbish.—Chs. Brailsford, Horner House, Stocksbridge, Deep Car, Sheffield.

OLD Oak, for suite of furniture, ready to put together, over 300 years of age, value £6, for magneto, suit 5-6 h.p. twin Rex. Wilson, Dixon's Yard, St. John's Street, Chester.

EXCHANGE Coach-built Seat and springs, good condition, for cane seat and springs, cash adjustment for good article.—Davies, 59, Johnstone Terrace, Keyham, Devonport.

0 h.p. Armadale Tricar, Stevens twin engine, three speeds and reverse, gear box; driven away; twin and cash, car, offers invited; photo; letters answered.—Partington, Slough.

EXCHANGE, brand new 1908 38-guinea ¾ h.p. magneto Rex, ball bearing engine, or 12 guineas and 1908 magneto lightweight, ¾ h.p.—Halifax Motor Exchange, Westgate, Halifax.

LIBERAL Allowance for up-to-date single in part payment for 5-6 h.p. twin Rex, spring forks, aluminium finish, blue lines, guaranteed.—Halifax Motor Exchange, Westgate, Halifax.

EXCHANGE 3 h.p. M.M.C., or 2½ h.p. Staines lightweight, with new gramophone, or typewriter, for higher power, or both machines for good tricar.—Bert, 2, Bushey Road, Harlington, Middlesex.

EXCHANGE triple lantern and Wrench cinematograph outfit for small car, or 1908 motor cycle and sidecar (castor wheel referred), or sell £70.—Wilding, 27, Lower Bank Road, Fulwood, Preston.

FREE Engine, adjustable pulley, fit Triumph; also Osborne four-speed; fit twin Brown, 35s. each; exchange either for non-skid, 26 by 24, or speedometer.—Horner, Ilkley, Wellington Road, Leeds.

EXCHANGE for good motor cycle, tricar, or reliable small car, new high-class furniture, any description, valued wholesale, direct from works.—Furniture Manufacturer, 9, French Place, Shoreditch, London.

EXCHANGE Four-cylinder 4½ h.p. F.N., latest pattern, purchased February, 1908, perfect condition, handle-bar control, spares and tools, new Goodrich back cover, with cash adjustment, for two or four-cylinder car, or sell £30.—Auto, 32, Farnaby Road, Bromley.

EXETTE Tricar, 8-10 h.p., splendid condition; very smart, reliable, and economical, w.c., two speeds, almost new tyres (Continental), spares, etc.; will exchange for well-known make motor cycle of medium power, with cash adjustment, or sell; what offers?—Photo and full particulars, Williams, 26, Great Guildford Street, S.E.

h.p. Twin Kerry Engine, complete, inlet and exhaust, silencers, carburetter, coils, spare valves, equal new, £8; 4½ h.p. Dion engine, water-cooled, radiator and oil, splendid condition, £6 10s.; four-cylinder coil, Lacoste, £1; sell or exchange for ½ h.p. air-cooled engine, good make with magneto; see Cars for Sale.—Ryder, Heathfield.

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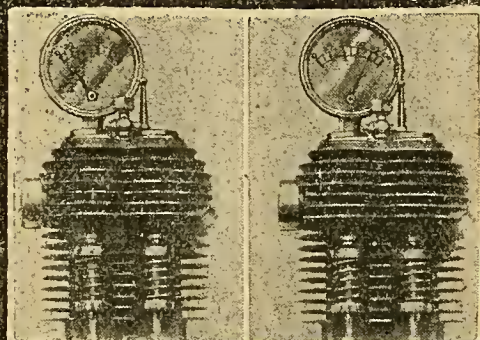
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We re bore your cylinder and fit new piston complete with rings and gudgeon pin. Please send for our new repairs booklet, giving prices for this work.

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4 h.p. BAT, spring frame, 26in. wheels ..	£15 0
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4½ h.p. REXETTE, water-cooled	£19 0
4½ h.p. QUADCAR, water-cooled, two speeds	£12 0
N.S.U. SIDECAR, 24in. wheels	£5 5
FORECAR, 26in. wheels, two brakes..	£3 15

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ALBION WORKS, SQUARE ROAD, HALIFAX.

WANTED.

WANTED, tin, belt, good horn, tools.—74, Croydon Road, Beckenham.

WANTED, N.S.U., or other two-speed gear.—57, Park Road, West Dulwich.

26 by 24 Cover, also 28 by 24, beaded edge.—3, Cutcombe Villas, Camberwell.

WANTED, motor cycle, in exchange for good pictures.—27, Vernon Road, Mortlake.

WANTED, front seat for tricar, good condition necessary.—62, Colvestone Crescent, Dalston.

WANTED, quadcar, or light runabout; cheap for cash.—Apply, Crumby, New Earswick, York.

WANTED, No. 6 Chater frame; exchange new bicycle.—Roberts, 40, Hillfield Avenue, Hornsey.

SMALL Two-seater Car, for tricar, Rover, and cash.—Brinkburn, Haslemere Road, Crouch End, N.

WANTED, Whittle's belt, tin., either new or good second-hand; cash.—Sugden, Askern, Doncaster.

WANTED, screw-cutting lathe; will give good motor bike in exchange.—Farrar, Square Road, Halifax.

WANTED, F.N.'s, Triumphs, Vindecs, or any good makes for cash.—Rey, 5, Heath Street, Hampstead.

FOUR-CYLINDER F.N., Quadrant, or Triumph; particulars, lowest price.—Gibbs, Coopers Hill, Pirbright.

WANTED, Moto-Reve, or Motosacoche, magneto, good condition; cheap.—Grundy, Trinity Street, Boston.

WANTED, lightweight F.N.; give £5, two-speed Elswick, new February.—J. White, The Warren, Guildford.

WANTED, magneto, suitable for twin Kerry; state lowest price.—Turner, Burlington Road, New Malden.

FORECARRIAGE, any condition; exchange new or second-hand push cycle.—Wickham, 620, High Road, Leytonstone.

WANTED, 1½ h.p. cycle engine, also pair 28 by 1½ heavy covers and tubes.—Address, Davies, Glatt. Pyon, Hereford.

WANTED, powerful magneto twin; exchange 4 h.p. Chater-Lea and cash.—James Wood, Teston, Maidstone, Kent.

HEAVY Tricar Back Hub, undrilled, or drilled 40 holes, or complete wheel; approval.—Needham, Shalesmoor, Sheffield.

WANTED, second-hand Autoclipse motor cycle lamp, or other reliable make.—Mansford, Post Office, Nettleham, Lincoln.

WANTED, ¾ h.p. Triumph, Vindec, N.S.U., or Phelon-Moore; reasonable cash price given.—80, Herbert Street, Halifax.

WANTED, single-cylinder two-seated car of well-known make, in good condition, for cash.—Carr, 15, Park Hill, Croydon.

VINDEC, Triumph or Norton, not later 1907, in exchange 3 h.p. N.S.U., magneto; state price.—4, Park Street, Morley, Yorks.

LIGHTWEIGHT Motor, in exchange for agent's first-grade Beeston Humber tandem, excellent order.—George Collier, Repton, Derbyshire.

WANTED, Rigid Sidecar, 28in. wheel, must be light; exchange 2½ h.p. motor cycle.—H. G. Forster, Newnham, near Sittingbourne, Kent.

WANTED, twin air-cooled cycle engine, with magneto preferred, good condition, cheap.—Woodside, Wake Green, Moseley, Birmingham.

WANTED, tricar frame, handle-bar steering, Chater-Lea C., or similar design preferred, no engine, gears.—Sharpe, 49, Conwick Road, Lincoln.

FOUR-CYLINDER Motor Cycle, F.N. preferred, also 3 or ¾ h.p. Triumph, damaged, out of order, cheap.—Riley, 77, Blooms-grove Street, Radford, Nottingham.

WANTED, 28 by 2½ voiturette tyre, fit Palmer rim, non-skid preferred; also ¾ in. Whittle belt, also Bosch magneto for cycle, also good searchlight (acetylene) lamp; approval, deposit.—132, Cross Lane, Salford.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

WANTED.

WANTED, tyres, one or two steel studded heavy motor tricar covers, 26 by 2½, unpunctured, Michelin preferred.—Particulars, 72, Dacre Road, Plaistow, Essex.

LOWEST Quotations for 1909 3½ h.p. single-cylinders in exchange for 3 h.p. Beeston Humber for cash, also deferred.—No. 1,051, The Motor Cycle Offices, Coventry.

WANTED, the following 1908 models: Triumphs, F.N.'s, Vindec Specials, Moto-Reves, Roes, Bats, Browns, etc.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

WANTED, 1906 3½ h.p. Quadrant and little cash for 5-6 h.p. twin Rex, spring forks, finished aluminum, blue lines, fine sidecar mount.—Box 1,090, The Motor Cycle Offices, Coventry.

WANTED, high grade motor cycle; exchange new high-class furniture, any description, direct from works, valued wholesale.—Furniture Manufacturer, 9, French Place, Shoreditch, London.

WANTED, motor back hub, 36 holes, 4 h.p. Minerva pulley, belt rim, belt, tank, back mudguard; give ½ h.p. gas engine and 10 volt dynamo.—Address, Westbrook, 299, Welsby Street, Grimsby.

WANTED, good modern motor cycle, for cash, or exchange furniture, any description, pianoforte, Singer cabinet sewing machine, etc., to value £30.—Evans, furnisher, Sparkhill, Birmingham.

WANTED, four-cylinder F.N., or 3½ to 4 h.p., single-cylinder, any good make, in exchange for new Rex featherweight, or sell £20, only run 300 miles; power wanted for winter work.—P.S., 3, Gringley Terrace, Retford, Notts.

HALIFAX.—Wanted, 1908 Magneto Light-weight (also 3½ h.p.) in part payment for brand new 1908 3½ h.p. magneto Rexes, with ball bearing engine, at 38 guineas; £26 5s. and upwards allowed.—Halifax Motor Exchange, Westgate, Halifax.

PAIR 26 by 2½, covers, tubes, 3½ carburetter, handle-bar control, gear, contact-breaker, trembler coil, Bowden valve-lifter, front and belt rim brake, tanks fit 6 Chater, silencer, horn, 3in. belt.—No. 1,091, The Motor Cycle Offices, Coventry.

WANTED, 6 h.p. De Dion Populaire, in exchange for 3½ h.p. Minerva-Chater-Lea motor cycle and sidecar, with two-speed, value £35, and 6 h.p. Argyll voiturette, three speeds, running order, value £35.—El-Nido, Priest Hill, Caversham-on-Thames.

S. J. FAIR, The Motor Cycle Exchange, Cheltenham Road, Bristol.—Wanted, 25 second-hand motor cycles, any makes, 1½ to 6 h.p., for shipment abroad; motor cycles sold on commission, or purchased outright; cash remitted by return; bankers' references if desired.

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ENGINES Re-bushed throughout from £1.—Tufnell and Co.

CYLINDERS Re-bored from 5s.—Tufnell and Co.

PISTONS Supplied new from 7s. 6d.—Tufnell and Co.

RINGS from 9d.—Tufnell and Co.

CONNECTING Rods from 7s. 6d.—Tufnell and Co.

INLET Valves from 1s. 6d.—Tufnell and Co.

EXHAUST Valves from 2s. 6d.—Tufnell and Co.

PULLEYS for any motor.—Tufnell and Co.

TRIUMPH, Brown, Fafnir, 4s. 9d.—Tufnell and Co.

REX, Antoine, Kelecom, 5s. 9d.—Tufnell and Co.

DE DION, M.M.C., 6s. 9d.—Tufnell and Co.

ABOVE 4½in. Diameter, extra 9d.—Tufnell and Co.

AXLES, cranks, spindles, handle-bars, seat-pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed.—Tufnell and Co., 527, High Road, Leytonstone.

C. A. V.**ACCUMULATORS.**

We claim—facts fully justify it—to be by far the largest manufacturers of Ignition Accumulators in the United Kingdom, producing their components throughout. We already supply most of the leading firms in the Motor Industry—then why not you? Once used, they are always used! We hold over a thousand testimonials!

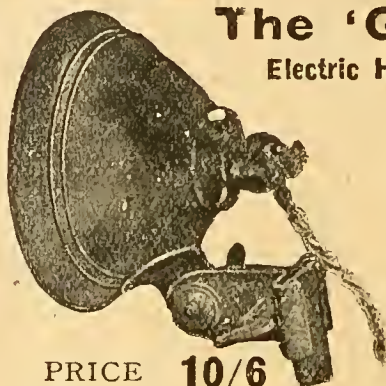
C. A. Vandervell & Co.,

Electrical Engineers and
Motor Ignition Specialists,

Warple Way, Acton Vale, London, W.
Phone—544 Chiswick. Wires—"Vanteria London"
BRANCHES: Birmingham, Glasgow and Dublin.

HALF a MO**The 'GLARE'**

Electric Headlight



PRICE 10/6

Consumes
only 4 volts.
½ amp.

Weights
only 8 ozs.

Throws a
beam 100 ft.
ahead.



THE
ORIGINAL
VARIABLE
SPEED
PULLEY,
£1.



ACCUMULATOR
and Box for
Glare, £1.



ADJUST-
ABLE
HANDLE
BAR LAMP
BRACKET,
4s. 6d.

A few of our Specialities. Write for particulars.

MAGNETO CUT OUTS, 1/9 each. Thousands in use.

J. W. GREENWOOD, Ltd.

PORTLAND PLACE WORKS, HALIFAX.

London Offices and Showrooms: Agents—Messrs.
BURT, 166, Clerkenwell Road, London.

"PEUGEOT"

2½ and 3½ h.p. SINGLE CYLINDER

3½, 5, and 7 h.p. TWIN CYLINDER

ENGINES.

Specify a PEUGEOT Engine to be fitted to your motor bicycle, and refuse all IMITATIONS.

Full particulars, with list of GENUINE SPARE PARTS, and a P.P.C. of Tourist Trophy winner, on application.

J. TAYLOR, 318, Percy Road, BIRMINGHAM.

Call at No. 244 Gallery, Stanley Show

ADVERTISERS — Please note that Friday is the latest day we can receive advertisement copy for the following week's issue.

MISCELLANEOUS.

BOOTH.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

BOOTH.—500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget trembler coils, 17s. 6d.

BOOTH takes your old coil in part payment; part with troublesome coils.

BOOTH.—Fuller accumulators 20 amp. 17s.; Rex type, 16s.; Minerva, 16s. Midget, 16s.

BOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fuller's.

BOOTH.—50 pairs XI'all spring forks; immediate delivery; N.A.B. seat-pilar 3s. 6d.

BOOTH.—Long motor cycle handle-bars heavy gauge, best quality plating; 5s. 6d.

BOOTH.—Silent silencers, for engines to 1 h.p., very efficient, no back pressure; 3s. 3d.

BOOTH.—Frames, £1 5s.; wheels, 9s. 6d. pair; plain coils, 2s. 11d.; trembler coils, 5s. 6d.

BOOTH.—Send for list of oddments, speed gears, tanks, etc.; clearance bargains.—Booth's Motor Exchange, Wade Street, Halifax.

E.I.C. Contact Breaker, perfect; 12s.—W.C. Miles, Leominster.

BARKER'S Iron Cement, for cracked cylinders, etc.; 1s. tin.—Oxford Road, Worthing.

MINERVA Tank, sound, oil pump, levers complete; 15s.—F. White, jun., 234, Clapham Road, S.W.

FRAMES made to order, complete, £2 10s.; wheels, 17s. 6d. pair; also sidecars.—Millard, Belvedere.

OVERCOATS, thick, warm, latest cut; 21s.—Write for patterns, Booth, tailor, Longton.

WHIPCORD Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, tailor, Longton, Staffs.

HEADLIGHT, suit forecar, Castle nickel plated, no generator; 12s. 6d.—B., 42, Crondace Road, Fulham.

RUSEL Cast Iron Headed Valves, any engine, 3s. 6d., postage 3d.—Broadhurst, 13, Stafford Street, Leicester.

ONE Pair Genuine Simplex Spring Fork Attachments, plated (brand new); 9s.—Scott, 4, Cambridge Place, Plumstead.

TWO-SPEED Fit-all Gear, nearly new, suit Minerva, also steel studded tyre, 26 by 2½.—Longden, Pier Pavilion, Southport.

FIT-ALL Two-speed Gear; cost £7 10s.; almost new, perfect condition; price £3 10s.—Gee, 67, New Road, Woolwich.

OWNERS of heavy powered machines.—The D—all adjustable belt fastener will satisfy as no other shall.—Below.

D—ALL Adjustable Fasteners, the best yet produced; direct pull, frictionless, with two lengthening links, post free, 1s. 10d.—Dall, Ladybank, Fife.

AUTOGENOUS Welding.—Send that broken casting to the Alvaston Motors, Derby, to be welded by patent process; metal reunited.

AUTOGENOUS Welding.—Costly castings saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, and a thousand other things.

AUTOGENOUS Welding.—Wonderful results. Broken flanges, lugs, brackets, etc., all amenable to our process; send part to-day; quotations on sight.

AUTOGENOUS Welding.—Alvaston Motors, Derby. Telephone, 1, Alvaston.

BELT Rim Brakes, flexible cable hand applied, easily fitted, stop anything; 8s. 6d., usual price 15s.—Slack's Garage, Stockport.

ANGLO-SAXON Bargains.—Two-note motor cycle Fanfare horns, our price 6s. 9d. each; Perfecta separate generator lamps, large size, 9s. 6d., complete; long motor bars, all shapes, 6s. 9d.; new pattern drop seat pins, 3s. 11d.—31, Newgate Street, E.C.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

ADVANCE Adjustable Pulley, used by all the leading riders.

ADVANCE Adjustable Pulley, winner of T.T. Race.

ADVANCE Adjustable Pulley, many thousands now in use.

ADVANCE Adjustable Pulley; testimonials arrive daily.

ADVANCE Adjustable Pulley will increase your power.

ENGINES, Engines, Engines.—3 h.p., 6 h.p., and 9 h.p., air or water-cooled; send particulars.—Address below.

HERE at Last!—An ideal and adjustable belt fastener; price 2s. 6d. — Address below.

ADVANCE Generator Brackets, as recommended by "Ixon"; price 2s. 6d. — Advance Motor Mfg. Co., Ltd., Northampton.

BARNES 4½in. Screw-cutting Lathe, as new, 6in. Cushman chuck, tools; £15.—Essex Road; N.

UCO Non-skid, 8s. 6d.; Watawata, 2in., 7s. 6d.; gas lamp, 4s. 6d.; large saddle, —Clarke, Johnstown, Ruabon.

ONG Motor Handle-bars, 21in., heavy gauge, well plated, any size; 5s. 6d. — Farrar.

OOP Frame, for vertical engine, with front forks and handle-bar; 32s. 6d. — Farrar.

ENUINE Camel Rubber and Canvas Belt—ing, best on the market; send cash for length on approval; 2in. 9d., 3in. 1s., 4in. 1s. 1in. 1s. 9d. foot.—Farrar.

ET My Price List of accessories; pounds saved.—Farrar, Square Road, Halifax.

MORPEDO Tank, for oil and petrol, quite new; 15s. 6d., or exchange.—G., 14, Avonale Road, Peckham, S.E.

UTOCLIPSE Lamp and generator for sale, in good condition.—Carter, St. Margaret's, Park Avenue, Harrogate.

CAPE Cart Hoods to order; two-seaters, £3 10s.; tonneau, from £5 10s.—Manufacturers, 37, Chestergate, Stockport.

BACH Dry Ignition Batteries, best on the market, high and low tension cables.—elow.

IANS Renold Chains, for tricar, etc., air and water-cooled engines; Liberty tyres.—Moore, 27, Curzon Street, Long Eaton.

SALE, charging dynamo, 10 volts 7 amps., splendid condition; 22s.; particulars, Lamp.—Lambert, Causeway, Bicester.

WHITTLE, 8ft. 6in. by 1in., £1 5s.; new motor cycle acetylene lamp, 8s.—ord, Mountfield, Prestwich, Manchester.

ONGUEMARE Carburettor, 10s. 6d.; B.M. trembler coil, 11s. 6d.; Minerva pulley, 1in., 3s. 6d. — 26, Church Crescent, South Hackney.

WHAT Cash Offers?—Pair of black leather breeches, cost 25s., and leather cap, 10s. 6d. — J. Robinson, Holly Bank, Sale, Manchester.

5 h.p. Renault, minus engine, gears, and tyres; for £6; 810 by 90 Continental tube, £1; 815 by 105 Michelin, 25s.—Alwyn Radley, Vestgate, Wakefield.

PARCEL Box Body, off tricar, £1; Chatter-Lea front forks, wheel and brake, 12s.; oil, 10s.; bargains.—T. Bainbridge, 27, Rosebery Terrace, Consett.

CASH Offers.—Electric horn, accumulator (new), in case, gas lamp, 8½ft. belt; wanted, 26 by 24 non-skid.—Tyson, 481, Romford Road, Forest Gate.

13 h.p. Minerva Engine, pair 500 yards telephone, in good condition, and cash, in exchange for 3 h.p. engine.—Spain, Cheriton Place, Walmer, Deal.

FOR Sale.—Charging board, £1; one pair Salsbury Flario head lamps, want new glasses, £1; one new back lamp, 7s. 6d.—Nicholson, Caravan Builder, Worktop.

TWO Palmer Tyres, 26 by 2, beaded, as new, a bargain, £1; also 26 by 24, beaded, Gaulois, 10s.; or would exchange for 4 volt electric fan. — Letter, Mac, 33, Clipstone Street, London, W.

A REDUCTION in your greatest expense : TYRES.

**PALMER
CORD**
(Beaded).
Size. Cover. Tube.
26 x 2 1 15 3 8/3
26 x 2½ 2 4 9 9/9
26 x 2½ 2 5 9 14/8
28 x 2 1 18 6 8/3
28 x 2½ 2 8 9 9/9
28 x 2½ 2 10 6 14/6

**PALMER
(Fabric Beaded).**
26 or 28 x 2 Cover 1 5 6 Tube 8/3
26 or 28 x 2½ " 1 8 9 " 8/9

TYRES.



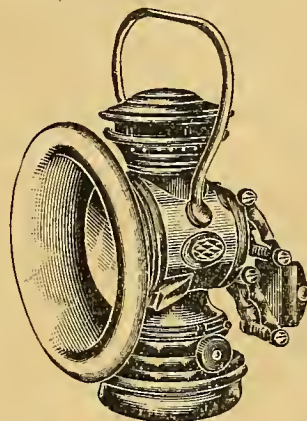
**CLINCHER
A WON**
(Beaded).
Size. Cover. Tube.
26 or 28 x 2 1 2 6 8/9
26 or 28 x 2½ 1 6 8 9/3
26 or 28 x 2½ 1 7 9 13/11

**CLINCHER
A WON**
(Ex. Heavy Beaded).
26 or 28 x 2 1 5 3 8/9
26 or 28 x 2½ 1 9 6 9/6
26 or 28 x 2½ 2 0 6 13/11

PARAFFIN LAMPS
(Plated).

9in. high. Diameter of face, 5½in. 7in. wick. Very light. Suitable for Motor Cycle or Tricar. Sold elsewhere, 8/9. OUR PRICE, 6/11. Postage, 4d.

**OUR NEW MOTOR
CLOTHING AND
ACCESSORY LIST
WILL
BENEFIT YOU.**

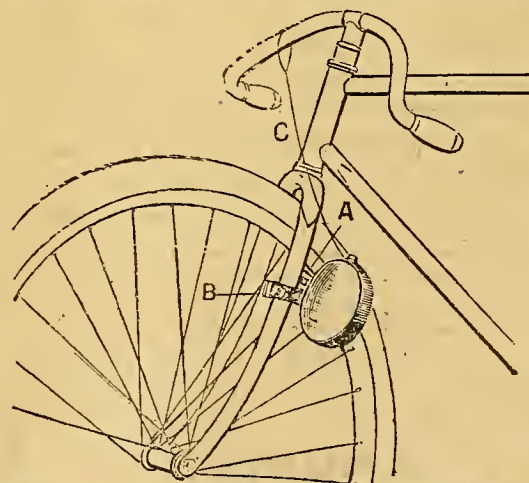


JOHN PIGGOTT, Ltd.

117 & 118, CHEAPSIDE,
1, 2 & 3, MILK ST. BLDGS., } London, E.C.

Have YOU tried
the new Road-
clearer for bicycles?

TAMBOURONG



Replaces the old-fashioned bell and horn.
The Effect is Startling!

Fixes on front forks. A cord from handle-bar pulls trigger when required in contact with front wheel spokes and sounds like a noisy drum or gong.

Stamped metal gong, 1/6.

LEO. RIPAULT & CO.,

64a, POLAND ST., LONDON, W.

Sole Agents for the genuine Parisian made article.

NOTICE. As we find the parchment model is detrimentally affected by damp weather we have abandoned this pattern in favour of the new stamped metal gong, which is the thing for Motor Cycles, and made specially strong.

MISCELLANEOUS.

MAUDE'S. — Genuine Stanley - Dermatine 1in. belts, 8ft. 6in., guaranteed and genuine; 11s. 6d. each.

MAUDE'S.—Osborne four-speed, very good order; £2 17s. 6d.

MAUDE'S.—Why not try a latest Brown and Barlow carburettor, with handle-bar control; only 30s.

MAUDE'S. — Will allow you 10s. on your present one, no matter what make, in exchange; immediate delivery.

MAUDE'S.—Amac carburettors, latest pattern, 29s., or your present one and 20s. secures; any model.

MAUDE'S. — Mabon clutch, fits Minerva, good condition; 32s. 6d.

MAUDE'S. — Longuemare spray carburettor, 15s.; Brown and Barlow, 15s.

MAUDE'S.—High tension wire, best quality, 9d. per yard; low tension, 6d.

MAUDE'S. — Albion free engine pulley, brand new; 30s.

MAUDE'S. — Middlemore padded Rideasy saddles, your old one and 12s. 6d. secures, guaranteed, exactly as on Triumphs, splendid value.

MAUDE'S.—Cicoy single-cylinder non-trembler coils, 100 in stock, 3in. by 3in. by 3in.; note the low price, 7s. 11d.; post paid.

MAUDE'S.—Long Handle-bars, best plating, finest quality, heavy gauge; 5s. 6d. per pair.

MAUDE'S.—The latest variable pulley, standard sizes in stock. Try one on approval; only 14s.

MAUDE'S.—Treble twist horns, the finest horn ever made; try one on approval; best plating throughout; only 6s. 6d.; double twist, 4s. 6d.

MAUDE'S. — Latest pattern headlight, divided glasses, guaranteed, and exactly as sold by others at 30s. and 22s. 6d. respectively; our price one guinea; approval.

MAUDE'S, the Fair Factors, Powell Street, Halifax. Tyre catalogue ready. Send your name for one.

NEW Kent Tricar Gear, three speeds, complete, in hands of makers; price £6.—Cloake, Rose in Valley Hotel, Chatham.

EVERYTHING made in Tanks and Radiators except a fortune. — Write for prices. A. Phillips, 112, Lynton Road, Bermondsey.

FIT-ALL Two-speed Gear, starting handle, belt drive, 55s.; Vindec adjustable pulley, 7s. 6d.—Stanwell, 45, Garthorne Road, Forest Hill.

SMALL Gas Engine, with electric ignition and dynamo, 10 volts 6 amps., nearly new; £5. — Copland, 110, Stanstead Road, Forest Hill.

GODFREY and Applebee.—The Rex men. Send us your machine to tune up or repair. We know what we're doing, and the price is moderate.

GODFREY and Applebee.—We have several sidecars for sale cheap. Ask us for what you require; all makes from £2 10s.

GODFREY and Applebee.—7-9 h.p. Peugeot, Chater frame and fittings, adjustable pulley, large Longuemare carburettor, enamelled grey; great bargain, £22; first cheque secures.

GODFREY and Applebee.—Great bargains in tyres and belts; liberal allowances on old covers.—165a, Hoe Street, Walthamstow. Phone, 464, Walthamstow.

LOOP Frame and Tank, handle-bars, saddle, chain wheel and cranks, belt, pair new wheels, free-wheel; £2 15s.—B., 71, Winkfield Road, Wood Green, N.

73Ft. 1in. Intermediate Watawata, 16s.; 74 7½ft. 3in. Fishback, 6s., both nearly new; Rex carrier, 5s.; Bucket seat, suit Rex de Luxe, 8s.—65, Douglas Road, Handsworth, Staffs.

READERS having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium; 1d. per word, minimum 9d.—Address, "Photography and Focus" Offices, 20, Tudor Street, London, E.C.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

ALVASTON Bargains.—7 h.p. Crossley oil engine, complete with all fittings, nearly new; accept £32, worth double; seen running any time; guaranteed absolutely perfect throughout.

ALVASTON Bargains.—Brand new Gianoli magneto, four-cylinder, high tension, superb instrument; listed £14, accept £6 10s.; fully guaranteed.

ALVASTON Bargains.—Water-cooled Aster 6½ h.p. head; accept 25s.; new, perfect.

ALVASTON Bargains.—Latest pattern M.O.V. Rover 8 h.p. cylinder, guaranteed perfect as new; 30s., worth £4.

ALVASTON Bargains.—Genuine 3½ h.p. water-cooled De Dion motor, complete with coil, carburetter, silencer, guaranteed perfect throughout; £6 10s.

ALVASTON Bargains.—De Dion two-speed gear, complete, unexcelled for tricar work; 70s., perfect.—Alvaston Motors, Derby.

MABON Clutch, brand new, 30s.; enclosed fan, 12s. 6d.; Minerva-Longuemare carburetter, 15s.; trembler coil, 5s.; accumulator, 3s. 6d.—57, Park Road, West Dulwich.

MOTOR Cycle, long, low, Perry's extended frame, girded head, and fork, new tank, plated rims, Dunlop tyres, complete, less engine; £3 15s.—11, Brunswick Square, Gloucester.

WICKER Bodies, splendid finish, strong, 15s.; Pumfrey clutch, unused, drives fan also, suit passenger machine, cost £5, 30s. to clear.—Neveit, 10, Barnsbury Road, London.

BARGAIN, £3 10s. cash.—Quadrant loop frame, complete, forks, wheels, handle-bars, brakes, tanks, tyres, coil, and new belt rim oil pump.—Timms, Guildford Road, Frimley Green.

TWO ¾in. Belts, 7ft. 2in., voltmeter and case, six plugs, 26 by 2 Continental tube (new), belt punch, test lamp; £1 the lot. — Motor, J. E. Dainton, 51, Redlaver Street, Graugtown, Cardiff.

N.S.U. Two-speed Gear, 4½ by 1in. pulley, fits 5 h.p. Peugeot or Vindec, £3; Osborne 1907 four-speed gear, fits 4 h.p. Stevens, £2; 3 h.p. Triumph, piston, and rings, 7s. 6d.—105, Lark Lane, Liverpool.

MATEUR Photographers. — Superior enlargements (bromide), from your negatives, 8 by 6, 9d.; 10 by 8, 10d.; 12 by 10, 11d.; 15 by 12, 1s. 1d.; cash; from prints 6d. extra.—Greame, Wellesley, Whyteleafe.

TORPEDO Tanks in brass, copper, and tinned steel, from 5s., best finish; swan-neck saddle-pillars, all sizes, 2s. 6d.; long handle-bars, all sizes, 4s. — Arrow Motor Works, Victoria Road, Peckham, S.E.

PUNCTURES.—While you are overhauling your motor cycle this winter fit our leather bands; they strengthen the tyre, and stop you from puncturing; 2s. each.—Barton, Meeting House Lane, Peckham.

LIGHTWEIGHT Clement-Garrard engine, 30s.; tank for petrol, oil accumulator, 15s.; Clement-Garrard two-speed gear, 25s.; engine chains, ¾in. pitch, 70 and 20in., 6s. 6d.; sprocket, 52 teeth, 4s.; all in good going order.—Hope, Battlehill, Hexham.

PULLEYS for any motor.—De Dion, M.M.C., 6s. 6d.; Antoine, N.S.U., Kelecom, Boc, F.N., 5s. 9d.; Peugeot, Brown, 5s. 6d.; Triumph, Fafnir, Sarolea, Minerva, 4s. 9d.; plated, guaranteed, carriage paid.—J. Perkins, High Road, Leyton, London.

WINTER Riders use K. brand motor cycle oil for easy starting, gallon tins 4s., half gallon 2s. 3d., quarts 1s. 4d.; on approval, carriage paid; K. special, for high compression engines, 5s. 6d., 3s., 1s. 9d.—Kelly and Co., Bridge End, Leeds.

LONGUEMARE H. Carburetter, 12s. 6d.; White's economiser, new, 3s. 6d.; XI'all forks, 10s.; spare spring, 6d.; tank levers, complete, fit Brown, 2s.; carrier-stand, 1s. 6d.; Duco bag, 1s.; handle-bar control and cable, double, 7s. — Engineer, 4, Northfield Avenue, Ayr.

HALIFAX.—Gillett and Lehmann controller, 15s.; N.S.U. two-speed gear, £2 15s.; new Premier accumulator, 7s. 6d.; new car accumulators, 12s. 6d.; special double-twist horns, 5s. 3d.; separate generator head-lights, 6s. 9d.—Halifax Motor Exchange, Westgate, Halifax.

SMOOTH-TREAD TYRES!
WARNING!!

We would particularly draw readers' attention to the Editor's warning in "The Motor Cycle" of the 21/10/08:

"SMOOTH-TREAD or worn tyres are almost CERTAIN to cause side-slip on motor cycles. STUDDED TYRES are a CERTAIN PREVENTIVE of side-slip."

We recommend ALL riders in the Autumn and Winter to have these tyres fitted to their machines."

We are special Agents for ALL rubber and steel-studded covers.

NOTE.—Your own cover can be converted into a studded non-skid by having a rubber or steel-studded band fitted.

BANDS, RE-TREADING, and Repairs OUR Speciality. (All makes of bands fitted)

Shamrock, Clincher, or Goodrich Rubber Studded Non-skid Bands, £1 1s.

Whatever your requirements, write for our new "ILLUSTRATED TYRE LIST" (sent free). This gives prices of all covers, full particulars of our allowances on old covers, prices for re-treading, fitting bands, etc.

Special Trade List on application.

THE "ROM" INNE TUBE.

"THE CAR TUBE IN MINIATURE."

Prices, complete with valves.

26 & 28 x 2, 9/- Endless, 11/- Butt-ended.

26 & 28 x 2½, 10/- " 12/- " "

26 & 28 x 2¾, 11/- " 13/- " "

Extra heavy quality only

R.O.M. CONTACT BREAKERS. R.O.M. STANDS.

The CONTINENTAL MOTOR CO.,

32, Rosebery Avenue, LONDON, E.C.

'Phone: Holborn, 1513. Tel.: "Bromitch" London.

PLEASE NOTE THAT ALL

"ELECTARY" Accessories
(as described in the last three issues of "The Motor Cycle," and including the famous Lens-mirror Projector, the Electric Head and Side Lamps, the Combined Tyre and Belt Case, White's Patent Economiser, and numerous other novelties) will be exhibited at the **STANLEY SHOW (Nov 20th)**, on **STAND NO. 193 GALLERY, N.B.**—Particulars of the "ELECTARY" Accessories forwarded on receipt of enquiry.

W & R Jacobs, 39c King William St.
London Bridge, E.C.
Phone, 7930 Wall.
Tele. "Electary" London.

**DRUID
SPRING
FORKS.**

**Absolute safety
with increased
comfort.**

**Is mechanically correct.
Is absolutely rigid laterally.
Allows free movement vertically.
Takes a front rim brake.
Will last as long as the machine,
and make the machine last longer.**

A. DREW, Conybere St., BIRMINGHAM.

MISCELLANEOUS.

TWO Parsons Non-skids, perfect, 5s. each. new 4in. lens mirror searchlight, exceptionally powerful, newspaper readal 200 feet, 9s. 6d.; new coil, 7s. 6d.; approved gladly.—Sydney, 34, Bedford Square, London.

THREE-SPEED Free Engine Pulleys.—New three-speed free engine pulleys, equal new, cheap; two-speed free engine pulleys, £1; approval, deposit.—New Nonpareil Motor Fittings, Ashtree Road, Stirchley, Birmingham.

NO. 6 Pattern Frames, with girders, tanks, wheels, etc., to suit; long handle-bars, 4s.; swan-neck saddle-pillars, 2s. 6d.; all to your own requirements; guaranteed deliveries.—Green, 14, Avondale Road, Peckham, S.E.

BELTS (V), new, ¾in. Dermatine, 7s.; ¾in. Gloria, 7s. 6d.; ¾in. hide, 6s.; Lycett 1in. hide, 10s.; ¾in. canvas, 6s.; new separate generator lamp, 10s. 6d.; red lamp, 3s.; long bars, 3s. 6d.; Longuemare and tube, 15s.; leather breeches, 10s. 6d.; etc.—161, East Road, Islington.

WHY buy another Lamp? Let me show you your rim with a plano-convex projector lens; ¾in., 3¾in., 3¾in., 1s. 9d.; 3¾in. 2s.; 4in., 2s. 6d.; 4¾in., 2s. 9d.; 4¾in., 3s.; 4¾in. 3s. 6d.; 5in., 4s.; satisfaction guaranteed or your money returned.—Payne, Metchell Lane, Harborne.

WHAT Offers, 4 h.p. Jap engine, complete with induction pipe and Jap carburetter, plain coil, exhaust pipe and silencer, nearly new, also Fit-all two-speed gear, run 50 miles, pair Minerva spring for Kerry-Abingdon free engine clutch.—F. Cox, Perry Road, Bristol.

8ft. 6in. ¾in. Camel Belt, nearly new, 6s. 8ft. 6in. ¾in. Lycett belt, 4s.; ¾in. Minerva piston, complete, 6s.; 25 amp. accumulator, 5s.; pair 18in. handle-bars, plated, 5s.; 28 by 2 inner tube, 2s. 6d.; ¾in. pulley, new, 3s. 6d.; surface carburetter, 2s.—H., Folkestone Road, Upper Edmonton.

CASH Bargains.—Prested 12 amp. accumulators, 9s. 6d.; two-way switches, 2s. J.B.D. silencer, 4s. 6d.; searchlight lamp with separate generator, 22s.; volt or am meters, 4s. 6d.; large double-twist horn, 5s. 6d.; belt fasteners, 8d.; belt punch, 1s. 3d.; ratchet plated control levers, 1s. 6d.; double with clip, 5s. 6d.; motor cycle two speed hubs, 50s.—Bastone, see below.

CLINCHER A Won Motor Cycle, B.E., 28 2½, 21s.; Clincher heavy car covers, by 85, T4, 45s.; T3, 43s.; 700 by 65, T1, 26s. Bastone, see below.

MOTOR Cycle Covers, wired edge, 26 by 2½, 2½, and 2½, 11s. 6d.; 28 by 2, 2½, 1 6d.; beaded edge, 2s. extra; Clincher motor cycle tube, 26 by 2½, 6s. 9d.; Macintosh tube 26 by 2½, 28 by 2, 6s. 9d.—Bastone, see below.

BELTING, best quality leather, V, ¾, ¾, 8d., 10d., and 1s.; rubber and canvas, 1in., 1s. 2d. per foot; approval again cash. — Bastone, 215 and 217, Pentonville Road, King's Cross, London, N. Telephone 2481 North.

5,000 Government Gauntlet Gloves, 6d. pair; 500 leather belts, and 1s. 3d. each; leather leggings, 2s. 6d. a 3s. 6d. pair; Bedford cord riding breeches, 4s. 6d. and 5s. 6d.; Government all-wool military socks, 10d. pair; police capes, 6d. and 5s. 6d. each.—Anscomb, Government Contractor, 14, London Road, London, S.

TRADE Direct and Save a Profit. — T Albany waterproof jackets, from double texture paramatta, at 18s. 6d., are going well, but for winter riding you may prefer our 21s. jacket, made from best plaid fawn proof, lined self beaverteen; this a heavy, warm, tailor made jacket, with latest improvements; any size sent carriage paid; cash with order.—G. Raws and Sons, Indianrubber Manufacturers, Oldhall Street, Liverpool.

BARGAINS.—Back wheels, axles, speed gear, etc., for small car, 15s.; front wheels and axle, 5s.; steering wheel, complete, 2s. 6d.; ball bearing fan, 3s. 6d.; pair 815 by 105 Dunlops, nice condition, £2 Brooks B100 saddle, as new, 10s.; 3 h.p. sprig carburetter, 4s.; 2½ h.p. motor cycle, less carburetter, Minerva, nice condition, £2 large motor gas lamp, 5s.; quad frame differential gear, wheels, and tyres, £1; approval. — Motorist, 80, Bispham Road, Southport.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."



THE MOTOR CYCLE



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The Knight Engine for Motor Cycles.

WE imagine that very few motor cyclists will not have heard of the new type of engine for motor cars which has been adopted by the Daimler Motor Co., Ltd., Coventry. Some readers will doubtless have had opportunities for reading in *The Autocar* and other papers a description of this new engine, but undoubtedly the great majority of motor cyclists are unacquainted with the method upon which it operates. Needless to say, we have had numerous enquiries from motor cyclists as to the possibilities of this slide valve system on air-cooled motor cycle engines, and last week in our "Letters to the Editor" columns we published a letter from Minerva Motors, Ltd., which was a reply to our contributor, "Ixion," who in the previous week's issue had mentioned the Knight engine and discussed its possibilities for motor cycle use. The letter from Minerva Motors, Ltd., merely states that they are considering whether they will eventually fit the Silent Knight slide valve engine to their motor cycles. Readers should first of all be informed that the license to manufacture the Knight engine in Great Britain has been acquired by the Daimler Motor Co., Ltd., who, unfortunately, do not make motor cycles, whereas the Belgian license has been granted to Minerva Motors, Ltd., who are large makers of motor cycles.

Now that the Minerva Co. have informed us that they are considering the adoption of this new type of engine on motor cycles, we have pleasure in placing before our readers an article describing and illustrating its mechanism.

The Knight engine has no poppet valves with springs controlled mechanically or automatically, such as are

fitted to all motor cycles, except those of the two stroke variety. Instead, it has two circular sliding valves fitting one over the other inside the cylinder, and inside the inner one of the two sliding valves the piston reciprocates. These sliding valves consist of two open-ended shells, which are reciprocated in a vertical direction by means of short connecting rods attached to a small crankshaft mounted above and running parallel with the main crankshaft of the engine. The small crankshaft in the case of the Daimler engine is driven by means of a chain and pair of chain wheels. Of course, this small shaft is driven at half the speed of the engine. The short connecting rods are attached to the open ended shells at their bases by means of lugs and bearings. It therefore follows that, when the small shaft is revolved at half the speed of the engine-shaft, the slide valves are reciprocated vertically, and each makes one upward and downward movement to two similar movements of the piston.

The Valve Ports.

Cut in the walls of these shells or sleeves are ports extending a considerable way round, which are covered or uncovered by the sliding of the shells over one another and in the cylinder. The exhaust ports are on one side, the inlets on the other. At certain periods, in accordance with the position of the piston, the ports in the sleeves and in the cylinder casting register with one another, thereby allowing fresh mixture to enter the cylinder, or exhaust gases to escape, as the case may be. The engine is worked on the four stroke principle, and in this respect does not differ from the ordinary engine.

The Knight Engine for Motor Cycles.—

On reference to the line drawing (fig. 1), which is a cross section of the engine, it will be seen that surrounding the piston U are the two open shells, B the inner one and A the outer one. K is a detachable combustion head provided with a number of piston rings which form the gas tight joint between the com-

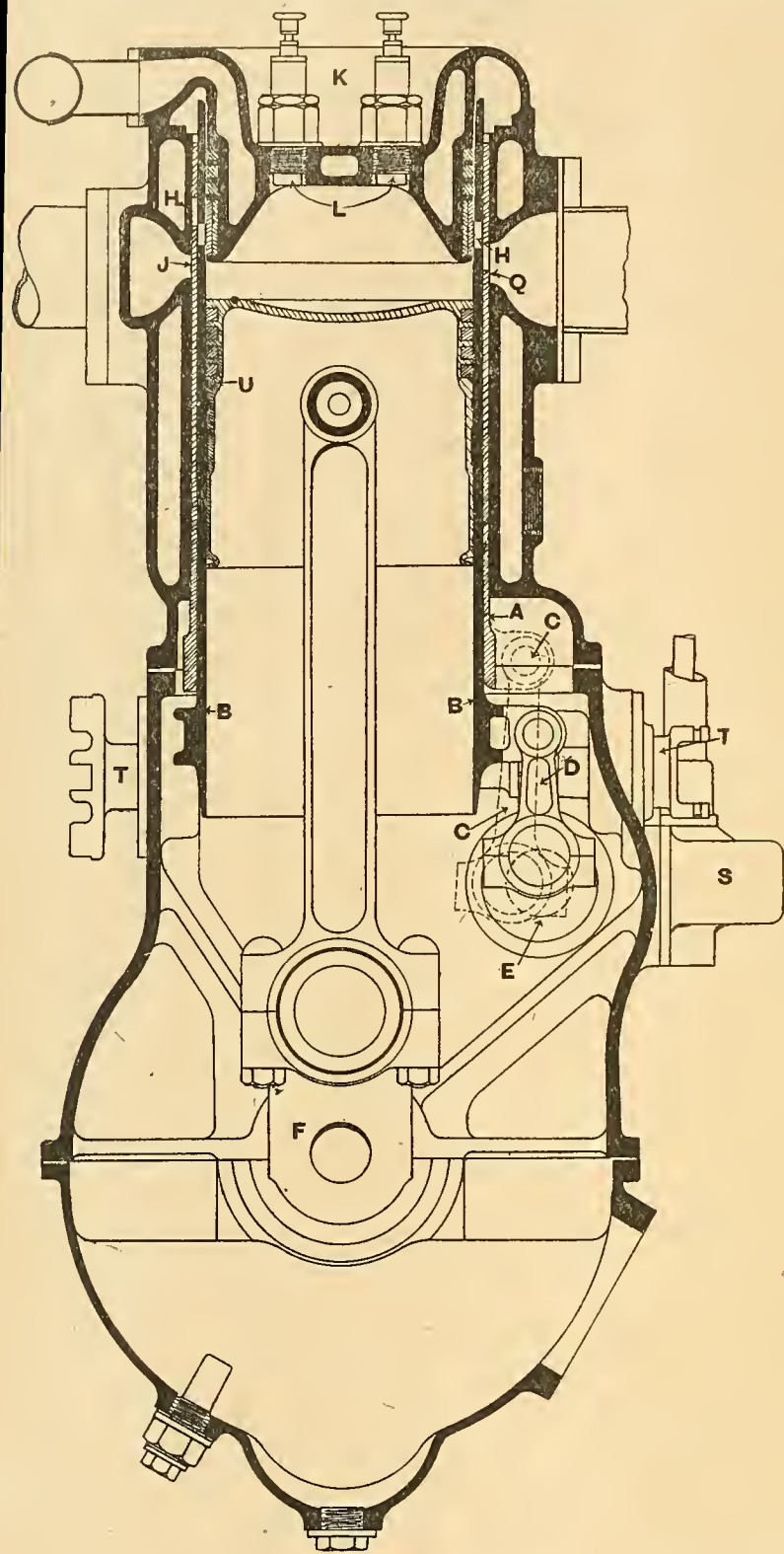


Fig. 1.—Cross section of engine.

- | | |
|-------------------------------------|------------------------------------|
| A. Outer valve shell. | K. Cylinder head. |
| B. Inner valve shell. | L. Sparking plugs. |
| C. Operating lever for A. | Q. Exhaust port. |
| D. Operating lever for B. | S. Casing for spiral gears driving |
| E. Layshaft. | L.T. contact maker. |
| F. Crankshaft. | T. Cross-shaft driving pump and |
| H. Valve openings in sliding shells | magneto. |
| J. Inlet port. | U. Piston. |

combustion chamber and the shell B, the latter, of course, sliding vertically over the rings during its upward and downward passage to cover and uncover the ports. The ports in the shells are shown at H, J and Q being the inlet and exhaust pipes are bolted. E is the small crankshaft previously referred to carrying connecting

rods C and D, which operate shells A and B respectively.

Reference to the diagrams on the next page will show the different positions assumed by the shells at different positions of the piston. The solid black portions on the slides represent the port openings, and when these two black portions are together they indicate the maximum openings of the inlet or exhaust ports.

The engine is lubricated in exactly the same way as a motor cycle engine, viz., by splash lubrication. Forced lubrication has been tried by the Daimler Co. and not found necessary. Motor cyclists, however, should take into account that the Daimler engine and also the latest patterns of the Knight engine as made in America are water-cooled. Nevertheless, we believe we are correct in stating that the Knight engine has been satisfactorily run air-cooled, and it will interest readers to know also that the first patent for the Knight engine shows a drawing of an air-cooled engine with radiating ribs exactly like a motor bicycle engine. The drawing of this patent specification was published in *The Autocar* of last week.

The four-cylinder Knight constructed by the Daimler Motor Co., Coventry, with a bore and stroke of 124 mm. by 130 mm., has given as much as 71 h.p. without racing the engine excessively, and without abnormally high compression. The R.A.C. formula for an engine of these dimensions, taking bore only into account, is 38 h.p.

Naturally, the Knight engine has been considerably criticised by various well-known motor engineers, but all seem to be fairly unanimous in their opinion that it is an improvement in some details over the ordinary type. At 119, Piccadilly, W., on October 15th, Mr. Chas. Y. Knight read an excellent paper to the members of the R.A.C., setting forth the advantages of his patent engine. The most interesting feature of this lecture, in our opinion, was the way in which Mr. Knight showed that the criticisms which had been levelled at his engine could mostly be satisfactorily answered, because they had had engines running at the Daimler Works for some months, which showed no signs of trouble in any shape or form, and gave more power than engines of the same make and dimensions which were made on ordinary lines.

Flexibility, Lubrication, and Compression.

A few brief extracts from Mr. Knight's paper, touching more particularly on the questions of flexibility, lubrication, and compression, which are the chief points of interest to motor cyclists in connection with the engine, will therefore not be without interest.

Among the claims made by Mr. Knight is the one of greater flexibility. This is a most important point in connection with motor bicycles, even more so than in the case of cars, because a motor cycle (or at least the majority) has but a fixed gear, whereas a car has three, and frequently four, changes of speed. The nearer a petrol engine approaches the flexibility of a steam engine, the easier it will be for motor cyclists to dispense with the complication of a change-speed gear, and if the Minerva Co. succeed in producing a more flexible engine on the Knight principle than has previously been possible with poppet valves, it will be a big move forward for the motor cycle.

A query on the subject of lubrication, particularly in cold weather, when the oil used is likely to gum

The Knight Engine for Motor Cycles.—

up the slide valves and the piston brought the reply from Mr. Knight that the same results would occur with other motors. His reply, of course, referred to a water-cooled engine using oil that is considerably thinner than air-cooled oil. This sticking or gumming appears to us to be the most likely thing to spoil its

chances as a perfect motor cycle engine, because we all know that with only one piston a motor bicycle engine is somewhat difficult to free after standing for any length of time, even in warm weather, if thick oil is used, and copious injections of paraffin or petrol are required to ease the piston. Petrol or paraffin would doubtless do the same for the sleeves

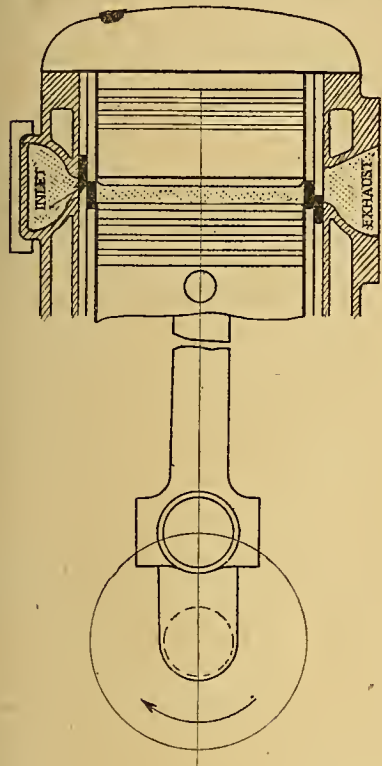


Fig. 1.

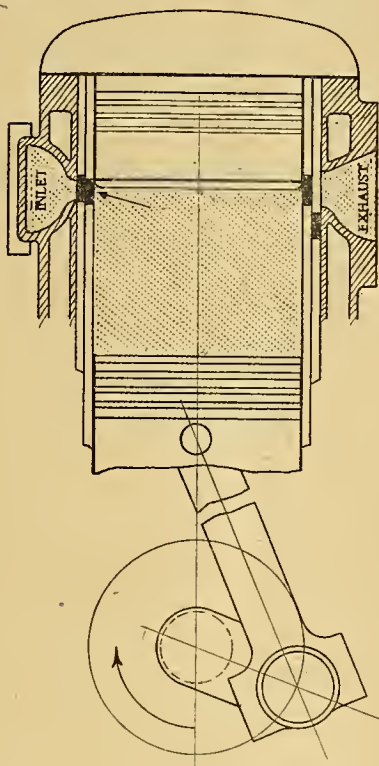


Fig. 2.

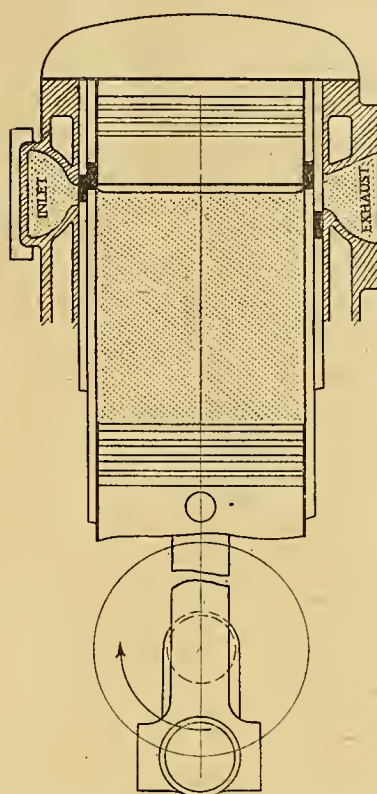


Fig. 3.

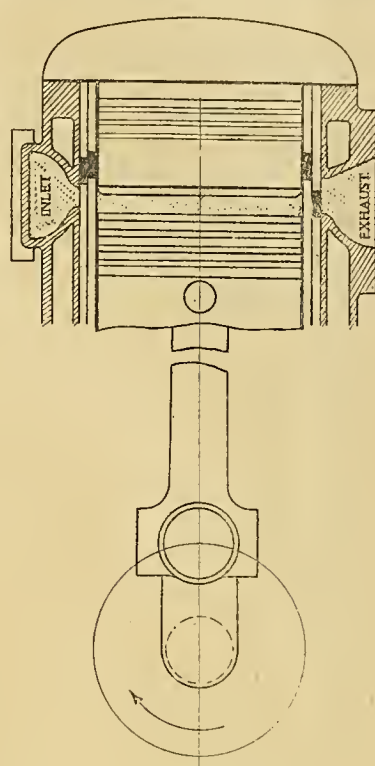


Fig. 4.

Fig. 1.—Commencement of the suction stroke. The outer sleeve is travelling downwards and the inner one upwards, making a rapid opening of inlet

Fig. 2.—Maximum opening of the intake. The crank pin has described an arc of 105°. The port opening at this point is 12 x 140 mm.

Fig. 3.—The piston is now at the bottom of the stroke; both sleeves are travelling upwards. The intake port is still about 3 mm. open to permit the continued entrance of gas into the cylinder through its own inertia. The ports then close immediately.

Fig. 4.—The piston is at the top of the stroke; both the inlet and exhaust ports in the inner sleeve are over the broad ring in the cylinder head, effectually making a compression tight chamber.

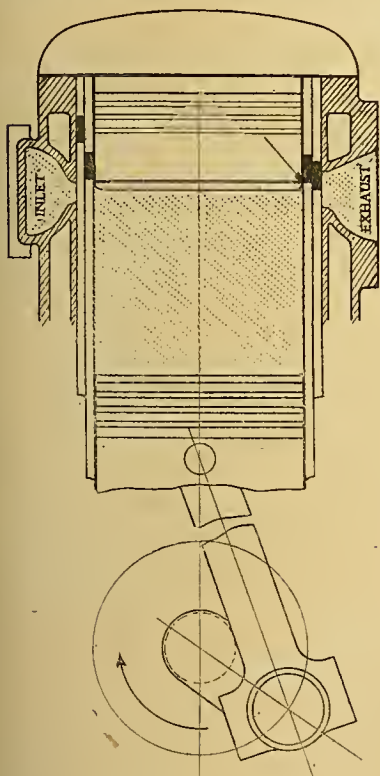


Fig. 5.

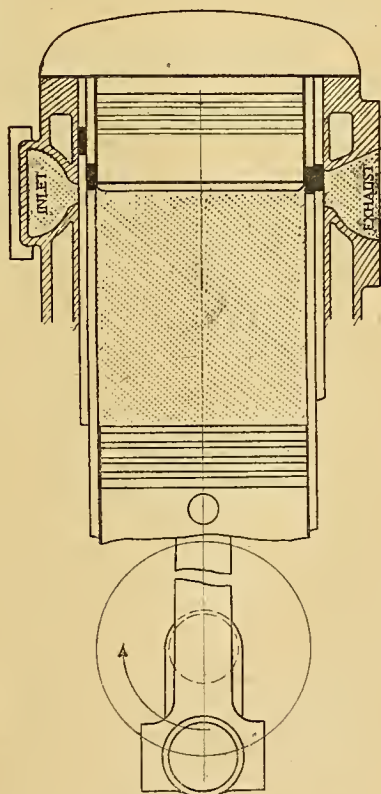


Fig. 6.

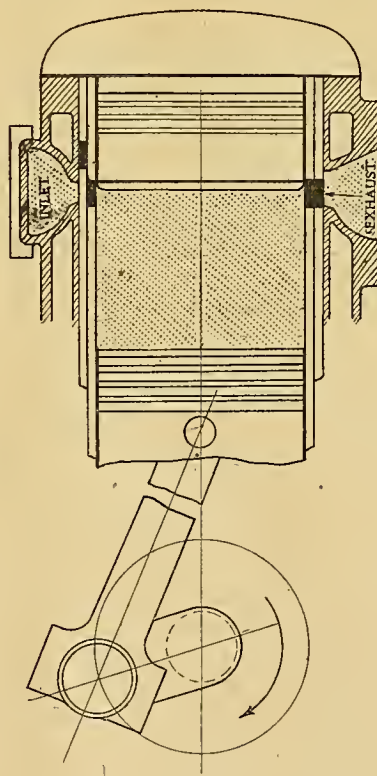


Fig. 7.

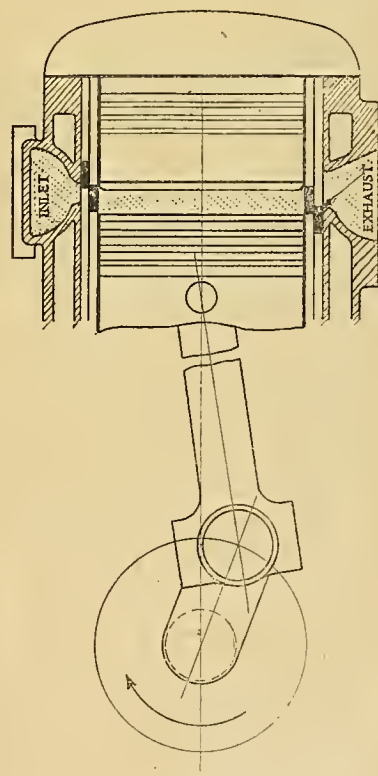


Fig. 8.

Diagrams showing the port openings in the Daimler engine. The solid black portions represent the port openings in the circular slide valves or sleeves.

Fig. 5.—This shows the opening of the exhaust ports, the firing stroke having been completed. The crank pin has described an arc of 125°. Both sleeves are travelling downwards, the inner much more rapidly than the outer one. The arrow shows the exhaust port opening by sliding off the broad compression ring on the cylinder head.

Fig. 6.—The piston is now at the bottom of its stroke, at which point the exhaust port opening is 5 x 140 mm.

Fig. 7 shows the maximum exhaust port opening which is 14 x 140 mm. The crank pin is now about 55° past the bottom centre.

Fig. 8.—The closing of the exhaust port is accomplished by the outer sleeve travelling downwards until the upper edge of the port closes over the lower edge of the exhaust chamber in the cylinder casting. The crank pin is now 20° over the top centre

The arrows in figs. 2, 5, and 7 are to draw attention to the positions of the sleeve ports, and not to indicate the flow of the gases, which in each case are in the opposite direction to that pointed by the arrow.

The Knight Engine for Motor Cycles.—

as it does for the piston, but it would take longer to free a Knight air-cooled engine than it would an ordinary engine.

Some Advantages of the Type.

One of the chief claims—and it was confirmed in the discussion following the above-mentioned paper—was the advantage gained by having the combustion chamber machined smooth all over, as also the top of the piston (which prevents carbon deposits forming quickly), also the absence of all pockets or valve spaces. The fit of the two sleeves, it was explained, bears no relation whatever to compression, but it was specially pointed out that distortion of the walls of ordinary cylinders having uneven thicknesses of metal causes loss of compression. Owing to the fact that the Knight engine cylinders are perfectly cylindrical, machined all over inside, and of perfect uniform thickness throughout, there is very much less likelihood of distortion taking place.

The inventor pointed out that after an engine has been run on the bench at the Daimler Works for a few hours under its own power, and thoroughly heated in order that the outer cylinder or water-jacket may go out of shape to the extreme limit, the motor is taken down and all points of distortion are found marked upon the walls of the cylinder by friction from the outer sleeve. These marks, which are the high portions, are then scraped away, but in the case of an ordinary petrol motor such scraping would cause a leakage of gas around the rings, owing to the cylinder distortion not being the same in all cases. It therefore appears as if it would be possible to make an ordinary air-cooled engine remain permanently compression tight by getting it extremely hot under its own power and afterwards grinding out the cylinder and fitting fractionally larger rings.

On the point of silence there is no question of doubt that the Knight engine scores.

On the point of vibration, as mentioned by a correspondent this week, we do not see how it can be any better balanced than an ordinary engine.

It accomplishes what has been the aim of practically every motor cycle engineer, viz., a rapid clearance of the exhaust gases, owing to the very large ports which are used. The inlet is equally free and rapid. To return to the question of lubrication, however satisfactory it may be on a water-cooled engine, it has yet to be proved whether this engine can be effectively lubricated when air-cooled and run at motor cycle speeds, say 2,500 r.p.m.

Another very important point from a motor cyclist's point of view which should not be overlooked is that

the Knight engine has a detachable combustion head. Now in previous motor cycle practice it has always been found that detachable combustion heads in the case of air-cooled engines gave trouble, owing to the fact that, however well the joint was made, the distortion of the combustion head caused leakages, and even with a good copper and asbestos washer between the head and the cylinder and very strong bolts a certain amount of the power was lost; but since the introduction of one-piece cylinders and combustion heads no trouble has been experienced in this direction.

In the Knight engine any possibility of leakage at the combustion head joint would not matter in the slightest, because by the time any leakage occurred at that point the compression would be lost by the gas passing the rings which are fitted on the separate combustion head. Mr. Knight informed the members of the R.A.C. that no such leakage could occur, and showed one of the broad rings, which is called a compression ring, which had been run between 15,000 and 16,000 miles this year. This ring is the lowest of the four rings on the combustion head shown in fig. 1, page 854.

A point that must not be overlooked in connection with motor cycle design is the height of the engine. The Knight, if constructed for motor cycles the same as it is for cars, must be slightly higher over all than an ordinary engine. The amount may be slight, but space must be provided for the working of the secondary shaft and connecting rods, and as the height of the frame and tank room is already defined by the height of the engine, and the frame is required in many cases to be still lower, and the tank room is barely sufficient, it appears as though a practically new type of frame would be required, at any rate to allow for removal of the cylinder leaving the rest of the engine *in situ*.

We must say that, having heard so much about the power developed by the Daimler engine, we are simply longing to try a motor cycle with the now famous "valveless" engine, because, owing to its greater flexibility, increased power, and silence, there is very little doubt that the same advantages will enable a motor cycle engine to be reduced considerably in weight while retaining the necessary power—items which motor cycle manufacturers have been striving to attain for some considerable time. The knowledge that Minerva Motors, Ltd., are considering the matter for motor cycles is quite enough proof that they have sufficient faith to make experiments, and if those experiments prove successful, our readers can rely upon receiving first intimation of the results through the medium of these pages.

A MAGNETO FOR 90° CYLINDERS.

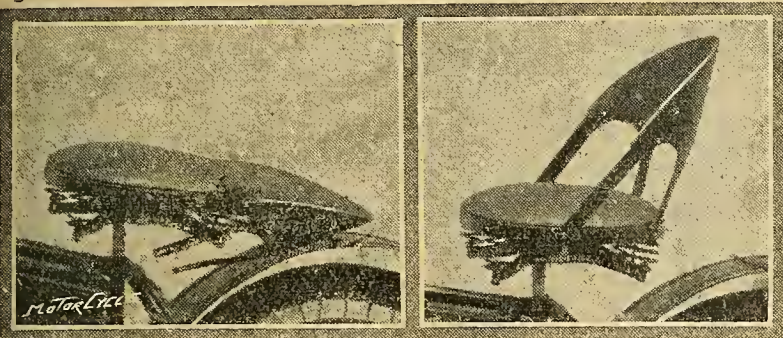
FOR some considerable time the only ignition possible for engines with cylinders set at 90° was by coil and battery, or a separate magneto machine for each cylinder. The Bosch Magneto Co., Ltd., 23, Store Street, W.C., inform us that from time to time they have received enquiries for magnetos suitable for cylinders at 90°, but on account of the small demand it was decided that the expense would not warrant a special magneto being designed and made for the purpose. This type of

engine is increasing, and the Bosch Co. decided a short time ago to place a machine on the market suitable for these engines. Extremely satisfactory reports have been received from the few users who have purchased them, and it will doubtless interest readers owning engines with cylinders at 90° to know that a suitable magneto can now be obtained. The Bosch Magneto Co. will be pleased to reply through our columns or by letter to any questions raised with regard to this new machine.

SOME USEFUL ACCESSORIES.

(Concluded from page 835.)

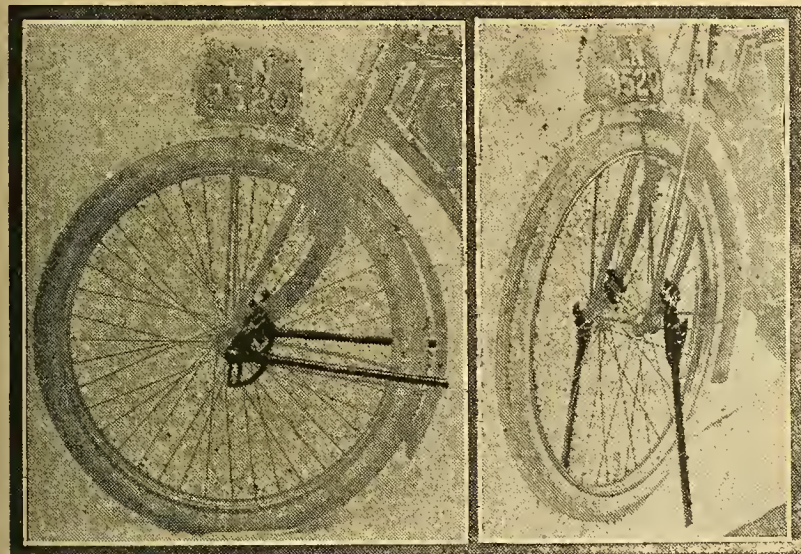
Those who favour a bucket seat for motor cycles should examine the Whysall improved bucket seat, which is handled by the SERVICE CO., LTD., 292-293, High Holborn, London, W.C. It will be seen on reference to the illustration that the back rest is collapsible. It is brought into use at will by a Bowden lever attached to the handle-bar or steering wheel.



Whysall's seat with collapsible back-rest, operated by a Bowden wire from the handle-bar.

The moment the rider wishes to dismount he releases the catch of the handle-bar lever and the back rest falls in a horizontal position. This special seat was exhibited at the Stanley Show last November. Owing to unforeseen difficulties, however, there has been a little delay in putting it on the market, but now the Service Co. inform us they are able to give prompt delivery.

Front wheel stands are gradually gaining favour. The latest is the Ukantes, made by PRICE AND CO., 11, Mount Pleasant, E.C. The same principle is adopted in the new front wheel stand as is embodied in the older and better known type for the rear



A new Ukantes Front-wheel Stand shown in and out of action. It is made by Price & Co.

wheel, but, of course, the front stand is appreciably lighter than the rear one, owing to the fact that the legs are not called upon to support so much weight when in action. It is only intended to be used in the case of a puncture or some other repair or adjustment being necessary to the front wheel.

W. AND R. JACOBS, 39c, King William Street, E.C., have kindly placed at our disposal an extremely neat circular leather case for carrying a spare belt and inner tube on a motor cycle. The case measures 10in.

in diameter by 2 3/8 in. deep, and is made of strong brown leather fitted with buckles and straps. In the centre is a hollow ring 4 1/4 in. in diameter, and the same depth as the box. Inside this ring a spare inner tube fits snugly, the belt being coiled around it. In the case of a belt of 1 in. section the best plan is to start the coil of belting from the inside, making the first coil fit as closely as possible to the exterior of the inner ring division. With any smaller size belt it is not necessary to go to this trouble. There is not the slightest doubt that spare belts and air tubes are far better protected when carried in this way,

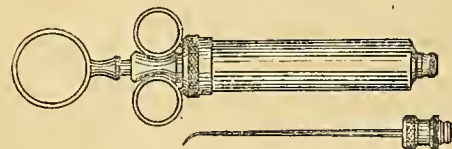


Electary Tube and Belt Carrier.

and free from exposure to light and air. Air tubes and rubber belts are very much affected by light, and the rubber in both cases will be kept in much better condition packed up in a case such as the Electary.

Motor cyclists who have difficulty in starting their engines should experiment with a White economiser, which is also sold by W. and R. Jacobs. The economiser is to all intents and purposes a variable opening for the main air intake of the carburetting chamber. It simply consists of a metal cup pierced with holes to correspond with the usual air supply holes drilled in the carburetter base. The cup is fitted with a revolving disc so arranged that more or less air can be admitted, so increasing or decreasing the pull on the jet according to requirements.

Riders who are in the habit of using a paraffin or petrol syringe for washing out bearings, injecting thin oil into inaccessible parts, etc., will welcome the Model B petrol squirt introduced by the UNITED MOTOR INDUSTRIES, LTD., 45-46, Poland Street, Oxford Street, London, W. This article is splendidly made, the plunger being such a close fit that by screwing on the cap shown in the illustration, instead of the spout,

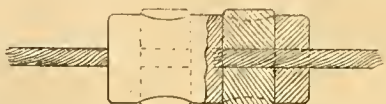


petrol may be carried in it for a day, and paraffin would probably stop in for a longer period. The special feature of this squirt is that the plunger is of metal. Other new U.M.I. accessories are the L.M. and L.M. de Luxe sparking plugs—the one for battery, the other for magneto ignition. These plugs are guaranteed from all defects, and may be readily distinguished by their orange coloured porcelains.

Among recent motor catalogues we have received is one issued by John Piggott, Ltd., 117-118, Cheapside, E.C. This firm makes a speciality of motor cyclists' clothing, and illustrated in the catalogue will also be found numerous articles of service to motor cyclists. Any reader contemplating the purchase of any accessories or clothing should not fail to send for a copy of this list.

Some Useful Accessories.—

The handy Gripple terminal was recently described and illustrated in *The Motor Cycle*, and we now understand from the MERKHAM TRADING Co., 9, Southampton Street, High Holborn, W.C., that a joint on similar lines has been introduced for connecting two broken portions of a wire cable without the use of solder. The same method of attachment is adopted as in the Gripple terminal. The two ends of the broken wire are threaded through the hole at either end of the metal block shown in the illustration. At the same time the wires are passed through the holes in the vertical blocks, and the latter are then firmly driven home and the ends burred over. The terminal is, of course, only applicable to bare cables which are not surrounded with the Bowden spring covering.



A useful little accessory has just been brought to our notice by Mr. William Lumsden, M.B.C.M. It is a clip which he has provisionally protected for holding a sparking plug for testing purposes. Every motor cyclist knows how difficult it is to get the sparking plug to lie loosely on the engine when testing the spark at the plug. The little device in question



overcomes this difficulty. The large screw thread of the sparking plug is grasped by the round end of the clip, and the narrow end is slipped on to one of the radiating fins. The plug is thus held with the sparking points upwards, and it can be readily seen whether a regular spark is occurring between the points, even while seated in the saddle and pedalling the engine. The clips are made by FERGUSON AND HOOD, Swan Street, Brechin.

G. T. RICHES AND Co., 19, Store Street, Tottenham Court Road, W.C., sell a large number of the Rich detachable air tube. This has been improved recently by the addition of a sleeve of rubber which fits over the joint. It will be seen on reference to the sketch that this rubber sleeve is tapered where it fits on to the air tube, and is made of thin and pliable indiarubber. It not only assists in making the joint air-tight, but also protects the joint from being chafed by the cover. Many motor cyclists use these air tubes with perfect success, and there is no doubt that they possess many advantages, not the least being the ease with which patches may be attached to the inside of the tube, where the air pressure assists in holding them in place, instead of having a tendency to blow them off.



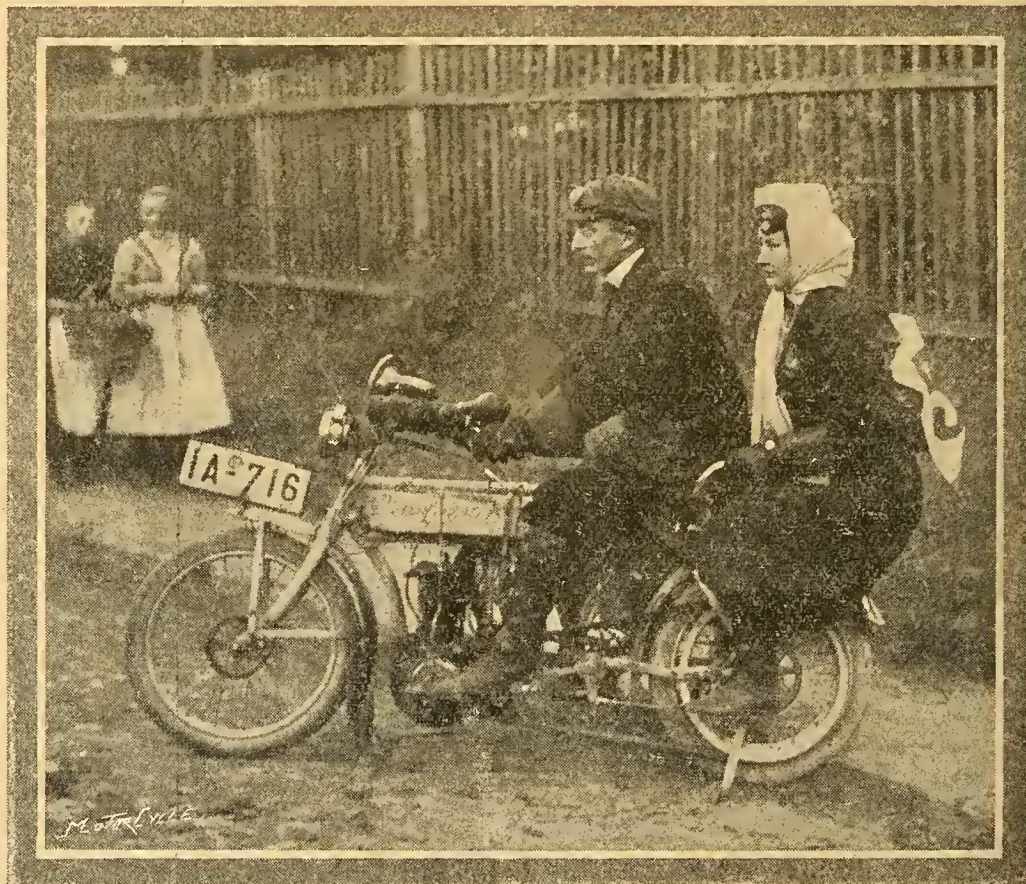
Tandem Motor Bicycles.

By B. H. DAVIES.

I WISH to preface these notes with the statement that they include very little personal experience, a valued correspondent having asked me to edit his experiences for publication, in the belief that there are a number of riders who would be glad to have a sample of this very cheap and efficient type of passenger machine built up for them by a local assembler, if they realised its possibilities. My correspondent, whom I will call X., always objected to the forecar, because he disliked projecting his passenger into dangers which he did not equally share, and because of the difficulties of finding a good triple track on the majority of roads. Thus he was left to choose between two wheels or four for his passenger work, and as four are always costly, he selected two. In 1904 he had a Clément-Garrard tandem built for him, as follows: 3½ h.p. Clément twin engine, 60 by 76 mm.; two-speed gear, with ratios of 3½ and 6½ to 1; ¾ in. twisted hide belt; 2 in. Palmer tyres; and three brakes, viz., rear rim and coaster and front rim. The lady sat at the back, and the long belt was kept among the bottom tubes of the frame by a couple of jockey pulleys, one above and one below the belt. He had troubles with the details of the machine, especially with the gear, ignition, and lack of proper mudguard protection, but he says he found the tandem type had great advantages, viz.:

1. Entire freedom from side-slip.

2. General economy, especially in tyre wear and petrol.
3. Great comfort
4. Speed uphill.



Herr Reigner, who gained second place in a reliability trial at Belzig, near Berlin, on his Magnet Bicycle with rear tandem attachment.

Tandem Motor Bicycles.—

So for 1905 he made several alterations to the machine. The back pair of pedals and cranks were removed, and the pedal gear ratio was lowered to compensate for the loss of the passenger's assistance. This allowed good footboards to be fitted, and also a complete belt guard. Simultaneously the jockey pulleys were taken off, and the belt drive made direct. The passenger was now completely protected from mud. Her comfort was then further secured by substituting a Brooks spring seat for the cycle saddle, and adding a driving apron. Mechanical alterations consisted of a Rover automatic carburetter, a big rubber belt, the two-speed gear was scrapped as hopeless, and a new solid flywheel with fixed pulley, giving a gear of $5\frac{1}{4}$ to 1, turned out of solid steel. The transformation had extraordinary effects. The machine became infinitely more powerful up hills, overheating came to an end, the engine proved very flexible, and the passenger kept as clean as in a car, and enjoyed almost equal comfort. The sole defects were the absence of a two-speed gear for restarting on gradients, and rapid wear of the engine pulley.

An Inexpensive Passenger Machine.

So for 1906 further alterations were made, chief amongst which was the fitting of a Phoenix two-speed gear in the rear hub. Thanks to the small twin-cylinder engine, the big flywheel, and the long belt, all "consciousness of motor propulsion has been removed." The machine, always steady on grease, will now take any hill in England, and can crawl or restart in any traffic on the low gear. "The Phoenix two-speed gear has been a sealed box, into which I pump oil as directed, but it has required no other attention whatever during its three seasons of hard work." In touring off the main track, it is claimed to be superior to any other type of motor; it fears no hill, and can always find a clean, smooth track. Conversation is easy, and there is no fear of an upset if a tyre bursts, even though the deflation occurs on grease.

I can claim very little experience of tandem motor bicycles; indeed, barring short spins on old pattern Phoenix and Ormonde tandems, I am a novice with such things. But sundry deductions are inevitable from the above experiences. The first is that in a tandem we have a passenger machine which can be maintained for practically no more money than a solo machine. This fact alone, added to a low first cost, should make the vehicle attractive to those motor cyclists who, when they first take a girl in tow, cannot really afford the more expensive types of passenger mount. This is the cheapest of all to buy and to run.

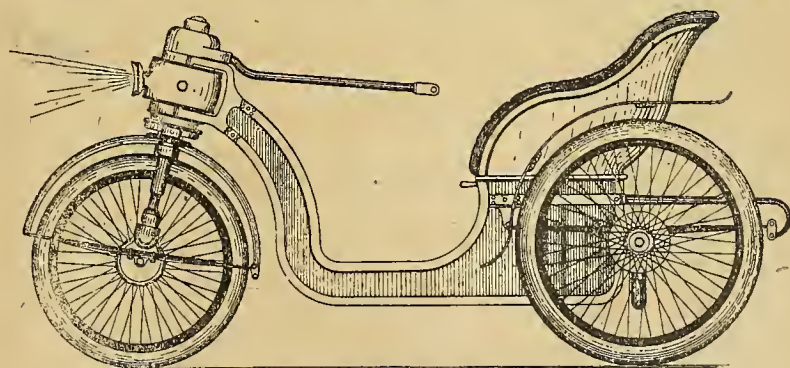
Secondly, the tandem has been judged on the strength of a few obsolete types; as far as I know, not one machine has ever been turned out with a modern engine and modern magneto ignition. The frequent occurrence of detail troubles (especially in the ignition) which damned the early samples would be unknown on a 1909 tandem. Consequently I give a sample specification as an illustration of what could now be done in this line: Ladyback frame, 5 h.p. engine, magneto, spring forks, 1 in. belt, handle-bar controlled carburetter, $2\frac{1}{4}$ in. tyres, two belt rim brakes and one wheel rim brake, large tanks, mudguards, and footboards, with two-speed gear in rear hub. This machine would cost no more to run than a 5 h.p. twin solo, except that it would consume an extra quart of petrol every hundred miles, and that the rear tyre would last some 750 miles less. According to X., it would not side-slip, and would be free from vibration. It would climb absolutely any hill in England, and would travel a great deal faster than most ladies require. It would also be delightful to handle. The belt would wear as long as on a single, owing to its greater length, and minor troubles would only occur at the rate of about one stop per 1,000 miles. This is therefore a machine fraught with great possibilities for any rider who can steer a push-tandem, or cares first to learn to do so. A preparatory apprenticeship to the pedal tandem is certainly an essential, but such apprenticeship need not exceed five hundred miles; many men would need less.

AN ELECTRICALLY-DRIVEN TRICYCLE.

A WONDERFULLY neat tricycle shown in the accompanying line sketch was recently placed on the German market by Mr. Victor Harborn. Outwardly it resembles the Phana-mobile and the Cyclonette tricycles, which had engines over the front wheel, and steered through the medium of a tiller; but in the case of the Harborn tricycle electricity, and not petrol, furnishes the driving energy. The arrangement of the electro-motor and driving mechanism formed the subject of a recent patent (see *The Motor Cycle* of October 21st, 1908, page 832). The drive is transmitted from the motor to the wheel by means of a telescopic, universally jointed spindle, through bevel gearing. The frame is supported on laminated springs, and it is to allow of relative motion between the wheel and electro-motor that the driving spindle is made telescopic.

The tricycle will carry two persons over a distance of fifty-five miles on one charge, and its top speed is seventeen to eighteen miles per hour. The accumulators are carried under the seat, and can easily be taken out. The chassis is of sheet steel. A

hand lever and a foot brake suffice for the control, including travelling backwards and forwards and



braking. The type of vehicle illustrated is very popular in Germany, not the least advantage of the tricycle being its great stability in grease.

THREE SPECIAL SHOW ISSUES of "The Motor Cycle" will be published on the following dates : November 18th and 25th, and December 2nd.

LETTERS TO THE EDITOR.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Acetylene Gas Generators.

[3640.]—Replying to M. P. H. Meer's letter [3593] in *The Motor Cycle* of October 7th, I was a sufferer from the same trouble as himself some three years ago, and put the trouble down to the burner being slightly choked with soot, as the gas could not pass through and thus caused it to force its way through the water. The only satisfactory way I found out was to turn water full off as soon as the gas began to bubble through, the water thus causing the gas to take its proper course; then to light the lamp and turn water on again, and my trouble was ended.

T. W. VANN.

[3641.]—I note several correspondents are complaining about the Autoclipse generators. I had also a very unsatisfactory experience, but on reasoning the matter out I found the remedy very simple, viz.:

When gas is required the tap on top of generator must only be turned on a very little, as although it controls the gas it also regulates the amount of water which rises amongst the carbide, and on no account must it be turned on full, because if this is done the water immediately rushes up and generates more gas than the burner will pass, and the pressure becomes too great for the water to hold it in.

The whole secret is to open the tap very gradually until the required light is obtained. If these instructions are complied with the lamp can be lit as often as required until the carbide is finished. Provided the tap is turned full off there is no danger of the carbide being used up, and it is quite unnecessary to empty out the water when not in use.

I have found coated carbide as used in motor car lamps to be the most suitable for this type of generator. I trust readers will find this a satisfactory explanation. J.F.L.

Clutch Adjustment.

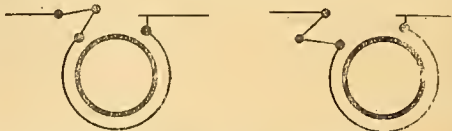
[3642.]—I notice there is a considerable amount of correspondence about the Roc clutch, and as a user of it I should like to give my experiences.

I bought a Roc machine early this year, and have now done about 2,000 miles on it, including a short tour. I have so far found the clutch to do all that is claimed for it, and that any slip can be taken up by the adjustment. At the left side of the hub there is a small rod controlling the high gear. By slacking away the small nut on this, and then unscrewing the rod about one and a half revolutions (sometimes less) I have always been able to stop any slip. A handy tip when this adjustment is nearly used up is to slip a small steel ball between the end of the rod and the cup-shaped end of the lever. This will prolong its range. A little oil does not seem to affect it, but on deliberately oiling, it slipped badly for a couple of miles and then settled to its grip again.

My low gear has failed to grip twice for the following reason: The links holding the loose end of the band reversed whilst riding. Not knowing this, I proceeded to take up the band about 2in., and was astonished to find it would not grip the drum even then. On finding out the cause, I returned the links to their proper positions, and had a stop fitted to the pedal. As this does not come too far back, the links could not pass the dead centre, and this stopped the trouble.

Perhaps this is "Enquirer's" trouble. I may say that I have no interest whatever in the Roc machine, except that of a satisfied user.

C. W. STILLMAN.



Sidecars and Side-slip.

[3643.]—I read Mr. B. H. Davies's article on sidecars in your issue of the 21st ult. with great interest, and welcome his appreciation of the Castor wheel sidecar all the more on account of the very outspoken way in which he writes of this and the other types. I should like, however, to point out that his opinion on the liability of the castor wheel to side-slip is in direct opposition to that of correspondents in *The Motor Cycle*. I give below the writers' names and dates upon which their letters appeared, and anyone interested can refer to the files: Mr. H. E. Hill, March 27th, 1907; Mr. Eric Longden, January 29th, 1908; Mr. W. C. Smart, June 3rd, 1908; Mr. J. W. C. Coulter, July 8th, 1908; Mr. W. B. Gibb, September 16th, 1908.

The above correspondents all refer to the Castor wheel machine, and confirm the opinions of others who have written privately.

May I also reassure Mr. Davies on the question of the strength of the frame? The makers assure me positively that they "have not had any failures whatever with the webbed lug referred to."

DOUGLAS LEECHMAN.

The Knight Slide Valve Engine.

[3644.]—I have been looking for weeks to see something about the Knight engine in *The Motor Cycle*. A week or two ago "Ixion" did have a little to say about it, but the most important part, I think, as far as cyclists or tricarists are concerned, is absence of vibration, and that is not mentioned by him. I suppose water cooling is absolutely necessary? This is no drawback to a tricycle or tricar or quad, and it seems to me that if all that is stated about the engine be true, an entirely new field is opened for any of the above owing to absence of vibration. I wish you would give us a good article on it. I am simply writing this letter to get someone to start the subject. I am a reader of *The Motor Cycle* from No. 1. BL 60.

[We have been waiting to hear something definite ourselves regarding the use of the above engine on motor cycles, and last week a letter from the Minerva Co. in these pages showed that they are considering it for motor cycles. This week an article will be found on pages 853-6, which deals with the mechanism of this revolutionary type of internal combustion motor.—Ed.]

Running on Benzol.

[3645.]—With reference to the discussion regarding running on benzol, I should like to say that I consider this fuel to be very good indeed. Since using it on a 1½ h.p. F.N., the power developed and speed attained have increased marvelously. The bicycle is geared 6¼ to 1 and driven by a flat belt, and it will attain 28 m.p.h. on the level. As for hill-climbing, it has climbed Shap from Carlisle without pedal assistance. The machine weighs about 110 lbs., rider and equipment about 150 lbs. The only alteration I made was to put a small weight on the float, as I found that, when adjusted for petrol, it did not start very easily with benzol, on account of the greater s.g. of the latter lifting the float and closing the valve sooner than was the case with petrol. By the way, I commend this tip to those gentlemen who recently discussed flooding of F.N. carburetters, only in this case the weight should be put on the needle spindle. About ½in. of No. 22 gauge lead or tin wire does the trick, and has the further merit of being easily adjusted.

Benzol can also be used with a surface carburetter, while in a spray, properly adjusted, it starts as easily as petrol in the coldest weather.

F.N. ENTHUSIAST.

Magnetising of Watches.

[3646].—I have had a rather curious experience with my watch, and should like to know if anyone else has been troubled the same way. About three weeks ago I sent the watch to be cleaned by the jewellers. Upon returning it they charged for cleaning and also demagnetising. As I have not been near any electric plant the only explanation I can offer for the watch becoming magnetic is that the motor cycle I ride has high tension magneto ignition, and as I have switch on the handle-bar to switch off the current, I almost invariably use this instead of raising the exhaust valve. I take it the current must go somewhere, and as the cycle is theoretically insulated from the ground by the rubber tyres, probably the current passes through one's body, and thus the watch might become magnetised. I am not sufficiently well up in electricity to know if this is correct, but I purpose getting a small rubber bag to carry my watch in for the future.

J. HUTCHINSON.

Passenger Work by Two-speed Gear and Otherwise.

[3647].—Your contributor's letter 3635 is full of significance, especially his remarks on change speed gears for passenger service. The importance of the sidecar question makes it expedient that prospective users of these handy little vehicles should better understand the utility and necessity of such improvements as, *e.g.*, wide belts (not less than lin.), reinforced frames (preferably duplex), strong spring forks of a design that eliminates any suspicion of lateral play, powerful and efficient brakes, the disposition of seats of a nature to approximate a sociable level, and the incorporation of an efficient clutch with two-speed gear. It is noticeable that conservatism and that habit which follows second nature has often been a barrier to a speedy conversion. This is exemplified, for instance, in the geared hand-starting clutch and speed gear refinements.

It is pleasing to realise the satisfaction which the movement, so steadfastly advocated in previous letters, has been testified to by innumerable riders of popular makes, and if I have any regret, it is to have been denied the opportunity to publicly demonstrate the gears and the simple manner of their adjustment—an invitation which has remained without response. I take it for granted that silence on the part of those concerned must be taken as proof that provision was not lacking for the maintenance and adjustment to the Roc device.

ARTHUR W. WALL.

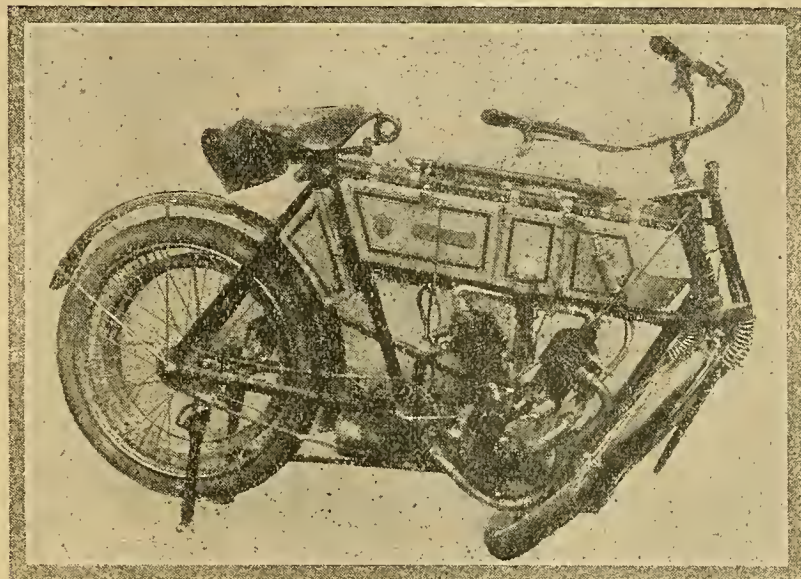
A Problem to be Solved.

[3648].—Some time ago I gave you particulars with regard to a peculiar phenomenon in connection with my F.N. motor bicycle. This matter has been quite thoroughly discussed in *The Motor Cycle*, and many have been the theories put forward to account for the observed phenomenon. I have been studying this matter quite closely myself, and I believe that I have at last arrived at the solution of the problem.

When a F.N. four-cylinder motor bicycle is new it is unusually stiff. The gears are set up fairly tight, and the internal friction of the engine is considerable. After the machine has been run over 1,000 miles, and during this time properly oiled, the cylinder walls and piston rings become polished to the highest degree, and the transmission gears work much more freely. In other words, the internal friction of the engine and transmission has been reduced materially. It is only when the machine is in this condition that I have observed the abnormal phenomenon already described. Furthermore, my investigations have proved that, in order to obtain the abnormal state to which I have called attention, it is not necessary to have good compression in the cylinders when the engine is turned over slowly. I have found that the fastest F.N.'s are those which are not particularly good hill-climbers, on account of the fact that compression is poor. And yet these machines, after the engine obtains a certain speed, are very fast indeed. An accident led me to discover what I believe is the cause of the abnormal condition.

In order to increase the speed of my motor cycle I put compression plates on top of the pistons. I found that there were certain disadvantages to this practice and removed the compression plates, but instead of taking out the screws which held them to the top of the piston and brazing up the holes, I set the screws firmly, thinking that this would make the piston sufficiently compression tight. After assembling

the engine, and after using the machine for perhaps fifty miles, these screws evidently became loose, so loose, in fact, that when the machine was on the stand and I slowly revolved the rear wheel, it was difficult to detect that there was any compression at all in two of the cylinders. When I ran the machine on the road the two cylinders which had good compression developed normal power, while the two cylinders in which the screws were loose developed a very small amount of power, owing to the fact that the charge was blowing through the orifice. As I happened to be appointed courier on the Vanderbilt racecourse and needed to use the machine immediately, I was forced to ride it in the above-mentioned condition, that is, with two of the cylinders defective in the compression. What was my surprise to find after the engine heated up, and certainly when I was running down grade with the throttle wide open and spark advanced, I obtained very easily the abnormal condition, the satisfactory explanation of which has proved so elusive. I made several experiments and found that on the level I could not obtain a speed of much over thirty-five miles an hour. In other words, my two cylinders were in good working condition, and the machine received very little help from the two cylinders with defective compression. I found, however, after the engine reached a certain rotative speed, which could most easily be



A Johannesburg contractor sends home the above photograph, showing his 5 1/2 h.p. New Comet after colliding with a car. It will be noticed that only the forks are bent, no other part being damaged; in fact, the machine was run on the stand in the position as photographed. It speaks well for the material used by the maker, Mr. A. H. Haden, of Princip St., Birmingham.

obtained by running on full throttle down a grade, that the two cylinders with defective compression suddenly developed their normal power, and seemed to have as much power, in fact, as the two cylinders wherein the compression was good. This gave me an insight into the abnormal condition which my motor attains at times. I believe that when in this abnormal condition the compression of the motor is practically perfect, owing to the fact that *the engine has reached such a high rotative speed that the time element is not present which will permit the discharge leaking to any extent past the piston rings or valves.* In other words, at very high speed there is not sufficient time during the working stroke to allow an appreciable amount of the gases to escape past the valves or rings. In spite of the fact that the screws above mentioned were set comparatively loose in the cylinders, the leakage through the holes at the top of the pistons when the engine rotated at a high speed was comparatively small owing to the lack of this time element above mentioned. I believe, when my motor is in the abnormal condition which I have described, that the compression is unusually good owing to the fact that, on account of the high speed of the engine, the necessary time element or leakage is not present. I should like to hear what your readers have to say in response to my explanation of this phenomenon.

New York.

EARLE L. OVINGTON.

Touring in Norway.

[3649].—I was much interested in the photograph sent by Mr. C. H. Stephenson from Bergen, and the statement made by him that he had never seen a motor cycle in Norway (*The Motor Cycle*, September 23rd), and the more so that

I have just concluded a tour which included Christiania, over the Valdres Pass (3,600 metres) to Bergen. That is as far as the road went.

Our tour, after taking in the North of England, started from Calais, and included France, Belgium, Holland, Germany (Oldenberg and Schleswig-Holstein), Denmark, Sweden, and Norway. During the trip my machine was never in a repair shop, the cylinder has not been removed from the engine, nor have I broken a valve. All the distance except boat crossings was done on my motor cycle, and the machine never saw the inside of a railway van until we reached Voss, Norway, where the road ended seventy kilos. from Bergen. I can take the machine now as it is and do close to forty miles per hour on it on a straight stretch, almost as good as when I started. Between Christiania and Maristuen—the top of the pass—there was only one hill I could not take without pedalling, and that was so steep the pedals were of no assistance at all, and there was nothing to do but push.

As Mr. Stephenson says, the roads are good but narrow. Indeed, the roads show some of the finest engineering in the world, and the beauty of a tour in Norway—if you can find petrol—is that you can't get lost. Start on a road in the morning and ride all day and you've met no cross-road or fork.

It is inconvenient that there are no fences to the fields, for the horses hearing the strange noise of the motor exhaust invariably run on to the road in front, and all you can do is to drive them slowly before you till you meet someone who can drive them past you.

Our machines are of American manufacture, $3\frac{1}{2}$ h.p., m.o.v., chain drive with very effective slip sprocket, handlebar control (no Bowden wire), double float multiple jet carburetter, 28in. wheels, $2\frac{1}{2}$ in. G and J. tyres, spring forks of course, ignition by dry battery and three cells (costing about 3s.), and last about 2,500 miles. The engine is incorporated as part of the frame. The name of the motor cycle is the Reading Standard, known as the "R.S.," and is, I believe, the most successful of American motor cycles.

From Norway we returned to London (there were four motor cyclists in the party), and are now returning from Scotland to Southampton to sail for America.

By the way, I might say that for a greater part of the trip my wife has ridden with me on a "back seat" attachment (sidecars won't do on American roads), thus doubling the weight, but to pedal on a hill was a rare happening.

In conclusion, while I am rather proud of the way the machine has done the work and faithfully, yet I must admit a great deal for your motor cycles here in England. In the first place, you have beaten us in comfort, for the frames are much lower and handier. You have larger and better cooling surfaces, though my engine has never overheated when my carburetter was kept right. I say "better" cooling surfaces with impunity, for in most American machines the cylinder flanges are turned, not cast. We have run away from many foreign machines, both single and twin, but we haven't yet run away from a Triumph, either on level or hill, and don't expect to. A firm that can build a machine like the Triumph or the Matchless possesses a quality of gray matter unusual and a perseverance worthy of a sound reward.

JACK KNEIFF.

Twin Engine Improvements.

[3650.]—Will you permit me to say a word or two in your valuable columns as regards twin engines?

"Enthusiast" has made some very true remarks in his "suggested improvements" about this type of engine, and the defects found in its present day form. The bearings on the average twin are certainly inadequate throughout, and I may pick out the big ends as extremely unsatisfactory. There being two of these side by side on a crank pin that is usually no longer or very little longer than in a single, they are much too short, also their centres are not in line with the centres of their gudgeon pin bushes, which cannot be good practice, as there is a tendency to jam. These objections can easily be done away with by slightly widening the crank case, which is no great matter, and forking one connecting rod to pass on either side of the other and giving it two bushes. This method brings the big end bushes central with those of the gudgeon pins, as anyone can see for himself. I think, too, that large well-designed ball bearings wherever possible would be ideal, giving a beautiful smoothness and flexibility. More care should be taken in balancing the

pistons, as this is a very easy job, and means so much in even running and power. Pistons should be as light as possible, and the greatest care used in ringing them and in fastening the gudgeon pins, which, in some motor cycles twins, or singles, are a perpetual source of worry. Rim fly wheels should be the rule, as these economise the width of the crank case, and enable the crank pin to be locked by a hexagon on each end, which is the best method. I am glad to say this is usual, as I have had several loose crank pins in cases where the heads are countersunk and fastened by four or five small screws.

Now we come to the most important point. Mechanical inlet valves are really indispensable. I have had experience with a.o.i.v. twins and m.o.i.v. twins, and there is comparison between them. m.o.v. is obviously the thing, and it is most annoying to see the leading makers year after year bring out a.o.v. twins, which, although no doubt, when well tuned, are very good, are not, and cannot be, as fully efficient as they would be with m.o.v. Single-cylinder motor cycles, all motor cars, and the more go-ahead V twins have all abandoned the idea of a.o.v. Why then does the average maker of twins stick to it? It is as essential to have m.o.v. in a V twin as in anything, and more so than in a single cylinder machine. I need not state the many advantages of m.o.v., but if anyone replies to this, and asks them, I will. Meantime I hope to see automatics abandoned very soon.

"Enthusiast" favours a 5 h.p. (1) twin, 82 x 90, with a low compression. Of course, even with this low compression, it would be a good 7-8 h.p. machine, but I agree with him about it as an almost ideal machine.

There is one point much overlooked in twins, and in many singles, namely, good radiating fins. A $3\frac{1}{2}$ h.p. Triumph is above all else in this respect. Therefore, let our twin have fins as big and as numerous (especially over the valves), as a Triumph, and let them be as cleanly cast.

Many other points might be mentioned about design, but finally, let me say that the most satisfactory motor cycle to be obtained would be a good big twin as specified. Even in its present imperfection it is a far smoother machine, a better climber, and picks up much better than a single. M.O.I.V.

SUMMARY OF CORRESPONDENCE.

Mr. Chas. S. Lake, A.M.I.Mech.E., writes that on arrival at Doncaster one afternoon recently, after riding from London, he found that the front spindle of his 5 h.p. twin motor bicycle was broken. He called at two garages in the town, but was informed that they only catered for car owners. Eventually he reached the Racecourse Garage, owned and managed by Mr. W. M. Corcutt. Here he explained the difficulty, and although Mr. Corcutt was exceedingly busy, and had some repairs to a car to complete before the morning, he had the machine fetched from an hotel, and a new spindle made and fitted by seven o'clock the next morning.

A. W. Gamage, Ltd., writing on the subject of "Sparking Plugs and Compression Ratio," say: "We should like to inform Mr. Raymond Crawshaw, through your columns, that we think if he tries the Amia plug (which is specially made for high compression engines) he will find that his troubles are at an end. In fact, if he should buy one of these plugs from us and it went wrong we should be willing to refund the cost of it." Writing on the same subject, "O 2934" says he has found the Bosch magneto plug the most satisfactory for a high compression engine.

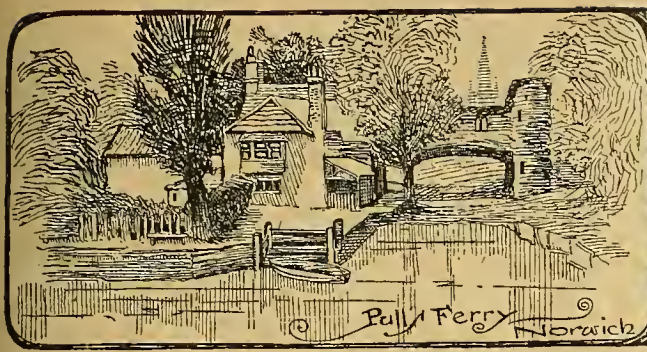
EXPERIENCES WANTED.

"Devonshire" would like readers' experiences of the Lowen two-wheeled sidecar, also the Nala two-speed hub with belt transmission.

"All Weather" would like readers' experiences with the 1908 four-cylinder F.N., particularly with regard to facility of starting on hills, and behaviour of carburetter.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.



Pull Ferry Norwich

Occasional Comments By Ixion

Some Yankee Notions.

I am interested to notice from the American cycle and motor journals that makers in the States are no slavish copyists. For instance, I find details of a twin-cylinder machine fitted with a separate miniature magneto for each cylinder, the idea probably being that when an ordinary type magneto has worn a little it is difficult for a novice to get the timing right in both cylinders.

Belt Fasteners.

I have now had time to test a number of belt fasteners, most of which are designed to alter the belt length when the loose flange of an adjustable pulley is screwed in or out. The simplest adjustable fastener I have tried is the Advance, consisting of an unequal-sided triangle, any side of which may act as the connecting link at will; with this the belt length is altered without removing the belt or even taking off one's glove. It is applicable to nearly every machine, but if there is only narrow clearance between belt and cranking of rear forks or between pulley and crank case on outside flywheel machines the projecting triangle may foul when the shortest side is acting as the connecting link. Then I have received two or three fasteners of standard pattern with loose hooks of different lengths; all of these work perfectly till worn out, but necessitate recourse to the vest pocket for a spare hook, and also require the removal of the belt. The Matchless adjustable fastener, sold by Collier Bros. and patented by Mr. Tassell, is a more complicated affair, but a first-rate article. Altogether 1908 has produced a crop of first-rate belt fasteners.

Valve Guide Removal.

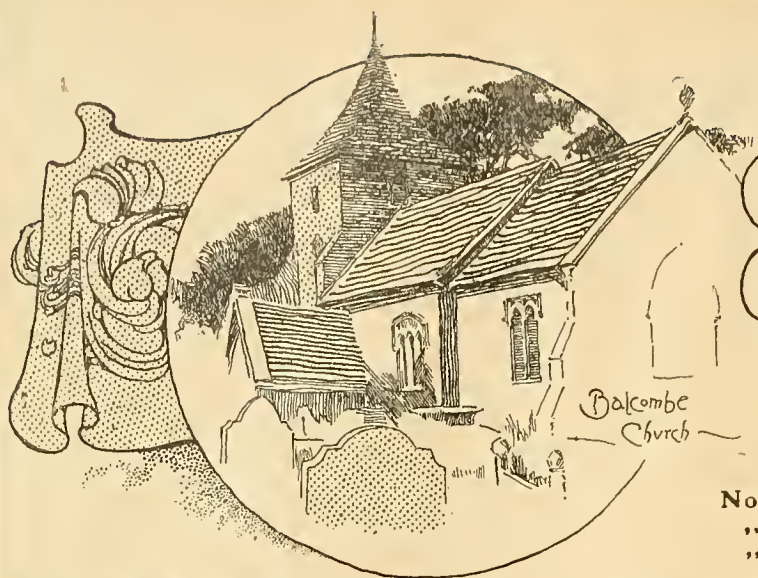
I encountered a trouble the other day which was never met with in the early days, and of which several instances have come under my notice in this period of light engines. An exhaust valve buckled so badly that it could not be removed from the engine without unscrewing the valve guide. Many a happy-go-lucky motor cyclist has probably never examined the guide for his exhaust valve stem, which in some cases is screwed into the under side of his projecting valve box casting. On many engines it is impossible to remove this without first dismounting the cylinder, and even then it may be an arduous task, as the purchase provided for pliers or spanner is slight, the part exceedingly brittle, and after a thousand miles of running it gets very tightly bedded in its thread. The valve was so bent it could not be extracted through the valve cap hole in any way, and I soon saw I should have to unscrew the guide before the refractory part could be freed. The head of the guide was cast circular, with punch-holes drilled in it, and a few preliminary taps with a screw-hammer told me I should have to use something as ponderous as a coal-hammer to start it,

and that there was grave danger of a heavy blow cracking the guide and leaving me stranded by the roadside. Luckily, my mount had a cylinder that could be lifted off in six or seven minutes, and so off it came. Then I fished about in my kit till I unearthed a pin cone-key belonging to another machine, which luckily fitted the punch-holes exactly. I rained light tapping blows on the end of this cone-key as smartly as possible, and at last saw the abominable thing turn ever so slightly, after which a pair of gas pliers soon had it out. As it unscrewed the valve stem was pushed up through it, and finally drawn out through the cap hole. But this simple mischance delayed me threequarters of an hour. The buckling of the valve was due to the descent of a broken sparking plug porcelain into the cylinder.

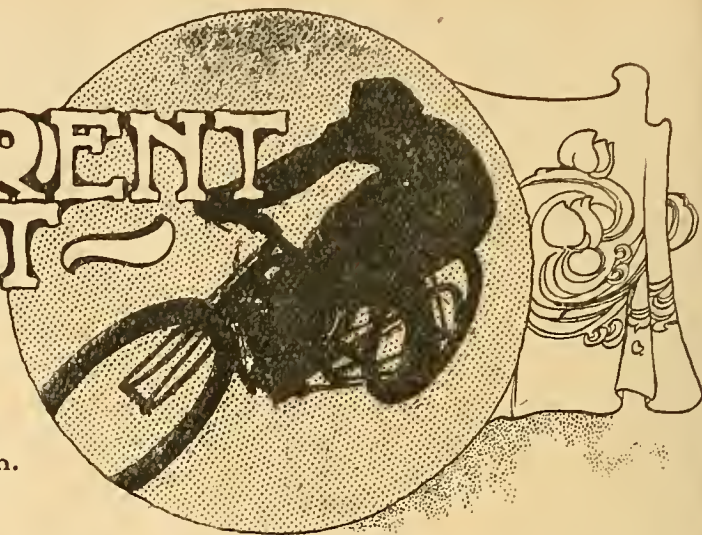
A New Motor Cycle Magneto.

I was permitted last week to inspect a new magneto, samples of which are under test and consideration for next year by several leading motor cycle manufacturers. It has been designed throughout with a view to motor cycle use, and is admirably adapted for it. Its most interesting feature is the manner in which it has been made vibration-proof. I suspect its makers are in error in imagining that it is a common thing for bits of our magnetos to drop off and be lost, for I do not remember ever losing any portion of my magneto through vibration; and, indeed, I do not quite see what part could drop off without instantly stopping the engine, so that we should be sure to pull up quickly and find the missing piece. However, the body of this magneto is a single, solid casting, and the loose parts must be assembled in a fixed order, and when they are in place the contact-breaker cover slips on by a vibration-proof attachment, and solidly locks the whole together. If it be detached, the whole of the interior mechanism, contrariwise, can instantly be pulled out in one piece for examination.

Its detail improvements are very attractive. For instance, none of us liked the old fibre cams, with their marked liability to wear. At the same time, we dreaded to ask for steel cams, lest the bell crank should wear instead, and cause more serious trouble still. Well, on this magneto we have a steel cam, but, in addition, the heel of the bell crank is safeguarded from wear by the fact that it has a large steel ball threequarters sunk in it, which takes all the friction. In addition, the contact-breaker is ingeniously contrived so that the break of the points can under no circumstances exceed the correct maximum, while substantial means of changing or adjusting are provided. It is a very taking little magneto indeed. Incidentally, my eyes were opened to the numbers of motor cycles that are being made; I saw an order for five hundred magnetos from a firm whom I should not have credited with an annual output of half that number.



CURRENT CHAT



TIME TO LIGHT LAMPS

Nov. 4th ... 5.28 p.m.
 " 7th ... 5.23 "
 " 11th ... 5.17 "

Speed Limits in Hertfordshire.

Ten miles an hour speed limits will shortly be fixed in Redbourne, Markyate, Royston, Baldock, and Barnet. At a Local Government Board inquiry into an application for a ten miles limit by the above councils the Motor Union and the North Herts A.C. were represented by the secretary of the Motor Union. An application regarding Harpenden was opposed by the Union.

Motor Cycle Race at Toronto, Canada.

A big Marathon Race starting from the Exhibition Grounds, Toronto, was held on the 10th October, and during the time the competitors were away from the grounds a five miles motor cycle race for the Championship of Canada was run off, Maddigan (twin-cylinder Brown) winning by 200 yards, a rider of a twin-cylinder Curtis racer being second, twin Minerva third, and four-cylinder F.N. fourth.

State of the South Coast Roads.

A correspondent who rode from Portsmouth to Dover one day last week reports that the roads from Portsmouth to Chichester were fair but lumpy. Chichester to Arundel good. Arundel to Brighton very lumpy in places, and some very good stretches. Brighton to Lewes very good. Lewes

to Hastings good but loose in places. Over the Romney Marsh the roads were very good until near Folkestone, where they were lumpy, and very lumpy between Hythe and Folkestone. The remainder were in excellent condition, but owing to the rain of course somewhat muddy and greasy, and there was a lot of water on the roads in Romney Marsh.

Middlesex to Surrey via Kew.

Of the many bridges spanning the Thames connecting Middlesex with Surrey, undoubtedly the most free from traffic—in fact, at times it is totally deserted—is Kew Bridge, the finest and latest structure in the London suburbs. It is very wide, wood paved, and free from tramlines and motor 'buses, and furnishes a convenient route for motor cyclists who wish to reach the Portsmouth Road *via* Hammersmith. Motor cyclists, however, would do well to approach the bridge cautiously on the Middlesex side, there being a network of tramlines connecting with Brentford which are very treacherous on a wet day.

Successful Display of Fire Brigade Tricar.

An interesting public display of the novel motor tricar especially purchased by the Beckenham Fire Committee for

first aid purposes at fires was given last week in the Council's yard in the presence of Mr. H. S. Gear, the superintendent of the fire station, members of the Urban and Fire Committee, and other fire brigade officials. A wooden structure composed of inflammable materials was constructed, the alarm of fire given by a lady, and in thirty seconds the machine was started up at the station and driven up, the firemen then demonstrating the extinguishers, firemen's ladders, lines, etc., carried on the machine.

Police Traps.

The two miles trap on the Lincoln to Newark Road (about four miles out of Lincoln) is still in operation.

Four motor cyclists were fined at Stratford on the 24th ult. for excessive speeding over a measured furlong in Woodford Road, Wanstead.

We are advised by a correspondent that there is a police trap through Bromley. Exactly whereabouts in the town is not stated, and motorists passing through that district are warned to drive carefully.

Another on Watling Street, between Redgate and Atherstone.

A police trap is also working at a point about five miles on the Arundel side of Worthing.



Start of a motor cycle race on the Exhibition Track, Toronto, Canada, in which Brown motor cycles finished first, third, fourth, fifth, and sixth. The hills in the background represent Sebastapol, and hide Lake Ontario from view.

Address Wanted.

Will J. W. Chalfont kindly send the Editor his present address?

Show Issues of "The Motor Cycle."

Three special Stanley Show issues of *The Motor Cycle* will be published on the following dates: November 18th and 25th and December 2nd.

Manchester Motor Show.

The annual exhibition promoted by the Manchester and District Motor Trades' Association, Ltd., will include tricars, motor bicycles, and accessories. The exhibition will open on February 1st next and close on the 27th. All communications respecting this show should be sent to the secretary, Mr. W. H. Wheeler, Palatine Hotel, Victoria Street, Manchester.

The Last Hill-climb of the Year.

The last motor cycle hill-climb of the year was organised by the Edinburgh Motor Cycling Club, and no less than fifty-eight entries were received, which, it is believed, constitutes a record entry for Scotland. The organisers found a tough ascent in the Polton-Loanhead hill, which has gradients of 1 in 4 and several hairpin bends in addition. Forty-four riders, chiefly private owners, attempted the climb, but only half that number succeeded in reaching the top, which again drives home the necessity for a change-speed gear in winding climbs.

What Hastings Thinks.

A postcard from Mr. T. K. Hastings, of New York, says: "Best wishes from a 'Pro.' my penalty for competing—with the only sportsmen in the motor cycle world—my English friends."

A Stiff Climb.

A correspondent writes that it would be interesting to hear if Constitution Hill, Chatham, has been climbed by any rider of a motor cycle. The gradient is said to be 1 in 4½, it is a straight ascent, but on account of a right-angled bend at the foot it can only be taken from a stationary start. A successful climb on a motor cycle would probably call for a two-speed gear.

A Welsh Glenfinnart.

Mr. Hugh Gibson writes that he discovered a few weeks ago a Welsh Glenfinnart a few miles from Beddgelert. The climb lies between Pont Aberglaslyn, Rhyd, and Tan-y-Bwlch going to Maentwrog, and he feels positive no single geared motor bicycle could tackle the gradient owing to the hairpin turns and bad surface. Mr. Gibson climbed the hill without dismounting on his 5 h.p. two-speed Vindex, but used the low gear more than half the way up. He adds: "For grand scenery, hill-climbing, and plenty of fast stretches the following route will be hard to beat: Wrexham, Llangollen, Bettws-y-coed, Capel Curig, Beddgelert, Pont Aberglaslyn, Maentwrog, Festiniog, Bala, Corwen, Llandegla, Wrexham—120 miles."

Smell of Motors made him Dizzy.

"It's not drink. As soon as I get the smell from the motor cars I am drunk for a week after it. The smell is enough to kill me on the road," was the most amusing reply made by John Robert Lyall when he appeared before the West Hartlepool justices on Friday on a charge of having been drunk and disorderly. "Have you been smelling motor cars this morning?" enquired the Chairman (Mr. W. R. Owen), the remark no doubt being prompted by the defendant's volubility. "No, sir, thank God. I hope I shall never smell any more." The Magistrates' Clerk (Mr. Belk): "I have heard some objections to motor cars, but this is the latest." Defendant was fined 5s. and costs, and in reply to a charge of assaulting P.C. Corner, he said: "You can do what you like with me. I am sick of life and motor cars." He was sent to prison for a month.

220 miles 529 yards, and Martin's 244 miles 1,650 yards. At Celtic Park, Glasgow, this year, Martin beat the Scottish flying mile, doing 66s. on a four-lap track, and lowered the three miles record by 11½s.

The Hour Record Machine.

The actual 7 h.p. motor cycle on which C. R. Collier created the new world's hour record of over seventy miles will be exhibited at the Stanley

The Six Hours Record.

We hear that an attack is shortly to be made on the six hours motor cycle track record held by H. Martin. One attempt to capture the record was made last week by H. C. Goodswin, but after twenty-two miles the back tyre burst, bringing the rider down rather heavily. He escaped with a shaking, and the machine was not damaged.

A Wise Policy.

In the last issue we referred to the fact that the Triumph Cycle Co., Ltd., have this year increased the dividend on their ordinary shares from five per cent. to seven and a half per cent. The balance sheet itself has now made its appearance and shows a nett profit of £22,048 after providing for depreciation, directors' fees, debenture interest, etc. We should like to take this opportunity of congratulating the Triumph Co. not only upon the results of the year's trading, but on account of the fact that they are only distributing the sum of £8,375 out of this profit in actual dividends. The directors of the company evidently intend that the foundations of the firm shall be absolutely secure, and if more companies adopted this conserva-

tive policy in the distribution of dividends until such items as goodwill have been entirely eliminated, they would have less difficulty in weathering the periods of bad trade when they occur.

Hill-climbing.

A Birmingham motor cyclist (A 4726) writes that he and a friend rode over to a hill named Farlow Bank, near Cleobury Mortimer, Salop, a month or two ago, and seeing some discussion on hill-climbing he emphatically states that the rise is unclimbable on a single-g geared motor bicycle. He even goes further and states the hill is too much for the majority of two-speeders. It is estimated at half a mile long, with very severe gradients and the usual hairpin bend followed by a stretch of at least 1 in 4 with loose surface. Our correspondent has mounted Birdlip and Sun-rising hills on his machine with ease, but cannot get anywhere near the top of Farlow Bank.

THE NEW PENNY EDITION OF "THE AUTOCAR."

Readers of "The Motor Cycle" who are interested in motor cars are reminded of the new Penny Edition of "The Autocar," now obtainable of all Newsagents and Booksellers every Friday Morning.

FUTURE EVENTS.

- Nov. 5—Paper before members of the Auto Cycle Union, "Tricars—Dead, Living, and Unborn," by Mr. Basil H. Davies, at 112, Piccadilly, W., 8 p.m.
- " 6—Stanley C.C. Annual Smoking Concert.
- " 13-21—OLYMPIA AUTOMOBILE EXHIBITION.
- " 18—Motor Union Annual Dinner at the Hotel Great Central, London.
- " 20-28—THIRTY-SECOND ANNUAL STANLEY SHOW, at the Agricultural Hall, Islington.
- " 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.
- Dec. 16—Motor Union General Committee Meeting.
- Jan. 16-23—Motor Cycle Show at Madison Square Garden, New York.

Martin's Successes in 1908.

Harry Martin was the first English motor cyclist to cover a mile a minute on a motor cycle, which he did in the Gordon-Bennett speed trials at Phoenix Park, Dublin, as long ago as 1903. At that time he rode an Excelsior motor bicycle. He is the present owner of the world's 200 miles record, also the four, five, and six hours records, which he created on April 13th this year, on a 3½ h.p. Matchless-J.A.P. The previ-



ous British record was held by Chase, and the Continental record by Anzani. Anzani's mileage in the six hours was

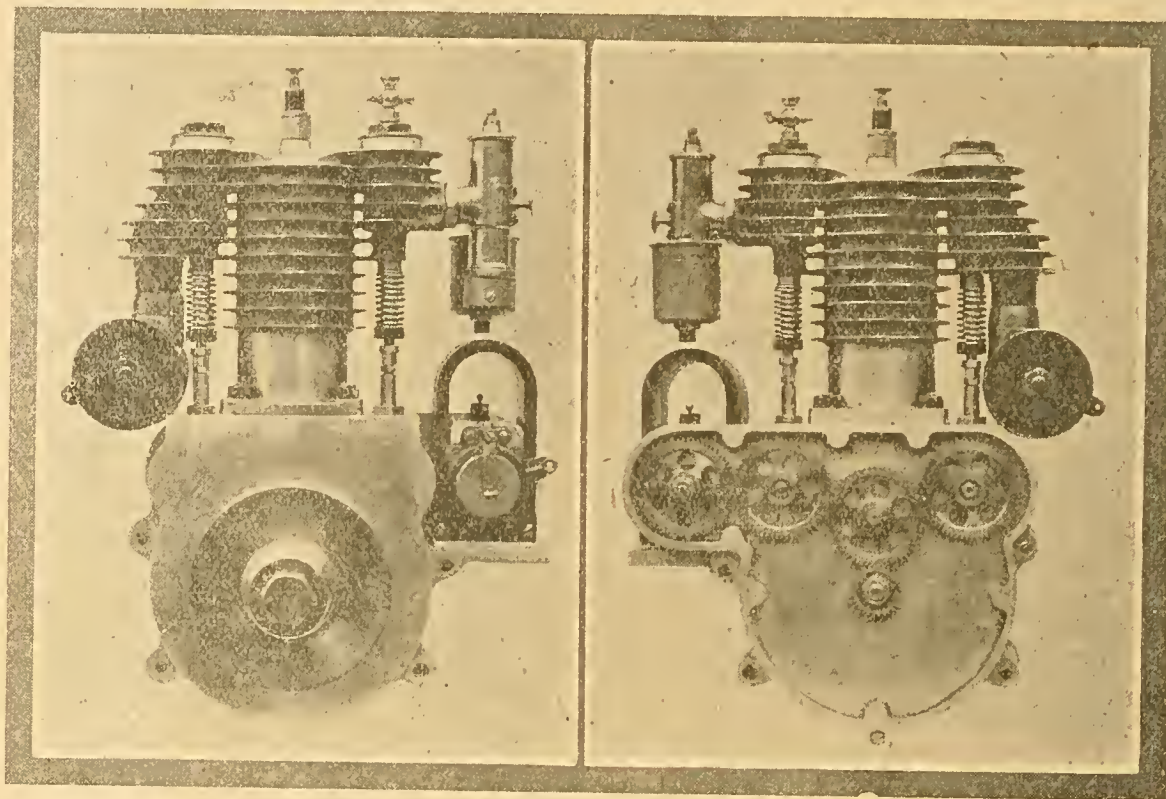
A NEW ENGINE.

THE Quadrant Motor Co., Coventry, have been at work for some time on a new design of engine, which we had the pleasure of examining one day last week. Reference to the illustration will show that the exhaust and inlet valves are situated fore and aft instead of at one side, both the exhaust port and pipe being covered with radiators to secure more efficient cooling. Owing to the exhaust port being in front there is a continuous current of air playing upon it, and the inlet port being at the rear, and as far removed as possible from the hot exhaust, the gases entering the cylinder are thereby kept cooler, and consequently not expanded to such an extent as when heated by close proximity to the exhaust valve. The carburetter is attached quite close to the cylinder, as will be seen in the illustration. As far as motor cycle engines are concerned, we believe the method of construction adopted for the crank case is novel, and quite a departure from previous practice. The crank case has no central vertical or horizontal joint, but is cast in one piece and open at one side, on to which fits a plate carrying the timing gear wheels and the magneto transmission. A second or covering plate fits over the gearing and magneto drive, and a compartment is thus formed in which the gears run perfectly lubricated and dust proof. An advantage of this arrangement is that when the two plates are removed, it is possible to withdraw the whole of the reciprocating parts without taking the engine out of the frame.

An Unusual Type of Piston Ring.

The piston is fitted with a special ring which is uniform in depth and thickness over all its circumference. That is to say, it is not turned eccentric, but obtains the necessary spring in another manner. A ring of this type bears more equally on the walls of the cylinder than those made thick in one part and thin in another. There is also less likelihood for burnt oil and other residue to get behind the rings. The magneto is fixed on a platform which is cast with the crank case, and the situation of the magneto behind the engine affords protection against mud and dust thrown up by the front wheel. The cams operating the valves are fitted inside the crank case, and are accordingly thoroughly lubricated. The cams are so shaped that the valves open quickly to the fullest extent,

remain open the longest possible time, and close quickly. Both valve tappets are adjustable for length, so that wear, which usually necessitates a new valve or tappet rod, can be taken up and the correct distance between the valve stem and tappet maintained. The attachment of the silencer is so arranged that there is no flange or obstruction inside the pipe between the valve port and the silencer. This is obtained by means of a coned joint. The carburetter is the same Quadrant semi-automatic carburetter controlled by one lever which

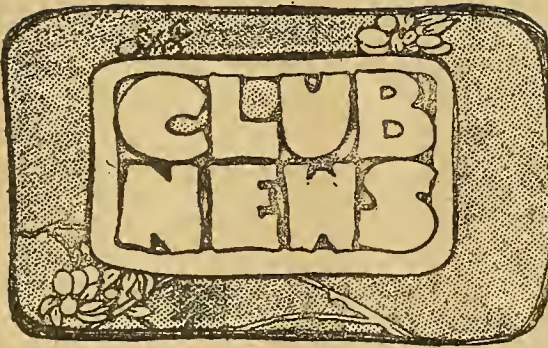


The 1909 Quadrant engine, described in the accompanying article.

has been used with satisfactory results during 1908. The carburetting chamber is very simply constructed. The additional air openings are formed by vertical slots, which can be covered more or less by means of a slide to suit the atmosphere of any particular day or the difference between midday heat and the cool of the evening. Once adjusted correctly, the piston throttle when opened and closed governs the supply of air through the vertical slots in proportion to the amount of throttle opening. The new Quadrant engine will be exhibited at the Stanley Show in a new frame, which, we understand, will also possess some novel features. Visitors to the show should not fail to examine this most interesting engine. The designer, Mr. T. Silver, has had considerable practical experience of motor cycle racing and touring, and, aided by the staff of the Quadrant Motor Co., can be relied upon to produce an article which will do all that is claimed for it.

The number of events won during the year by riders of motor cycles fitted with Dunlop tyres is truly phenomenal. Commencing with the performance of Mr. W. G. McMinnies on Feb. 25th, when he covered a flying half-mile at the rate of 58.8 miles per hour on Brooklands Track, and closing with Mr. C. R. Collier's hour record on the same track on October 8th, there has been a long list of wins on road and track by riders of machines fitted with

Dunlops—in fact, we can hardly remember an important hill-climbing competition or race meeting where these tyres have not been successful. Both the brothers Collier invariably use Dunlops, and their successes have doubtless induced other riders to adopt them. We cannot conclude this *résumé* without mentioning the Auto Cycle Tourist Trophy Race, when Dunlop tyred machines finished first, second, and third in the single-cylinder class.



Bradford M.C.C.

A team competition is to be run on November 8th. The route is from the bottom of Holling's Hill to Leeming Bar and back. The teams are to consist of three riders each, and unless there is an entry of five teams the competition will be void.

Birmingham M.C.C.

The committee has decided to conduct a series of autumn reliability trials to prove the reliability of members' machines on the same lines as those held last year. The competition will take the form of an ordinary non-stop run on the occasion of the club run to Stratford on November 7th. If any competitors are left in at the conclusion of that run they will again compete on the following Saturday's club run, and so on week by week, if necessary, until only one competitor is left in. The last competitor left in will receive the first prize, and the last but one second prize, and so on. Provided there are ten or more entries received the following prizes will be given: First prize, barometer, kindly presented by Mr. Faithful Ash; second, prize value £1 1s., presented by Mr. J. A. Holder; third, prize value 10s. 6d., given by the club; first man out, wooden spoon, value unknown.

Edinburgh M.C.C.

Perhaps the most successful competition organised by this club was held on the 24th ult., in the form of a hill-climbing contest on the Polton-Loanhéad Hill. No less than 58 entries were received, and of these 44 actually competed, but only 20 ascended the hill successfully. This will give an idea of its severity, the gradient being 1 in 4 in a few places, but the real difficulty was the hairpin bends, which were the undoing of several of the competitors, including two Tourist Trophy riders, Messrs. Gibson and Baxter. There were a great many spectators, but the organisation was such that none of the competitors were inconvenienced in the slightest.

The following are the official results. X represents the fastest time in each class, and the number of seconds represents how much others were behind the fastest time.

The lightweight class (handicap for cycles under 120 lbs., pedalling allowed) and the passenger class (handicap) were not run off owing to lack of sufficient entries to constitute a class.

Multi-cylinder Class (Handicap).

Fig. of merit.

J. R. Alexander (5 h.p. Vindec Special) ...	951	...	X
P. E. Tolfree (5 h.p. Roc, two-speed) ...	1,292	...	17 $\frac{4}{5}$ s.
J. F. Morrison (5 h.p. Vindec) ...	1,338	...	10s.
J. G. Stewart (5 h.p. Vindec) ...	1,375	...	17 $\frac{1}{5}$ s.
J. McNeill (6 h.p. N.S.U.) ...	2,040	...	11 $\frac{3}{5}$ s.

Others failed on hill.

Machines made in 1905 and previous thereto, pedalling allowed (scratch).

A. H. Alexander (5 h.p. Alex) ...	...	...	X
A. Cairns (3 h.p. Bradbury) ...	...	...	29 $\frac{4}{5}$ s.

Others failed on hill.

Unlimited Capacity Class (Scratch).

J. R. Alexander (5 h.p. Vindec Special) ...	...	...	X
S. J. Thomson (3 $\frac{1}{2}$ h.p. Triumph) ...	...	...	7 $\frac{4}{5}$ s.
A. H. Alexander (3 $\frac{1}{2}$ h.p. Griffon) ...	...	...	8 $\frac{2}{5}$ s.
J. F. Morrison (5 h.p. Vindec) ...	...	...	10 $\frac{3}{5}$ s.
J. Cameron (3 $\frac{1}{2}$ h.p. Triumph) ...	...	...	14 $\frac{4}{5}$ s.
J. G. Stewart (5 h.p. Vindec) ...	...	...	17 $\frac{4}{5}$ s.
P. E. Tolfree (5 h.p. Roc) ...	...	...	18s.

Others failed on hill.

The results in the single-cylinder class have not yet been decided, two competitors finishing so close together that the matter is being gone into again.

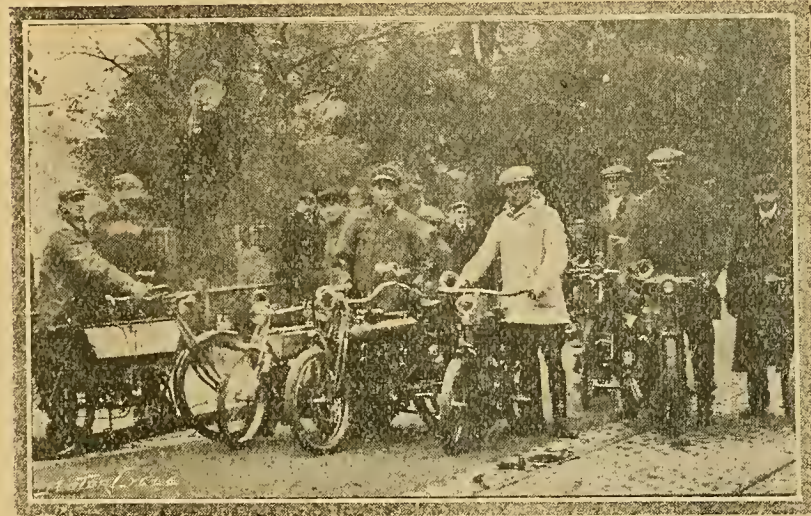
Cambridge University M.C.C.

The above club held a speed-judging competition on Saturday, October 24th. The competitors (nine in number) drew lots for their speeds, which ranged from fifteen to twenty miles per hour. The distance over which they were timed was seven miles long. The results were as follows:

1. J. M. Oakey (5 h.p. Vindec Special).
2. F. P. Dickson (5 h.p. Vindec Special) and V. F. N. Oliver (5 $\frac{1}{2}$ h.p. G.B.)
3. N. Hutchinson (3 $\frac{1}{2}$ h.p. Triumph).

Bocardo M.C.C. (Oxford).

The challenge cup competition, consisting of a test of reliability and driving to schedule time between controls, took place on Thursday, the 22nd ult., and the winner proved to be Mr. Frank Barton, riding a twin Rex.



Oxford Bocardo M.C.C. members on the occasion of a speed-judging competition.

AUTO CYCLE UNION NOTES.

TRICARS.—Motor cyclists interested in tricars should make an effort to attend the paper on "Tricars—Dead, Living, and Unborn," which is to be given by Mr. Basil H. Davies before the members of the Auto Cycle Union, at 112, Piccadilly, London, W., to-morrow (Thursday) evening, at 8 o'clock. A ticket of admission can be obtained upon immediate application to the Secretary, Auto Cycle Union, 18, Down Street, Piccadilly, W.

HORSE-POWER RATING FOR MOTOR CYCLES.—The Formula Sub-committee of the Auto Cycle Union at a recent meeting discussed the question of horse-power rating for motor cycle engines. In view of the fact that the Society of Motor Manufacturers and Traders has prepared a horse-power formula which is being discussed by various technical bodies, and which seems likely to be adopted for the rating of petrol engines of all sizes, the committee hope to make definite recommendations as to the substitution of this formula in place of the cubical capacity formula hitherto used for hill-climbs, in time for next year's competitions.

MOTOR CYCLE INSURANCE.—The Auto Cycle Union has arranged a special "Auto Cycle Union" policy with the Car and General Insurance Corporation, by which members may for a premium of 10s. 6d. per annum be covered against fire and claims by the public. Full particulars of this policy may be obtained upon application to the Secretary, Auto Cycle Union, 18, Down Street, Piccadilly, W.

"THE AUTOCAR" LECTURES.

FOUR of these lectures have now been given in the London and two in each of the provincial centres. The dates of the remaining lectures in each centre are as follows:

LONDON.—3.30 and 8.30 p.m. November 10th, 17th, 24th, and December 1st.

BIRMINGHAM.—7.30 p.m. November 4th, 11th, 18th, 25th, December 2nd and 9th.

LEEDS.—7.30 p.m. November 5th, 12th, 19th, 26th, December 3rd and 10th.

MANCHESTER.—4.0 and 7.30 p.m. November 6th, 13th, 20th, 27th, December 4th and 11th.

NEWCASTLE-ON-TYNE.—7.30 p.m. November 9th, 16th, 23rd, 30th, December 7th and 14th.

The various phases of the subject will be dealt with in the following order:

THIRD LECTURE.—Generally speaking, will deal with the engine and all the component parts thereof—Crankshafts—Connecting Rods—Pistons—Valves—Camshafts—the Shape of Cylinders and the Position of the Valves—with a few remarks on Motor Cycles.

FOURTH LECTURE.—Clutches: Cone, Expanding, Metal-to-metal, disc, etc.—Gear Boxes—Cardan-shafts—Universal Joints—Back Axles.

FIFTH LECTURE.—Carburation—Cooling and Lubrication.

SIXTH LECTURE.—The whole of this lecture will be devoted to various forms of ignition, particular attention being given to High Tension Distributing Systems and Magnetos.

SEVENTH LECTURE.—Frames—Steering—Brakes—Bearing Chains, etc.

EIGHTH LECTURE.—Bodies—Wheels—Tyres—Accessories—Hints on Driving—Organisation.

We draw special attention to the fact that to meet the wishes of some of our readers it has been arranged to issue tickets to admit to *any four* of these lectures at a fee of 10s. 6d. We strongly urge all those who have not yet applied to take advantage of the opportunity now afforded them of gaining a knowledge of the mechanism of a car.

Applications for tickets should be made immediately to the Lecture Secretary, 20, Tudor Street, E.C.

PREPARATIONS FOR WINTER.

THE rider who faces winter work on the system of changing things is likely to have a weary time. The most exasperating and most probable trouble of all is belt slip. The canvas and rubber belts, which are the favourites of to-day, break up very suddenly when their last day is near, and a new one is advisable in the autumn, the old one being carried as a spare. In shortening, care should be taken to get the new hole both central and vertical, which can only be done with certainty by using a drill punch of the right size. The addition of a single extra precaution makes it absolutely certain that even a 200 miles run can be made without a belt stoppage; and the remaining precaution is the truing up of the groove of the engine pulley, which is sure to be several degrees out after the summer's work. Wear of this pulley probably accounts for the permanent slip with rubber belts which some riders complain of in rainy weather.

A Good All-round Gear is 4½ or 5 to 1.

Belt stoppages being thus written off the list, tyre stops are the next chief item. My experience is that punctures are uncommon in winter, perhaps because such articles as nails are less likely to find a hard bit of ground on which to get a purchase against the tyre. The covers should be dismantled, and patched or plugged where necessary. The rims should be examined for projecting spoke heads, all rust sand-papered off, and a coat of enamel applied. The tubes should be well tested in water, and new valve rubbers fitted; all dubious patches should be removed and re-made. A couple of rubber studded treads should then be professionally vulcanised on the old covers.

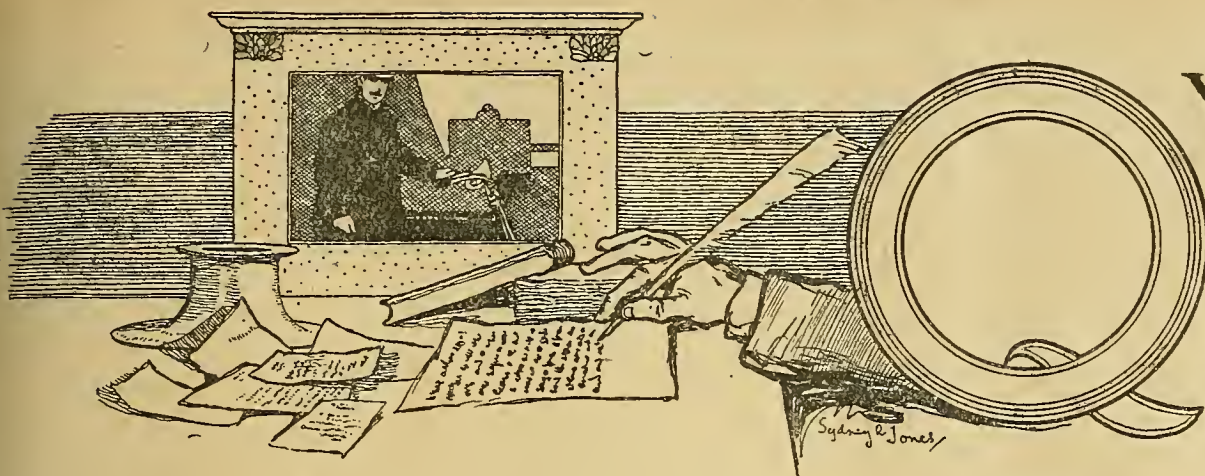
The ignition is the next point likely to give trouble. The magneto must be provided with a proper cover, or if accumulators be used some form of guard over the contact breaker is advisable; otherwise any heavy road will be fertile of ignition stops. It is impossible to devise a picturesque contact breaker guard, but a little amateur tinkering with sheet rubber, sheet tin, or patent leather will prevent "shorts." Once I elaborately bent up two shaped pieces of tin, fastened one rounded piece on the three front crank case bolts, projecting out across the path of travel, and fastened another

flat piece to project horizontally from the top of the crank case, with a slot in it for the ignition rod to travel in. It looked ugly, but was most useful, for it kept off rain from above and mud from beneath. Only the sparking plugs remain to be dealt with. I cut out a disc of thin cycle patching rubber some 6in. in diameter. A tiny hole is cut in the centre of this, and it is then threaded over the plug terminal before the high-tension wire is attached. It falls down around the plug body, and a rubber loop being slipped over entirely prevents short circuits by rain or mud.

Leaving the machine, we now come to the rider. I used to recommend hobnails, but I now use snow overboots, for the sake of warmth, and find their ribbed rubber soles quite proof against human side-slip in mounting. Rolled earflaps are essential in frost, and the cap should have a thick peak, or else headaches will result; a wad of cottonwool inside an ordinary tweed cap is all right. Very thick ordinary clothing is still used by many riders, but, however ugly leather may look, there is nothing like it for resisting wind. I use a Harris tweed reefer jacket, lined with leather, which is splendid. Waterproofs to go over all cannot be dispensed with, and there are plenty of good proofed jackets and capes. I have begun to use a plain pair of waterproofed trousers, fitting very slackly indeed. A number ten size boot with an overshoe on it can be thrust through these without danger to the fabric, and a pair of trouser clips afterwards slipped on to keep the slack away from the belt; this dodge looks ugly, but I find it is best. I have tried many sorts of gloves, but never owned a pair that were really warm, and this winter I intend to wear quite a light glove and to use handle-bar muffs. Really thick hand protection is only wanted when actually riding, and it therefore strikes me as sense to keep it permanently fixed to the bars. To wear very thick gloves when dismounted is as foolish as it would be for a car driver to have his glass screen fixed on a wire clip round his neck.

I repeat by way of conclusion that no rider should lay up his machine for the winter until he has tried at least one long run on a modern machine with studded tyres over muddy roads.

MUD PLUGGER.



QUESTIONS & REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E. C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

Fitting Footboards.

? Please inform me if footboards can be conveniently fitted to a 1908 Triumph, and how and where procurable? I favour them because they allow one to change the position of the feet continually, and there is no wild dash for the pedal when mounting by running alongside.—J.G.

There should be no difficulty in fitting footboards to your machine. It is, however, a matter for an intelligent local cycle maker. Patent folding footboards can be obtained from W. C. Unwin, Arle Court, Cheltenham. We agree with your remarks.

Thick Oil and Difficulty in Starting.

? I have recently bought a 3½ h.p. machine and find it a great success but for one thing. After standing for a very little while the oil or something congeals in the cylinder, the result being that it takes me an awful time to start the engine again, even after injecting plenty of paraffin. I use Price's Motorina B oil. Could you tell me any way of overcoming this difficulty?—A.S.L.

The trouble might be overcome by using a heavy water-cooled oil during the cold weather, which would be thinner than the oil you are at present using.

Improving Petrol Consumption.

? I am riding a 5 h.p. Peugeot and think that by experimenting I ought to do more miles to a gallon of petrol than at present (about eighty). Will you please advise me what I could do to improve this? Would I be able to do more miles on heavier spirit (Borneo) or less? Is a short lift on the inlets with a light spring better than a longer lift and stronger spring? My present gear is 4½ to 1.—ECONOMIST, Acton.

The petrol consumption is really very good for a 5 h.p. twin-cylinder machine, and we should not advise you to try to interfere with the adjustments. If you use heavier spirit you may have trouble in starting, and you may have to alter your carburetter, which would not be desirable. A small lift is better, as it reduces the wear and tear of the valves. A fairly strong spring is desirable for fast running.

Belt Twisting on Pulleys.

? I have just fitted a new Stanley Dermatine rubber and canvas belt to my 3 h.p. Rover, but after running two or three miles this will insist on twisting (not coming off), so that the V-section is facing the engine all the way round. The belt is a 5in. one, it is kept pretty tight, and the pulleys seem to be in perfect line. I would mention that the old leather belt never used to serve me this trick.—AN 159.

The trouble is due either to the belt and grooves of the pulleys not being of the correct angle, viz., 28°, or the pulleys are not in line.

Heated Crank Case.

? I purchased a twin Rex motor cycle twelve months ago, and after tuning it up it was a real marvel, making fastest time in a hill-climb. For some little time there has been a very marked loss of power and bad running which I am unable to remedy. One symptom, that of an exceptionally hot crankcase, and the engine pulley getting so hot as to be unable to bear the hand on it, seems to me to point to worn cylinder, yet when the cylinder is taken off the piston rings are bright all round and show no trace of the gas getting past. I have had the engine shaft bored, but find little or no better results. Do you think any remedy would be found in fitting new rings, or is it a case necessitating reboring and new pistons? All my tests with carburetter combinations and a.o.i.v. springs result in no improvement. Compression is not good.—W.W.

We take it that you have ground in the valves, and as you say the compression is not good, it is almost certain that the leakage is past the piston rings, which accounts for the crankcase becoming so hot. After continued running the valve springs become weak, especially the exhaust, and we should advise you to replace these with new ones. If after renewing the rings the crankcase still becomes excessively hot, have the engine overhauled without delay. There is always a certain amount of heat in a crankcase after running the engine, due to conduction.

Clutch for Starting and Speedometers.

? (1.) As a result of careful enquiry among friends during the last eight months I have now purchased a 1908 Triumph motor bicycle, and have already derived much enjoyment from its use. Unfortunately, I am no longer as athletic as I used to be, and I find starting and mounting rather a difficulty. Consequently I am contemplating the purchase of a free engine clutch, and should like your advice on the subject. I am thinking of fitting the Mabon clutch. Is it reliable? (2.) I also wish to fit a speedometer. Are these instruments reliable?—W.B.K.

(1.) There is very little to go wrong in a clutch, and we think would be quite as reliable as any other part of a machine. If you purchase the clutch mentioned you will be able to start quite easily. (2.) A good speed indicator is a reliable and interesting accessory, but with your make of machine those driven by a wheel in contact with the tyre would not be accurate owing to the design of the spring forks.

Fitting a Magneto Switch.

? Please let me know if I fit a switch on magneto whether it will do the magneto any harm? I am told it does. I thought if I fitted a switch it would help a little to keep engine cool, as when running downhill I should switch off and lift exhaust valve, when there would not be any spark in engine, and therefore the heat from the spark would be saved.—G.N.C.

The idea that fitting a switch will do harm to the magneto is quite erroneous. If properly fitted it will do no harm at all. Above the contact breaker there is a steel screw which must be connected by means of a piece of low tension wire to the switch. Examine the switch and see how it is marked. If the wire is connected to the frame through the switch, the magneto will be put out of action. In some switches this is called the "on" position. If you move it to the "off" position so that the wire is not connected the magneto will be in working order. If no explosion occurs in the cylinder the spark will not affect the temperature of the engine.

Higher Petrol Level Increases Consumption.

? Some little time ago I had occasion to alter my Longuemare carburetter so as to make the petrol rise higher in the jet.

I did this by weighting the float. The petrol now rises to the correct level, viz., the bottom of the cone. I have to complain of my petrol consumption, which comes out at fifty miles per gallon, 5 h.p. Riley tricar, engine 86 by 89 mm. Is this not far too much petrol? I drive carefully, and give all air the engine can possibly run with. Would it make any difference if I had raised petrol level by altering the weight on the needle instead of weighting the float? Both methods will raise the level of petrol, but would there be a difference in the two methods?—A.L.

The fact that you have raised the level of the petrol accounts for the difference in consumption. The only thing you can do now is to use a smaller jet, but if this affects the efficiency of the engine in any way, we should recommend you to leave things as they are, as slight extravagance of consumption in petrol does not entail much extra expense.

Accumulator Sulphated and Carburetter Flooding.

? (1.) How can I improve my accumulator? It is a Minerva, and was bought second-hand with the machine, and I am told is badly sulphated. The terminals inside the accumulator and also the outside plates are a grey colour (charged or run down). It ran me 500 miles and then ran down rapidly. When charged again I got 100 miles out of it, but it indicates 3.7 volts. (2.) As to carburation. Engine Minerva $3\frac{1}{2}$ h.p. 1906, Longuemare, spray No. 8, one slot soldered up. The engine runs well and I can get 100 miles per gallon (with two months' experience), but the carburetter floods if the tank tap is turned full on, so I have to experiment each run until it just lets sufficient spirit through and no more. To correct level, ought the weight to be pushed nearer or farther from the needle point, and also (3) the engine will take hardly any extra air with the spark advanced; throttle just open it will take about $\frac{1}{4}$ in., but uphill or on bursts I cannot get it to take any more. If I open more the engine slackens as if the gas was turned off. —A.B.H.

(1.) A cell which has begun to sulphate may be improved by adding a little sodium carbonate to the acid. The proper proportion is about one ounce of carbonate to one gallon of the acid solution. To prevent sulphating a charge extending over two hours at least should be given every fortnight when the accumulator is not in regular use. You had better then charge slowly at the rate of one ampère. Invaluable hints on the treatment of accumulators are to be found in "Motor Cycles and How to Manage Them," which can be obtained price 1s. 2d. post free from these offices. The charging should be carried out two or three times in succession, and very little current should be taken out of the cells after each

charge. (2.) To lower the level the weight should be moved further from the needle point. (See notes on carburetter adjustment in "Motor Cycles and How to Manage Them.") (3.) Probably after you have altered the level you will be able to get the engine to take more air.

Slow Running and Battery Ignition.

? (1.) I have just purchased an old $3\frac{1}{2}$ h.p. Rex motor cycle, accumulator ignition, with Longuemare carburetter. The trouble is that it will not run slowly, it stops completely if spark is not well advanced. The people I bought it from tell me that it is due to the engine being a high speed one, which to me (a novice) appears a very poor reason. Can you tell me if it is so? If not, why? Will a new handle-bar-controlled carburetter make any difference? (2.) Do you recommend dry battery for ignition purposes? If so, any particular brand? —E.H.

(1.) The difficulty in running slowly is probably due to the carburetter alone, which possibly takes too much air at slow speeds, hence a smaller choke tube and an extra air inlet might help matters. To run slowly you should retard the spark fully, close off the extra air entirely, and then close the throttle as much as possible. You would be able to manipulate handle-bar control levers much better than levers on the tank. (2.) A dry battery is likely to be satisfactory if a plain coil is used. A trembler coil is too extravagant. You can obtain the Hellesen or the Siemens dry batteries.

Tuning up an Old Pattern Machine.

? Six months ago I bought a second-hand $2\frac{3}{4}$ h.p. Fleet Ariel which was somewhat out of order. I fitted two new piston rings, ground in valves, also new wires and terminals, and have made several other adjustments, but have never been able to get it up Barnet Hill without some pedalling. There seems plenty of compression, as it will bear my weight (twelve stones) on the pedal for a few seconds. The belt does not slip. I have tried all manner of adjustments of carburetter (Brown and Barlow), but cannot get any better results. The spark occurs when fully advanced exactly as the piston reaches top of cylinder. The engine starts off quite easily. I can make it roar on the stand, and it will go well on the level, but directly I come to a hill it seems to lose power, and every now and then there is a peculiar kind of blowback which soon brings the machine to a standstill unless I pedal. This occurs just the same whether the spark lever is fully advanced or only half-way. The ignition seems perfect, as I cannot detect any misfire. I have just fitted an adjustable pulley, and have geared it 6 to 1. Do you think the engine is timed wrongly, or am I expecting too much power out of a $2\frac{3}{4}$ h.p. for my weight?—H.D.

With a 6 to 1 gear the machine in question should climb Barnet Hill easily. It appears as if the carburetter has

some room for improvement, the ignition is also timed too late. The adjustment of the air supply is very important in hill-climbing. When a machine begins to slow down on a hill it is necessary to close off the air supply in order to enrich the mixture, or a blowback will occur. Probably the level of the petrol is not quite correct. We should therefore recommend you to take the machine to the best repairer you know of, and get him to make the final tuning operations for you. It will cost very little.

An Occasional Misfire

? Kindly tell me why my $3\frac{1}{2}$ h.p. twin-cylinder Peugeot misfires at speed; it fires perfectly when running slowly uphill. I have tried all the tips mentioned in "Questions and Replies" without being able to stop mine. I have had new contacts fitted, tried different strengths of inlet springs, increased and reduced top air inlet, and packed slits round valve caps. I find the front cylinder gets a much better mixture than the back, and it is in this cylinder where the most misfiring occurs. I may say the top air intake is fitted directly in the centre of the main induction pipe, and the carburetter is between the cylinders.—R.F.A.

You omit to state whether the ignition is by accumulator or magneto. If the former, it is quite possible that the reason of the misfiring is due to the coil not being fast enough. Many trembler coils are very inefficient in this respect. The compression in both cylinders should be equal—this is important. You might try reversing the ignition connections, changing position of plugs, and remember that the two inlet valve springs must be of the same tension. If you reverse the two and the misfiring is transferred to the other cylinder, you will know at once the cause of the trouble.

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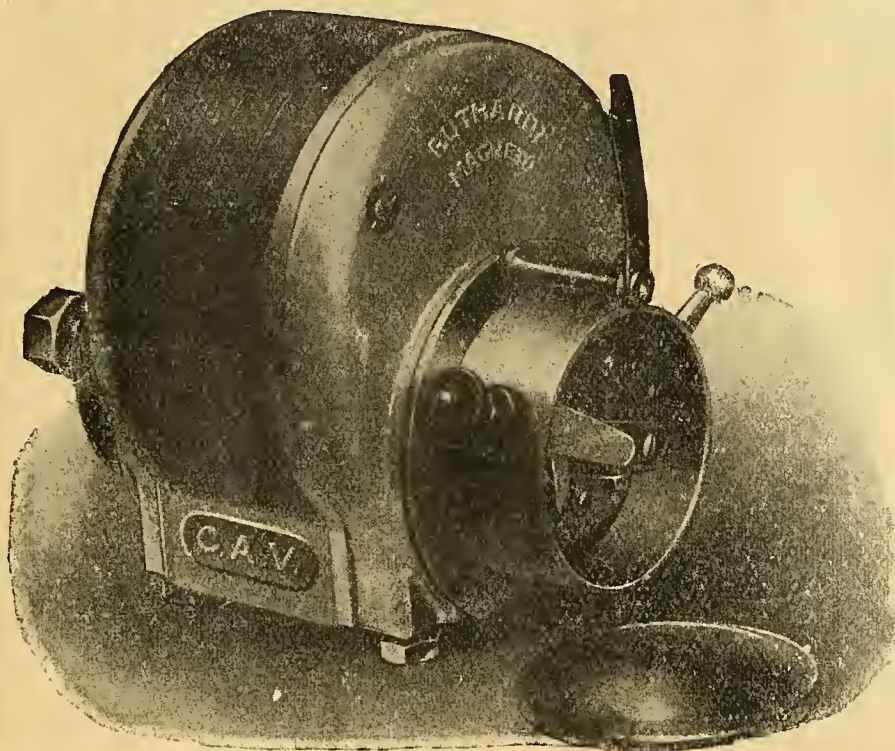
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ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London (20, Tudor Street, E.C.), by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

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N.S.U., 1907, spring forks, Roc two-speed gear	£28 0
REX DE LUXE, 1908, two speed, 3½ h.p., shop-soiled	£35 0
F.N., lightweight, magneto, spring forks	£20 0
ROC, 1907, magneto, clutch, spring forks	£19 0
WARWICK, 1908, shop-soiled, two-speed, clutch, magneto, spring forks, £50 machine	£31 0
QUADRANT (Birmingham), 3½ h.p., spring forks	£15 0
SINGER, 3 h.p., magneto, belt drive, Mabon clutch, perfect order	£15 0
ASTER, spring forks, Longuemare carburettor, tyres sound, good order	£9 0
WHITLEY, 3 h.p., spray carburettor, girder forks	£6 10
B.S.A. M.M.C. engine, 3½ h.p., Druid forks, Lomax band, grand condition	£11 0
MINERVA, 2 h.p., spray carburettor, M.O.V.	£6 0

TWINS.

N.S.U., 1908, magneto, 4 h.p., shop-soiled, £50 machine	£39 0
BROWN, 1908, shop-soiled, 5½ h.p., two-speed, Palmer tyres, cost over £67	£45 0
ROC TWIN, 5 h.p., magneto, clutch, show model, done 300 miles, perfect	£30 0
VINDEC, magneto, spring forks	£25 0
ROC, 5 h.p., Peugeot engine, magneto, clutch	£22 0
KERRY, 5 h.p., two-speed	£16 0
REX TOURIST, 5 h.p., magneto, spring forks	£25 0
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WERNER, 4 h.p., spring forks, good order ..	£11 0

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DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

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TWIN-CYLINDER Werner, perfect condition; must sell; no time to ride: £14, or nearest offer.—Redman, Green Royd, Arnsdale.

3 h.p. Humber, in good running condition, two new covers, new accumulators, new horn: £10.—Messrs. Braithwaite and Sons, Staveley, Kendal.

TRIUMPH, 3 h.p., magneto, splendid condition, spare tube, tools, etc.: £25.—Full particulars, Young, 18, North Terrace, West Allotment, Newcastle-on-Tyne.

SECTION II.

York and Lancashire.

2 h.p. Triumph, Minerva engine; £12.—Peacock, Rake Lane, Liscard.

3½ h.p. 25 Guinea Rex, 1907, as new, unused; what offers?—1, Bank Terrace, Whitworth.

TRIUMPH 1907, magneto, splendid condition, 3½ h.p.; £28.—Kenworthy and Co., Bailiffe Bridge.

1908 Triumph, new condition, complete with headlight, horn; £36.—Cross, jeweller, Rotherham.

2½ h.p. Humber, stand, lamp, spares, £6 10s.; 5½ h.p. Humber engine, best offer.—Bebington, Widnes.

VINDEC Special, 5 h.p., magneto, Trufault forks, very fast, good condition; 20 guineas.—58, Manchester Road, Hyde.

1907 3½ h.p. Triumph, new 1908, almost new, £32; 1907 3½ h.p. N.S.U. (accumulator), beautiful condition, £17.—3, Fleet Street, Preston.

5 h.p. Twin Magneto Roc, two speeds, spring forks, new Palmer cord tyres; £25; smaller machine part exchange.—7, Blair Grove, Southport.

3½ h.p. Rex, 1905, variable, four speeds, operated from saddle, handle starting, low built; £16, or exchange twin.—Hayes, Grocer, Clayton, Manchester.

VINDEC Special, 5 h.p., with Roc two-speed and free engine, handle starting, a splendid machine for sidecar work, everything perfect; £36.—Tomlinson, Penny Street, Lancaster.

MOTOR BICYCLES FOR SALE.

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HAMPSTEAD.—3½ h.p. N.S.U., late model, magneto, 24in. wheels, new condition, guaranteed perfect; only £17.

HAMPSTEAD.—3½ h.p. 1908 Triumph, handle-bar control, new condition; £37, with all accessories.

HAMPSTEAD.—1½ h.p. F.N., 1908 model, new condition; £17, with all accessories; great bargain.

HAMPSTEAD for new machines, F.N.'s, 5-6 h.p., late models from stock; exchanges entertained.

HAMPSTEAD.—5 h.p. Twin Peugeot, Chatter-Lea No. 6 frame, splendid condition, like new; £20.

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HAMPSTEAD.—F.N., 4½ h.p., four-cylinder, 1908 model, magneto and spring forks, accessories; £28.

HAMPSTEAD.—Sole agents for Griffons, Triumphs, Vindes, Minervas, F.N.'s, S.U., Browns, Rexes, and Rocs. We allow 10% upwards for your old machines, any condition, in part payment for new models, any make. Write, call, or telephone, 2678, O.—Motor Works, 5, Heath Street, Hampstead.

DOC, 1908, two-speed; cost 48 guineas; good condition; must sell; £28 10s.—S., 110, High Street, Merton, S.W.

DEUGEOT, 2½ h.p., Chatter-Lea frame, recently re-bushed, tyres good; £8.—170, Purple Road, Wimbledon.

MOTOR Cycle, 3½ h.p. Rex, in thorough good order; £10, or offer.—Hancock, High Street, Battersea, S.W.

1 h.p. Rex, new belt and accumulator; £13, or exchange.—Crocker, 37, Hutton Road, Lambeth, London, S.E.

h.p. Quadrant, spring forks, new belt, and two new accumulators; £11 10s.—Coombfield Brothers, Braintree.

h.p. N.S.U., magneto, splendid condition, Continentals, Brooks B100; £17.—54, Wellington Road, St. John's Wood

1 h.p. Jap, Chatter-Lea, 2½ Dunlops, long, low, reliable, little used; £25.—Williams, 118, High Street, Beckenham.

1 h.p. Alldays Lightweight, excellent condition; 9 guineas, part exchange.—Warwick, Leadenhall Buildings, E.C.

BAT, 2½ h.p. De Dion engine and carburettor, Whittle belt, new tyres, fast machine; £15.—50, Manor Road, Brockley.

QUADRANT, 3 h.p., surface, Watawata; sacrifice £7.—Chauffeur, The Cottage, Elbourne Lodge, Queen's Walk, Ealing.

1908 7-8 h.p. Ardennes Minerva, very little used, with accessories; £38, or near offer.—73, Pearson Street, Kingsland Road.

VERNER, 1908, 4½ h.p., twin, divided cylinders, spring forks, almost new, scratched; great bargain. £16 16s.—Below.

F.N., 1908, 3½ h.p., magneto, spring forks, like new; cheap, £18 10s. cash.—Below.

OVER, 1906, 3½ h.p., M.O.V., new tyres, dead snip; £11 15s.—Whittle, 41, Skellock Street, Wandsworth.

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WERNER, 2 h.p.	£9 0
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F.N., four-cylinder, magneto	£18 0
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REX, 3½ h.p., 1906, footboards	£15 15
MINERVA 3½ h.p., 26in wheels	£14 10
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QUADRANT, 3 h.p., spray	£12 0
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STAMFORD HILL.—2½ h.p. Rex, B. and B. carburettor, excellent machine, in perfect condition, lightweight; £7.

STAMFORD HILL.—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL.—1½ h.p. Quadrant Lightweight, Minerva engine, two brakes, all in very good condition and perfect order; £5 10s.

STAMFORD HILL.—2½ h.p. Precision engine, lightweight, in good running order, and very good condition; £6 15s.—128, High Road, Tottenham.

1907 Rex, 3½ h.p., spring forks, low build, very powerful, quite equal to new; 16 guineas.—22, The Avenue, Bruce Grove, London.

IF You Want Bargains in second-hand motor cycles you can get them at Wauchope's, 9, Shoe Lane, Fleet Street, London.

MOTOSACOCHE, nearly new, spring forks, accessories; best offer over £20.—Seen at The Anglo-Saxon Co., 31, Newgate Street, City.

3 h.p. Excelsior, splendid condition; any reasonable price taken, or exchange for good lady's cycle.—Ling, Ockendon, Essex.

2 h.p. Minerva, Chatter-Lea, stand, all spares; £8 10s.; grand condition.—Lacey, 63, Harwar Street, Hackney Road, London.

SEPTEMBER, 1908, Motosacocche, magneto, spring forks, not ridden 300 miles; cost £35, price £29 10s.—Twiddy, Claremont, Sevenoaks.

3½ h.p. Rex, perfect condition, long handle-bar, spray, dropped seat-pillar; bargain, £9.—8, Queen's Road, Stourbridge, Willesden.

4 h.p. Twin Werner, handle-bar control, horn, two acetylene lamps, stand, tools, spares; £17 10s.—Sutton, 62, Amott Road, E. Dulwich.

FOUR-CYLINDER F.N., in splendid condition; owner leaving England; will sell for £18, worth £25.—Fairholme, Beatrice Road, Clacton-on-Sea.

TRIUMPH, 1908, new three months ago, hardly scratched; £35, or nearest offer; must sell, cash wanted.—22, The Avenue, Bruce Grove, London.

4 h.p. N.S.U. Magneto Motor Cycle, two-speed gear, spares; trial run by appointment; £32 10s.—Browning, 21, Ealing Road South, Ealing, W.

3½ h.p. Genuine Minerva, spring forks, low, fast, reliable, new condition, horn, stand, spares; offers.—330, Burdett Road, Limehouse, London.

3 h.p. Werner, good condition, Shamrock belt, Bassee-Michel coil, Michelin front, Clincher back tyre, very little used; £12.—Grout, Hemnall Street, Epping.

TRIUMPH, 3½ h.p., 1908 condition excellent, special saddle, new Peter-Union, new Shamrock belt, horn, tools, spares; 38 guineas.—64, Chestnut Avenue, Forest Gate, E.

CLEMENT-GARRARD 1½ h.p. Lightweight, copper tank, machine hardly soiled, perfect; £12 10s., accept 15 carat albert part payment.—Scraser, 234, Battersea Park Road, S.W.

23-3 h.p. M.M.C., Chatter-Lea fittings, Longuemare carburettor, 20 amp. accumulator, spares, stand, perfect running order; £11.—Timperley, Northdown Avenue, Margate.

GENUINE Bargain, £2 15s.—2½ h.p. Singer (engine in wheel), magneto, new Dunlop tyres, wants re-magnetising, otherwise guaranteed perfect.—A. Russell, 39, West Street, Dorking.

LIGHTWEIGHT Motor Cycle, new, 2½ h.p. J.A.T. engine, 26-2 Dunlops, spring forks, low built, up-to-date, long handles; £17 10s., or offers; photo.—Taylor's Motor Works, Edmonton.

In answering any of these advertisements it is desirable that you mention *The Motor Cycle.*"

MOTOR BICYCLES FOR SALE.

STANTON'S Absolute Clearance Sale.—The great annual opportunity of securing sound, reliable motors at special clearance prices; convincing trials given.—Below.

TRIUMPH, 3 h.p., 1906, spring forks, magnificent condition, guaranteed perfect, most reliable machine extant; £20; ride 60 miles to meet buyer.—Below.

KERRY, 2½ h.p., 1906-1907, practically brand new, light, most reliable, splendid hill-climber; ride 60 miles to meet buyer; £12.—Below.

REX, 3½ h.p., magneto, 1907 (late), 1908 finish, brand new condition; ride 60 miles to meet buyer; £20.—Below.

REX de Luxe, 6 h.p., twin, 1907, twin back wheel, spring forks, cantilever seat, very low, take sidecar up anything, new condition; any trial; £22 10s.—Below.

MINERVA, 2½ h.p., spring forks, sound, perfect, most reliable; any trial; £15.—Below.

HUMBER, 3½ h.p., excellent order, very powerful, suitable for sidecar, 26in. wheels; £11, or good cycle and £8.—Below.

CLYDE, 2½ h.p., spring forks, just overhauled; genuine bargain.—Below.

QUADRANT, 3 h.p., spring forks, re-enamelled, neat, light, handy; absolute bargain, £12.—Below.

SCOUT, 2½ h.p., splendid condition, good as new, excellent hill-climber; clearance price £12.—Below.

FALCON, 3 h.p., 26in. wheels, low, Brooks B100 saddle, powerful, reliable; £9 10s. to clear.—Below.

F.N., 2½ h.p., excellent little machine for town and country, exceptionally reliable; £9 to clear.—Below.

ALL above are being cleared to make room for new 1909 models, and are offered subject to being unsold; secure a bargain while they last. You cannot get better value by buying privately.—A. T. Stanton, 86, Colvestone Crescent, Dalston, London.

J.A.P., 6 h.p., magneto, spring forks, footboards or pedals, 2½ Palmer cord tyres, spares, etc., good as new; £33, or near offer.—Surtees, Summersdale, Chichester.

3½ h.p. Magneto Triumph, 1907, also fitted with coil and accumulator, in perfect order, take trailer anywhere, complete with trailer, spare pulleys, etc.; £33.—137, Chestnut Road, Plumstead.

2½ h.p. Jap. Chater No. 6, Palmers, B.B., C.A.V. accumulators, Fuller Syntonic, B100, footboards, French grey, three months old; £16, part exchange bicycle.—H.G., Beehive, Woodside, S. Norwood.

£25.—1908 Moto-Reve, not run 300 miles, splendid running order, good stand, and all accessories; cost over £40; owner bought car only reason for selling.—Paull, 88, Barrack Street, Colchester.

MINERVA, 3½ h.p., late 1907, exceptionally good engine, Shamrock non-skid back, nearly new, never gives trouble, powerful and reliable; any trial; buying car; £17 10s.—20, Beacontree Road, Leytonstone.

1908 Standard Twin Minerva, round tank, new in July very little used, splendid condition, sweetest running machine made, fire walking pace; seen any time; £27 10s.—186, South Lambeth Road, S.W.

TRIUMPH, 3½ h.p., 1908, complete with lamp, horn, all spares, new 1909 cylinder and piston, Shamrock rubber studded back tyre, in perfect condition; £39 10s.—owner buying car.—K., 107, Uxbridge Road, Ealing.

THIS Year's 3½ h.p. Brown, new June, and Millford castor wheel sidecar, Clincher tyres, accumulator ignition, lamp, tools, and everything complete; trial; price £30, no exchanges.—Willis, 21, Norman Road, Thornton Heath.

1908 Triumph, 3½ h.p., magneto, with all tools and accessories, everything in new condition, and absolutely perfect, a genuinely good machine, and would send it on approval; £37.—Eastern Garage, 418, Romford Road, London.

MINERVA, 3½ h.p. (purchased September, 1907), spring forks, two accumulators, lamp, etc., new appearance, has been carefully handled; will accept fair offer; can be seen and tried by appointment.—H., 66, Sistova Road, Balham.

ALL FOR YOU

Shop-soiled—UNRIDEN.		
1908 3½ h.p. magneto REX, ball bearing engine; list price £39 18s.;	our price	£25 0
1908 TWIN REX; list price £45 13s.;	our price	27 0
1908 REX, magneto, lightweight; list price £26 5s.;	our price	19 9

1908 Magneto TWIN REX, brand new	offers
5 h.p. Twin VINDEC, magneto, Iruffault ..	£29 10
5½ h.p. REX DE LUXE, 1907, brand new ..	£31 10
5½ h.p. Twin REX, spring forks, black finish ..	£18 18
Twin REX, black finish, new tyres	£18 18
6 h.p. Twin REX, non-skids both wheels ..	£18 18
Twin KERRY, Chater Lea, with Sidecar ..	£22 10
5½ h.p. Twin REX, magneto, 1907	£32 0
4-5 h.p. Twin ALCYON, N.S.U., two-speed ..	£20 0
5 h.p. Twin SAROLEA, long frame	£18 18
6 h.p. Twin ANTOINE, R.O.M. ignition ..	£22 0
5 h.p. Twin ONAWAY, very low, spring forks	£19 9
6 h.p. Twin ANTOINE, spring forks	£22 0
Four-cylinder F.N., guaranteed	£19 19

Ten 1907 5½ h.p. REX DE LUXE, Roc clutch, magneto, twin tyre, spring forks, spring seat, handle starting. Best sidecar machine on the market. £27 10s. Some of these are like new.

SINGLES—Cash Offers Wanted.

1908 3½ h.p. REX, magneto, brand new	offers
1908 3½ h.p. REX, 2-speed, shop-soiled ..	£31 10
1908 MOTOSACOCHE, splendid condition ..	£19 10
1908 N.S.U. Lightweight, magneto	£19 10
1907 3½ h.p. Magneto REX, black finish ..	£19 10
1907 3½ h.p. N.S.U., magneto	£21 10
3½ h.p. N.S.U., magneto, guaranteed	£17 10
3 h.p. TRIUMPH, magneto	£24 10
3 h.p. TRIUMPH, spring forks	£21 0
3 h.p. RIP, brand new, very low	£16 0
3½ h.p. Magneto REX Racer, a flier	£25 0
3½ h.p. 1906 REX, spring forks, long bars ..	£15 10
2½ h.p. Magneto REX, 1908, shop-soiled ..	£19 19
3½ h.p. MINERVA, M.O.V., vertical, spray ..	£16 10
3 h.p. GIVAUDAN, nearly new, very low ..	£16 0
3 h.p. QUADRANT, spray, spring forks ..	£13 0
3 h.p. LLOYD'S, 26×2½in. Palmers	£13 10
4 h.p. ANTOINE, vertical, M.O.V., spray ..	£16 0
2½ h.p. MINERVA, fine condition, M.O.V. ..	£13 10
3 h.p. CLYDE, magneto, vertical, spray ..	£15 0
4 h.p. ANTOINE, 26×2½in. tyres	£16 10
3½ h.p. SIMMS, magneto, 2½in. Palmers ..	£17 10
3½ h.p. CENTAUR, free engine, M.O.V. ..	£16 0
2½ h.p. F.N., special frame, reliable	£12 10
3 h.p. HUMBER, spray, good climber	£10 10
3½ h.p. REX, 22in. frame, trembler coil ..	£11 10
2½ h.p. MINERVA, 26×2½in., spray, vertical ..	£11 10
3 h.p. BROWN, spray, guaranteed	£12 10
4 h.p. ATELIER, long bars, low saddle ..	£13 10
3½ h.p. EXCELSIOR, spray, trembler coil ..	£10 10
2½ h.p. COVENTRY EAGLE, vertical spray ..	£10 0
3½ h.p. Two-speed REX, suit sidecar	£13 10
2½ h.p. F.N., light, low, smart appearance ..	£12 0
2½ h.p. CLEMENT, very low, good order ..	£11 0
2½ h.p. KERRY, spray, low, reliable mount ..	£10 10
2 h.p. RALEIGH, spray, smart	£8 0
2½ h.p. ROYAL, vertical, spray, trembler coil	£7 15
2½ h.p. HASKARD, spray, smart	£11 10
1½ h.p. MINERVA, spray, suit light rider ..	£5 10
2½ h.p. EXCELSIOR, trembler coil	£8 0
2 h.p. HUMBER, chain drive, trembler coil ..	£6 10
2 h.p. PEUGEOT Lightweight, smart	£9 10
2 h.p. MINERVA, spray, smart, good	£7 0
2½ h.p. PEBOK, free engine, nearly new ..	£10 10

5-6 h.p. TWIN REX, £18 18s., or £4 and '07 Single Rex, or £6a and 3½ Rex, or level exchange with single magneto Rex.

TRICARS.	
5½ h.p. REXETTE, W.C., two speeds	£35 0
REX TRICAR, coach built	£13 10
Twin REXETTE, W.C., two speeds, 8 h.p. ..	£47 10
4½ h.p. STEVENS Tricar, very low built ..	£15 0
5 h.p. HUMBER, open frame, W.C., 2 speeds	£35 0
REX, Phoenix Two-speed, coach built	£13 10

Extended payments to suit all requirements. If you can't pay cash down, write and state what credit you require, and we will endeavour to accommodate you.

10-12 BRUSH, tonneau, 3 speeds and reverse £55 0
Gnaviter Rubber and Canvas Belting.
 ½in. 10d., ¾in. 1/1, 1in. 1/4, 1½in. 1/9 per foot.
 3/- allowed for old belts.

The Halifax Motor Exchange,
 Agents REX and N.S.U.
 16, Westgate, Halifax
 Telephone: 766. Telegrams: 'Perfection.'

MOTOR BICYCLES FOR SALE.

LATEST 7 h.p. Chater-Lea Motor Cycle and Sidecar, twin Jap engine, map, neto, spring forks, two speeds and free engine; any trial or examination; £35; appointment.—Charles St. Clair, Claredon House, Park Road, Dulwich.

31 h.p. Kerry, long handle-bars, footboards, large tank, Advance pulley carrier, lamp, horn, stand, spare inlet, complete, exhaust and springs, tools, etc., splendid condition; £13 10s., or near offer.—Scot, 22, Rosemont Road, Acton, W.

EXCEPTIONAL Offer, £48 machine for 2 guineas; 2½ h.p. Jap, Chater-Lea throughout, exceedingly low, 84 lbs., 1907 May, perfect flier, climb anything, guaranteed perfect, suitable track, lot accessories.—Ellis, 5, Borgard Road, Woolwich.

TRIUMPH, 3½ h.p., ball bearing engine, 1906, almost new, been in warehouse, tyres as new, leather steel studded back gas lamp and generator, magnificent machine on road, trouble unknown; £19 10s. cash.—Knight, Maypole House, Bexley, S.E.

31 h.p. Brand New Angus, genuine Chater-Lea No. 6 frame, with genuine B.S.A. wheels, Bates special 2½ tyres, Longuemar carburetter; cost £37; perfect, receipt shown; take £22; bought car; photo sent, returnable.—C. Hart, 31, Vanguard Street, Broadway, Deptford, S.E.

SHOP-SOILED Trafalgar-Peugeot, 5 h.p. twin, spring forks, 2½ Palmers, £22 or offer; 3½ h.p. White and Poppe, splendid order, £15, or offer; 3½ h.p. Durkopp, £13; 2½ h.p. Jap, very low and light, £13; 2 h.p. Zedel engined motor bike, £4 10s.—Seen, 31, East Street, Baker Street, W.

1908 Triumph, done about 1,800 miles, care fully used, in perfect condition, engine spares, magneto spares, complete contact breaker disc, lamp, horn, all tools, new Clincher rubber studded tyre just fitted to back; examination by appointment; engine dismantled if desired; road test; £35; owner getting twin.—Hargrave, 8, York Road, Hitchin, Herts.

MINERVA, 3½ h.p., Kerry adjustable pulley, pedal footrests, Matchless spring forks, new Duco steel studded cover (done 20 miles) on back, Clincher front, tube nearly new, new belt rim, bush, and gudgeon pin just fitted, horn, pump, and numbers splendid condition; any trial here; £20; purchasing lightweight.—Hooker, Cycle Agent, Crawley, Sussex.

4 h.p. Twin, Kerry engined, low, Brooks B100, long bars, comfortable footboards, £15 15s.; 3½ h.p. M.M.C., Chater-Lea Palmers, splendid order, £10 15s.; approval deposit; offers; exchanges; screw-cutting lathe wanted; Mills-Fulford wicker trailer tyreless, 26in. by 2in. wheels, little used, £1 Nilmelior and Waterson plain coils, 6s. 6d. each.—38, The Gardens, East Dulwich.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall

3 h.p. Brown, very low, 26in. wheels; £1 10s.—R., Parish, Plympton, Devon.

£24, or offers—5½ h.p. Rex de Luxe, in good going order, practically as new; selling for no fault.—Heard, Orchard Hill, Bideford.

1908 Triumph, perfect condition, Palmers cord tyres, spares, very fast and grand hill-climber; buying 1909 Triumph £38.—Waddon, Bridgwater.

7-8 h.p. Minerva, gold medal, London-Edinburgh, new May, brand new non-skid back, new Peter-Union front, spring forks, Brown-Barlow handle-bar controlled carburetter, watch, horn, lamp, two spare covers, three butted tubes, spare Whittle belt, new no time to ride; £35.—Cox, c/o Emery and Cox, Engineers, Bideford, N. Devon.

SECTION X.

Scotland.

LANARKSHIRE—2½ h.p. Triumph, Minerva perfect condition; £10.—Muir, cycle agent, Newmains, N.B.

31 h.p. Bradbury, splendid condition, tandem attachment; £24.—Denholm, South Street, Dalkeith.

1908 Triumph, splendid condition, driven carefully, extra well kept; £38.—Dr. Clark, 24, Braid Crescent, Edinburgh.

CARS FOR SALE.
 20-24 h.p. Wolseley, handsome four-cylinder touring car; any trial; £75.—Below.
 10 h.p. Two-cylinder Ariel, tonneau, four speeds, latest type, hood, etc.; £55.—9, Arkholme Road, Dalston, London.
 7 h.p. Decauville Twin, three speeds, cardan drive, two-seated car, good as new; £43; Triumph or F.N. part.—Reive, Old Cumock.
 0 h.p. Jackson car, two or four-seater, spare set wheels, etc., bargain; £38, or exchange.—98, Potternewton Lane, Leeds.
 3-8 h.p. Two-seater, three speeds and reverse, bucket seats, artillery wheels; offers, part exchange.—Owner, 21, Balfour Road, Ilford.

WOLSELEY, 6 h.p., Cape hood, wind screen, De Nevers tyres, just been re-ainted, perfect order; £55.—Bailey, London Road, Redhill.

DARRACQ, 6 h.p., two or four-seater, three speeds and reverse, Dunlops; £40, appointment.—105, Lauriston Road, Victoria Park.

1 h.p. Darracq car, two or four-seater, three and reverse, cardan, lamp, spares, tools, bargain; £38.—98, Potternewton Lane, Leeds.

10 h.p. Pick, three speeds and reverse, like new, trial given; sacrifice, £45, buying larger car.—H. Sweetland, 13, Angus Street, New Cross, S.E.

WRITE for List of Cars, £50 to £200; you will be surprised at the value obtainable for about £100.—Lund and Serjent, Prince's Street, Stockport.

TAMFORD HILL.—5 h.p. Pieper small two-seated car, w.c., two speeds and reverse, fine running order, very good condition, nice little lot; £19.

TAMFORD HILL.—10-12 h.p. twin Pick, two-seater, new 4½ Colliers on back, two speeds and reverse, in excellent condition and perfect running order; £25, great bargain.

TAMFORD HILL.—10-12 h.p. twin Pick, four-seater tonneau, three speeds and reverse, 760-90 equal artillery wheels, all in splendid condition and excellent running order, fast and powerful; £40; photos, further particulars, and trials with pleasure; exchanges.—128, High Road, Tottenham.

0 h.p. Wolseley, four-seater, equal artillery wheels, grand order, two-cylinder; offers, part exchange.—Motorist, 21, Balfour Road, Ilford.

h.p. Rover, September, 1907, detachable tonneau, lamps, complete tool kit, spare cover and tube, in new condition; £170.—Bloomfield Brothers, Braintree.

h.p. Renault, two-seater, Dunlop grooved tyres, set of lamps, headlight, with generator, Stepney, spares, and tools; £87 10s.—Bloomfield Brothers, Braintree.

5-20 h.p. Darracq, side entrance, Cape hood, folding screen, very fast, and in excellent condition; a bargain, £110.—17, Derton Road, South Bermondsey, S.E.

0 h.p. Chenard-Walcker Twin-cylinder Car, seats five, excellent condition, complete, all spares; £65; photo; full particulars.—Jubb, jun., Wood Cottage, Lower Wigan.

BUNEL, 9 h.p. De Dion engine, side entrance body, Cape hood, wind screen, perfect order; sell cheap, or exchange with cash for two or four-cylinder.—Bailey, London Road, Redhill.

M.C., 20 h.p., side entrance, four-cylinder engine, artillery wheels, four speeds and reverse, guaranteed faultless and beautiful car; price £95, or first offer.—Hancock, High Street, Battersea, S.W.

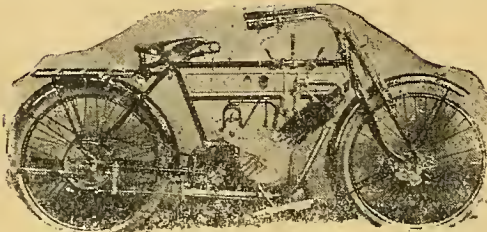
1 h.p. Oldsmobile Car, wheel steering, 2 thorough going order; exchange good motor cycle and cash, no rubbish, or sell, fers.—G. Roberts, "Weldon," Hartwell Grove Crescent, Leighton Buzzard.

SINGER Tri-Governess Car, seats two, excellent condition, magneto, splendid hill-climber; £15, or offer; exchange for anything useful and cash; seen and tried any time.—Boylett, Burlington Road, New Malden.

Stand 116 at the Stanley Show
WILL INTEREST EVERYONE.

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 SEASONS**

always on view, and are now illustrated in our revised Accessory Catalogue, containing nearly 100 pages. It will interest the agent, the expert, and the novice. Sent post free on receipt of a card.



We have a splendid selection of bargains in shop-soiled and second-hand Motor Cycles and Tricars, most of which can be supplied on our unique system of extended payments. Write for List.

SELECTIONS.

1908 2 h.p. MOTO-REVE Lightweight, mag.	£27 10
1908 3½ h.p. TRIUMPH, magneto	37 10
1908 3½ h.p. TRIUMPH, magneto, and Castor wheel sidecar, almost new	50 0
4½ h.p. LAGONDA, magneto, very powerful	21 0
1908 2½ h.p. REX Lightweight, magneto, little used	19 0
3½ h.p. PHOENIX, two speeds, gold medal hill-climb winner	23 0
2½ h.p. ARIEL Lightweight, splendid order	13 0
6 h.p. ANTOINE Twin, Chater-Lea frame; cost £50, a few months ago	25 0
1 h.p. ROC, magneto, two speeds	25 0
2½ h.p. GORRON, Minerva, M.O. valves, good condition	14 0
2½ h.p. BRADBURY, splendid hill-climber, shop-soiled only; cost £43	27 10
3 h.p. HUMBER, spray carburetter, just overhauled	15 0
2½ h.p. PHOENIX, Minerva, 2 speeds, non-skid	16 0
1½ h.p., Minerva engine, machine suit beginner	5 10
3 h.p. Acacia, Fafuir engine, free clutch	14 0
2½ h.p. Bat pattern, De Dion type engine, very reliable	15 0
1908 2½ h.p. REX Tourist, magneto, shop-soiled only	27 10
1908 5 h.p. REX Tourist, magneto, shop-soiled only	31 0

TRICARS.

1908 6 h.p. LITETTE, magneto, two speeds, Shamrock, non-skids rear, ridden about sixty miles	£65 0
6 h.p. SINGER, coach-built, two speeds, large luggage carrier	49 0
3½ h.p. RALEIGH Tricar, chain drive	15 0
MABON Clutch to suit 1908 Triumph, hardly used	2 10
OSBORNE Four-speed Pulley, suit Triumph	3 10
Ditto, suit 3½ h.p. Minerva	3 0

TYRES.

We have a variety of Covers and Tubes to clear at low figures. Write for leaflet. Prompt delivery of

Genuine	Reinforced	Service
Michelins.	with tread	Stout
24 x 2, 18/-	very heavy.	Inner Tubes.
26 x 2, 18/-		6/6
26 x 2½, 20/-	£2 0 0	7/-
26 x 2½, 26/-	£2 5 0	7/6

We cordially invite our country and provincial friends to call on us when in town. Always something new to interest you. Make it your business to call. No necessity to purchase.

The Service Co., Ltd.,
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 (almost facing First Avenue Hotel),
 LONDON, W.C.
 Telegrams, "Admittedly." Telephone, 260 Central.

CARS FOR SALE.

8 h.p. De Dion, two or four-seater, smart and reliable, spare parts, £65; 8-10 h.p. twin runabout; 9 h.p. Riley model, car tyres, three speeds, cardan drive, great bargain, £35.—East Ham Garage, High Street South, East Ham.

ABSOLUTELY New 8-10 h.p. Jewel Runabout, two speeds and reverse, trembler coil, 4-30 miles per hour, hood, screens, and lamps, complete; can be seen in London; offers invited.—Power, c/o Streets, 30, Cornhill, E.C.

ROVER, 6 h.p., absolutely perfect condition, first-class running order, seats three, fast, magnificent hill-climber, and thoroughly reliable; severe trial given; absolute bargain; £70; good motor cycle part payment.—Rover, 86, Colvestone Crescent, Dalston, London.

6½ h.p. Humber Two-seater, side doors, dust screen, recently overhauled, painted, and varnished, jack, lamps, 80 mm. Dunlops, spare cover and tubes, good hill-climber; £65, or accept Triumph motor cycle part exchange; trial.—G. Smith, 37, Northumberland Road, Coventry.

9 h.p. Riley Car, 1908 model, 700 by 80 Dunlop grooved tyres, Cape hood, magneto ignition, in addition to coil and accumulators, extensions to mudguards, finished green, bodywork and guards recently re-finished, in splendid running order; £110.—1,102, The Motor Cycle Offices, Coventry.

ROVER Cars. — You never know what a skid means when you drive a Rover. Now the days of muddy roads are here are you not thinking of the pleasures that would be yours if you owned a car? Write us for the amount we will allow you for your skiddy mount in exchange for a Rover at £135.—Louis Davis and Son, Moseley, Birmingham.

HOTELS AND APARTMENTS.

WHEN visiting London stay at Waverley Temperance Hotel, 17, Euston Square. Bed, breakfast, attendance, from 3s.

INSURANCE.

PLEASE send for full covering Motor Cycle Policy, from 19s. per annum.—Bass, Insurance Broker, Ongar.

INSURANCE Policies for motor cycles are issued by Hugh J. Boswell, insurance broker, Norwich, at exceptionally low rates. Please write for particulars.

TUITION.

MOTOR Car Driving Taught in one month. —Particulars, 1,035, The Motor Cycle Offices, Coventry.

SITUATIONS VACANT.

VACANCY for Apprentice to receive thorough motor engineering training; small premium.—Apply, Ripley, Strong, and Co., Motor Engineering Works, Farnborough, Hants.

BUSINESSES FOR SALE.

ESTABLISHED Cycle Business and Garage, 12 miles from London, prominent main road, takings average £20 weekly, large shop, house, and garage; lease, stock optional, offers for quick sale; exceptional chance.—Box L3516, The Motor Cycle Offices, 20, Tudor Street, E.C.

ACCUMULATORS.

CELLULOID Accumulator Repair Outfits, useful for all celluloid repairs; full directions; post free 1s.—Below.

CHARGING Plant always running.—Below.

ACCUMULATORS, London made throughout, and fully guaranteed; the best value at the lowest price; in the following sizes: 6 amp., 4½ in. by 1½ in. by 5 in., price 6s. 6d.; 10 amp., 2½ in. by 2½ in. by 5 in., 8s. 6d.; 15 amp., 4 in. by 2 in. by 5 in., 10s.; 20 amp., 4 in. by 2 in. by 5½ in., 11s. 6d.; 40 amp., 4 in. by 4 in. by 5½ in., 18s. 6d.—Osborne Works, Forest Hill, London, S.E.

13S. 6d., Castle Accumulator, cost 23s. 6d., 25 amp. hours, perfectly new, no use owner.—B., 42, Crondace Road, Fulham.

ACCUMULATORS.

ACCUMULATOR Repairs by experienced workmen; lists and quotations free.—The Victoria Garage and Electrical Co., Ltd., Coventry.

ACCUMULATORS, 20 amp., well made, 12s. 6d.; other sizes as cheap; prices on application; repairs a speciality.—Clark and Co., 375, Edgware Road, London.

ACCUMULATORS Repaired promptly, any make; reasonable charges, best work; estimates given; full value for your old accumulator in exchange for our new "Mayfair" accumulators; special 15 amp., 10s. 6d.; 20 amp., 15s.; guaranteed one year.—Fellows 49, Hertford Street, Mayfair.

VOLTOO Coils work on 2 volts; 2,000 miles on one charge with Ajax 20 amp. accumulator. Prices: Plain, 15s. and 21s.; trembler, 30s.; send for lists. The famous Ajax accumulator, absolutely the finest it is possible to make; special protection of terminals; 20 amp., 6½ by 2½ by 4½ 17s. 6d.; any special size to order in 36 hours; send for lists of all electrical motor accessories.—The Ajax Electrical Engineering Co., 291, High Road, Ilford, E.

CONTACTS.

JEERON Contacts were used by Mr. C. R. Collier on his Matchless motor cycle when making the 1 hour world's record at Brooklands, October 8th, 70 miles 105 yards. Jeeron for high speeds, cures misfiring.

JEERON Contacts, registered 291-289, vastly superior to platinum; cures misfiring; is reliability and efficiency.

JEERON, best contact obtainable for blades, screws, cranks, rockers, plungers, magnetos, coils.

JEERON, prices 2s. 6d. each rivet fitted; special trimmers, for polishing Jeeron, 9d.; remittance with order ensures prompt attention; write for particulars and testimonials; too numerous to publish.

JEERON, Magneto Screws, complete for Bosch magneto, DA2 and DAV, will fit contact breakers 5a, 5b, 5c; 5s. 6d. pair; old screws refitted with Jeeron, 2s. 6d. each, equal to new.

JEERON, the King of Contacts, fitted per return post; no delay; post free home or abroad; liberal trade terms.

JEERON—From the Inventor, J. Edwards Brown, 38, Herbert Road, Plumstead, Kent.

IRIDIUM Champion Contacts.—Any parts fitted, returned same day, 1s. 3d. each, warranted pure; special iridium trimmers, 9d.; no filing required; magneto screws refitted, 1s. 3d. each.—Williams, 16, Wellington Street, Woolwich.

ENGINES.

4 h.p. Benz Gas Engine, horizontal, in fine condition; £4.—207, Peckham Rye, S.E.

h.p. Twin Jap Engine, Longuemare, good as new; £15.—40, Waddon Road, Croydon.

3 h.p. Quadrant Engine, perfect, accumulator and coil; £2 19s. 6d.—2, Upper Kennington Lane.

6 h.p. Twin Jap and carburetter, £9 10s.; 2½ h.p. Bat and carburetter, £3 10s.—Shrimpton, St. Peters, Broadstairs.

BRAND New 3½ h.p. Quadrant Engine, never been used; a bargain, 85s.—E. Leete, 4, Highbury Hill, London, N.

ENGINES, Zedel, 2½ h.p., £7 13s.; 3½ h.p., £9; 3½ h.p. twin, £10; 5½ h.p., £13 12s.—Rey, 5, Heath Street Motor Works, Hampstead.

75 by 75 Water-cooled Fafnir, excellent condition; £5; take air-cooled in part.—Motor Accessories, Broad Street, Coventry.

NEW 4 h.p. M.O.V., complete with pulley and contact breaker; £6 10s.; take smaller engine in part.—Motor Accessories, Broad Street, Coventry.

CLEMENT-GARRARD Engine, 2½ h.p., carburetter, silencer, in perfect order, £3 10s.; Wade and Jones spring handle-bar, 5s.—Hodgson, 10, Horton Road, Bradford.

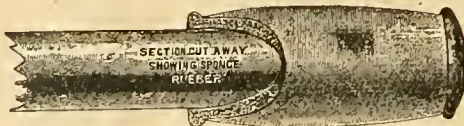
BOOTH—New 6 h.p. twin Antoine, £8 15s.; 3 h.p. Simms, magneto, M.O.V., £5 10s.; water-cooled 5 h.p. Antoine, M.O.V., new, £8 5s.; 5 h.p. Aster, w.c., £7 10s.—Booth's Motories, Wade Street, Halifax.

PLEASE NOTE

We can supply all parts for 2½ and 3½ h.p. F.N. Engines

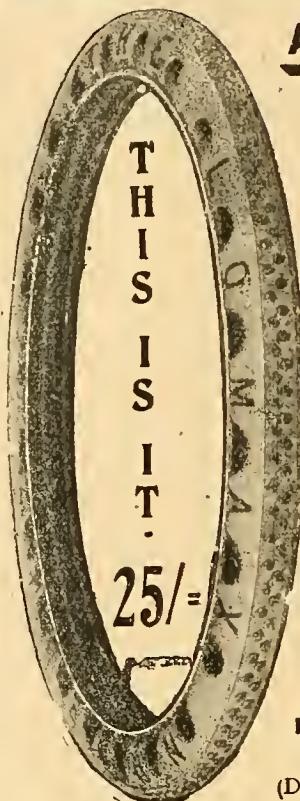
"VINDEC" Adjustable Pulleys for 2½ h.p. F.N. Engines, 10/ each.

"VINDEC" Adjustable Pulleys for 3½ h.p. F.N. and 3½ or 5 h.p. Peugeot Engines, 15/- each.



"KUMFO" Sponge Rubber Grins, 7/8 in. or 1 in. bars, 2/6 per pair.

South British Trading Co., Ltd., 13-15, Wilson St., London, E.C.



A GOOD . . .

NON-SKID

IS ONE THAT IS
EFFICIENT,
AND AT THE SAME TIME
GIVES

**ECONOMICAL
RUNNING
IN ALL
WEATHERS.**

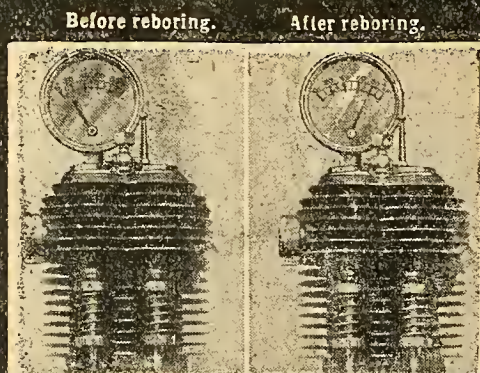
Such **A1** is the

LOMAX

Send for list also of
our belt.

**LOMAX TYRE
COMPANY,**
(DEPT. Y), BIRMINGHAM.

Compression means Power



We rebores your cylinder and fit new piston complete with rings and gudgeon pin. Please send for our new repairs booklet, giving prices for this work.

The **LAYSTALL MOTOR ENGINEERING WORKS, Ltd.**
AUTOMOBILE REPAIRERS,
27 & 29, Laystall St., Rushery Av., LONDON, E.C.
Established 1907 Tel. 1214 Central

ENGINES.

4-5 h.p. Simms Engine, M.O.V., water-cooled quite new, £7 10s.; 3½ h.p. Standard engine, £4 10s.; 2½ h.p. Quadrant, £3 3s.; h.p. Antoine, with damaged cylinder, 15s. 2½ h.p. Quadrant engine sets, 25s. set to clean.—Below.

31 h.p. Quadrant Engine Sets, comprising cylinder, piston, connecting rod, crank cases, flywheels, three bushes, etc. £2 19s. each.—Farrar, Square Road, Halifax.

JAP Engines, 6 h.p., twin, with Jap clutch, £11; Tourist Trophy 3½ h.p., £8 10s. 4½ h.p., overhead valves, £8; 3½ h.p., M.O.V. £6; all in magnificent condition.—Letter first, Hatch, Shrubbery, High Road, Woodford.

ENGINE, Coventry Eagle, 64 by 70 mm., inclined, complete with contact breaker and pulley, equal to new; what offers tank, three compartments, 4s. 6d.; Longuemare spray, 6s.—Watson, 114, Windmill Lane, Smethwick.

TYRES.

BOOTH—Clincher A Won 26 by 2½ covers 17s. 6d.; makers' name on, quite new approval.

BOOTH—Large stock of Continentals rubber studded, Shamrocks, Goodriches, Palmers; list free.

BOOTH—Before buying tyres send for our bargain list; we specialise in tyres.

BOOTH—28 by 2 Calmons, 13s. 6d.; Royalt covers, 26 by 2, 12s. 6d.; 24, 13s. 6d. beaded or wired.—Booth's Motor Exchange, Wade Street, Halifax.

PALMER Cord Cover, 26 by 2, brand new 32s.—White, 2, Britannia Buildings, Chesterfield.

700 by 85 Heavy Clincher Covers, type brand new, faultless goods; 37s. 6d. each.—Farrar.

CLINCHER Covers, beaded, new, unused Clincher name on, 26 by 2, 17s. 6d.; 24 by 2, 17s. 6d.; 26 by 2, 23s.; 28 by 2, 23s. approval on receipt of P.O.—Farrar, Square Road, Halifax.

26 by 2 and 28 by 2 Clincher Tubes, with valves; 5s. 3d. each, post free.—Farrar, Square Road, Halifax.

CLINCHER Cover, spare, 26 by 2½, beaded quite new; also Gripwell brake, foot back pulley, 8s. 6d.—Moss, Wem.

RE-TREADING Motor Cycle Covers, plain 11s. 6d.; fitted with Shamrock-Excelsior bands, 21s.—Ardea Company, 331a, King Street, Hammersmith.

MAUDE'S carry a large stock of Clincher Palmers, Continentals, Acme, Michelin and Shamrock studded tyres; send for our latest catalogue, post free upon request; will astound you.—Maude's, Powell Street, Halifax.

HALIFAX—26 by 2½ Calmon (new) covers 14s. 9d.; 2½ Calmons, to fit 26 by 2 rims, splendid covers, 17s. 9d.; 28 by 2 tubes, brand new, 4s. 9d.—Halifax Motor Exchange, Westgate, Halifax.

TYRES, 1908 reductions.—1908 new covers The Universal tyres are the best value in the trade (wholesale prices); Clincher pattern, all sizes, for motor cycles, 12s. 6d. tubes, 6s.—Universal Motor Tyre Co. 3, Chestergate, Stockport.

24 by 2½ Steel Studded New Peter-Union Covers, 24s.; 26 by 2 new Pullman wired-on non-skid cover, 13s. 6d.; 650 by 6 new heavy Continental car cover, 30s.; 26 by 2½ new Galuois covers, 16s. 6d.; approval.—West, 11, Seymour Place, London, W.

SIDE-SLIP Curbs.—Thoroughly tested, efficiency guaranteed, resiliency unimpaired; complete set for home fixing, without removing tyre, full instructions, carriage paid, 8s. 6d. (one wheel), 15s. 6d. (two wheels).—From Milligan, Ipswich Road, Stowmarket.

REPAIRERS.

£5 any motor cycle we cannot repair—White's, Brooks Alley, bottom Bold Street, Liverpool.

CRACKED Water Jackets of motors successfully repaired by Lea's metallurgical process.—Lea and Son, engineers, Runcorn.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

WANTED.

WANTED, 3½ h.p. Triumph, Vindec, N.S.U., or Phelon-Moore; reasonable cash or trade given.—80, Herbert Street, Halifax.

WANTED, a smart lad, to learn the motor business; premium £20, wage paid 5s. per week.—Apply to Rey, 5, Heath Street Motor Works, Hampstead.

MISCELLANEOUS.

Engines Re-bushed throughout from £1.—Tufnell and Co.

Cylinders Re-bored from 5s.—Tufnell and Co.

Pistons Supplied new from 7s. 6d.—Tufnell and Co.

Valves from 9d.—Tufnell and Co.

Connecting Rods from 7s. 6d. — Tufnell and Co.

Inlet Valves from 1s. 6d.—Tufnell and Co.

Exhaust Valves from 2s. 6d.—Tufnell and Co.

Valleys for any motor.—Tufnell and Co.

Triumph, Brown, Fafnir, 4s. 9d.—Tufnell and Co.

Rex, Antoine, Kelecom, 5s. 9d.—Tufnell and Co.

Edison, M.M.C., 6s. 9d.—Tufnell and Co.

Bove 4½ in. Diameter, extra 9d.—Tufnell and Co.

Wheels, cranks, spindles, handle-bars, seat pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed.—Tufnell and Co., 527, High Road, Weymouth.

N. carburetter, 5s.; 7ft. Watawata belting, 3s. 6d.; Rex pulley, 2s.—Birdseye, Westoft.

Overcoats, thick, warm, latest cut; 21s.—Write for patterns, Booth, tailor, Weymouth.

Whipcord Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, Tailor, Longton, Staffs.

Wheels for Motor Cycles, 45s.; portable.—Stevens, 82a, Leighton Road, Kentish Town, London.

Long Motor Handle-bars, 21in., heavy gauge, well plated, any size; 5s. 6d.—Farrar.

Loop Frame, for vertical engine, with front forks and handle-bar; 32s. 6d.—Farrar.

Genuine Camel Rubber and Canvas Belting, best on the market; send cash for length on approval; ½ in. 9d., ¾ in. 1s., 1 in. 1s. 9d. foot.—Farrar.

Get My Price List of accessories; pounds saved.—Farrar, Square Road, Halifax.

Advance Adjustable Pulley, used by all the leading riders.

Advance Adjustable Pulley, winner of T.T. Race.

Advance Adjustable Pulley, many thousands now in use.

Advance Adjustable Pulley; testimonials arrive daily.

Advance Adjustable Pulley will increase your power.

Engines, Engines, Engines.—3 h.p., 6 h.p., and 9 h.p., air or water-cooled; send for particulars.—Address below.

Here at Last!—An ideal and adjustable belt fastener; price 2s. 6d. — Address below.

Advance Generator Brackets, as recommended by "Ixion"; price 2s. 6d.—Advance Motor Mfg. Co., Ltd., Northampton.

Genuine Chater Frame, long footboards, long handles, 39s.; copper tank, pump, etc., 13s.—Below.

Longuemare H., including spares, 8s. 6d.; 12in. white metal silencer, 4s.; all above new June, offers, dirt cheap.—Below.

Minerva, 2½ h.p., run 200, unscratched, black and gold; £9 10s.; bought twin.—Lockerill, 213, Harvist Road, Kilburn.

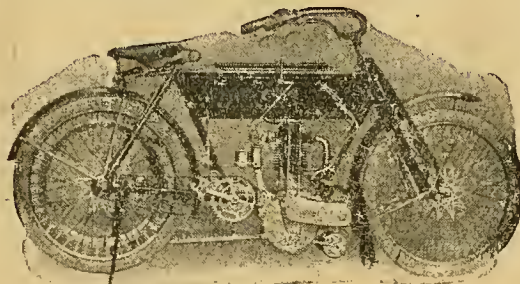
MATCHLESS MOTORS!!

LATEST SUCCESS ON
STANDARD 7-8 h.p. T.T. TWIN.

WORLD'S RECORD.

70 miles 105 yards in 60 minutes,

Brooklands Oct. 8th, 1908.



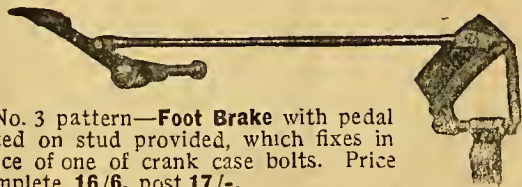
Tourist Trophy, 1907, First
Tourist Trophy, 1908, Second

158½ miles in 3 hrs. 57 min. 6½ sec. Bore 85, stroke 76 mm. Average speed 40 m.p.h., only ½ m.p.h. less than the winner, of 57000 cubic millimetres greater cylinder capacity. Beating 21 twin-cylinder machines from 3½ h.p. to 7 h.p., and 12 single cylinder machines of other makes.

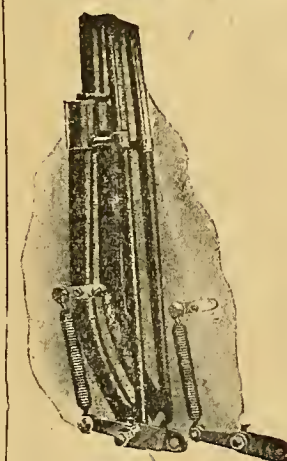
No. 1 pattern—Back Pedalling Brake. Machine can be wheeled backward. Extremely powerful. Price 16/6, post 17/-.



No. 2 pattern—Footrest Brake, complete, price £1 6s. Footrests only, price 12/-. with either ½ in. or 1½ in. clip. Post 12/6



No. 3 pattern—Foot Brake with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete, 16/6, post 17/-.



THE MATCHLESS
SILENCER.

Up to 3 h.p., 10/-; from 3½ to 5 h.p., 12/- Cut out 5/- extra. Two connections for twins with separate exhaust pipes, 4/- extra.

NOTE.—70 miles an hour with a standard machine fitted with this silencer, proving absence of back pressure.

STANLEY SHOW, STAND No. 128.

Catalogues of "Matchless" Motor Cycles and Accessories on application to

H. COLLIER & SONS, LTD.,

Motor Experts & General Engineers.

Offices and Showrooms:

13, HERBERT ROAD, PLUMSTEAD

(Nearest Station: Woolwich Arsenal)

Telephone: 232, Woolwich.

MISCELLANEOUS.

Booth.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

Booth.—500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget trembler coils, 17s. 6d.

Booth takes your old coil in part payment; part with troublesome coils.

Booth.—Fuller accumulators, 20 amp., 17s.; Rex type, 16s.; Minerva, 16s.; Midget, 16s.

Booth.—5s. 6d. allowed for your old accumulator in part payment for Fuller's.

Booth.—50 pairs XI'all spring forks; immediate delivery; N.A.B. seat-pillar, 3s. 6d.

Booth.—Long motor cycle handle-bars, heavy gauge, best quality plating; 5s. 6d.

Booth.—Silent silencers, for engines to 5 h.p., very efficient, no back pressure; 3s. 3d.

Booth.—Frames, £1 5s.; wheels, 9s. 6d. pair; plain coils, 2s. 11d.; trembler coils, 5s. 6d.

Booth.—Send for list of oddments, speed gears, tanks, etc.; clearance bargains.

Booth.—Camel rubber belting, tremendous stock; ½ in., 9d.; ¾ in., 1s.; 1 in., 1s. 2d.; 1½ in. 1s. 5d.; samples free.

Booth.—Coronet Searchlights, minor lenses, with generator; 22s. 6d.; approval.—Booth's Motories, Wade Street, Halifax.

Antoine and Kelecom Parts in Stock.—Crypto Co., 14, Mortimer Street, London.

80 Clean "Motor Cycles," exchange anything useful; castings 3 h.p. engine, complete, 14s.—Orrin, Braintree.

New Kent Tricar Gear, three speeds, complete, in hands of makers; price £6.—Cloake, Rose in Valley Hotel, Chatham.

Owners of heavy powered machines.—The D—all adjustable belt fastener will satisfy as no other shall.—Below.

D—ALL Adjustable Fasteners, the best yet produced; direct pull, frictionless, with two lengthening links, post free, 1s. 10d.—Dall, Ladybank, Fife.

Osborne Four-speed Gear, shop-soiled, fit Peugeot, £3 10s.; older pattern, fit Rex, 30s.—Turpins, Preston Road, Brighton.

If you are in want of anything from a valve tube to a car, write us. It will only cost a penny, but may save you pounds.

Quantity of Coils, magnetos, tanks, tyres, belt rims, frames, switches, horns, and other accessories too numerous to list going cheap.

We can usually fill your wants, and we answer correspondence immediately.

We carry out all classes of repairs, having special arrangements for this work. Our list will interest you.

Cracked Water Jackets, forgings, flanges, etc., repaired cheaply by oxy-acetylene process; plant running day and night; immediate attention given to all work sent in to The Fairy Motor Co., Fairy Works, Westcombe Hill, S.E.

Powell and Hammer Lamp, nearly new, 12s. 6d.; Longuemare E., plated, 15s.—Hall, 26, Oxford Road, Waterloo, Liverpool.

Belt Rim Brakes, flexible cable, hand applied, easily fitted, stop anything, 8s. 6d., usual price 15s.—Slack's Garage, Stockport.

Everything made in Tanks and Radiators except a fortune.—Write for prices, A. Phillips, 112, Lynton Road, Bournemouth.

2½ h.p. Minerva inclined engine, splendid condition, £3; handle-bar control, complete with cables, new, 5s. 6d.—7, Blair Grove, Southport.

Pulleys for Minervas, all sizes, best plating and finish; 4s. 6d., carriage paid.—Frank Whitaker, Green Street Green, Orpington.

Minerva Tank, sound, oil pump, levers, complete, 15s.; XI'all spring forks, perfect, 8s. 6d.—F. White, jun., 234, Clapham Road, S.W.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

MAUDE'S.—Genuine Stanley - Dermatine lin. belts, 8ft. 6in., guaranteed and genuine; 11s. 6d. each.

MAUDE'S.—Osborne four-speed, very good order; £2 17s. 6d.

MAUDE'S.—Brown and Barlow carburetter, with handle-bar control; only 20s., brand new goods.

MAUDE'S.—Amac carburetters, latest pattern, 29s., or your present one and 20s. secures; any model.

MAUDE'S.—Mabon clutch, fits Minerva, good condition; 32s. 6d.

MAUDE'S.—Longuemare spray carburetter, 15s.; Brown and Barlow, 15s.

MAUDE'S.—High tension wire, best quality, 9d. per yard; low tension, 6d.

MAUDE'S.—Albion free engine pulley, brand new; 30s.

MAUDE'S.—Cicoy single-cylinder non-trembler coils, 100 in stock, 3in. by 3in. by 3in.; note the low price, 7s. 11d.; post paid.

MAUDE'S.—Long handle-bars, best plating, finest quality, heavy gauge; 5s. 6d. per pair.

MAUDE'S.—Large leather toolbags, splendid quality; note low price, 3s. 9d.; with outside pockets, 5s. 3d.

MAUDE'S.—The latest variable pulley, standard sizes in stock. Try one on approval; only 14s.

MAUDE'S.—Treble twist horns, the finest horn ever made; only 6s. 6d.; double twist, 4s. 6d.

MAUDE'S.—Latest pattern headlight, guaranteed; price 15s. 9d.; approval.

MAUDE'S. the Fair Factors, Powell Street, Halifax. Tyre catalogue ready. Send your name for one.

SMART Whipcord Motor Cycling Breeches; 8s. 6d., post free; patterns free.—Meredith's, Northwich.

IF you want good bargains in second-hand motor cycles, tyres, or accessories, you can get them at 5, Heath Street Motor Works, Hampstead. Tel. 2678, P.O.

FIT-ALL Two-speed Gear, handle-bar control, perfect, only used three months; accept £4 10s., or near offer.—Randall, 99, Beckenham Lane, Shortlands.

LONGUEMARE H. Carburetter, 11s. 9d.; two new Continental covers, 26in. by 2in., beaded, 13s. 6d. each.—30, St. John's Road, New Shildon, Durham.

FITALL Two-speed gear, not run 40 miles, complete with fittings, suitable for Triumph; £4.—Young, 18, North Terrace, West Allotment, Newcastle-on-Tyne.

STANLEY-DERMATINE Belting, two-piece, guaranteed new, 3in. 6s. 5d., 3in. 7s. 5d., 3in. 8s. 5d., 1in. 9s. 5d., carriage paid.—Frank Whitaker, Green Street Green, Orpington.

ENLARGEMENTS (bromide) from amateurs' negatives; 8 by 6 9d., 10 by 8 10d., 12 by 10 11d., 15 by 12 1s. 1d.; from prints 6d. extra, cash; satisfaction guaranteed. — Greame, Wellesley, Whyteleafe.

VIM Back Brake, new, 5s.; lady-back motor tandem frame, 25s.; Phoenix-Panhard carburetter, 10 h.p., 15s.; 700 by 85 Dunlop tube, 10s.; electric tail lamp, new, 7s. 6d.—46, Vardens Road, Wandsworth.

LARRAD'S Motor Timer, new condition, 17s. 6d.; Longuemare carburetter, B26, perfect, 30s.; T. and M. carburetter, 35 mm., as new, 40s.; also Whittle belt, nearly new, 12s.—73, Church Street, Camberwell.

LOMAX Detachable Non-skid, 26 by 2½, unused, 14s.; 3in. Watawata, used, 7s.; F.R.S. lamp, new, 15s.; Autoclipse generator, nearly new, 12s. 6d.—Matthewman, Thomas Street, Thornton Lodge, Huddersfield.

LONG Handle-bars, 4s.; swanneck seat pins, 2s. 6d.; torpedo and ordinary tanks, from 5s.; frames, from 50s.; anything to specification; best work only. — Arrow Motor Works, Victoria Road, Peckham.

—BANDS!—

The timely fitting of a studded band not only saves buying a new tyre but converts a smooth tread cover into a non-skid. Without which winter riding is unsafe. We particularly draw readers' attention to the Editor's emphatic warning in *The Motor Cycle* (21/10/08) re the danger of winter riding on smooth tread tyres.

BANDS, RE-TREADING, and REPAIRS our Speciality. (All makes of Bands fitted.)

Shamrock, Clincher, and Goodrich Rubber-studded Non-skid Bands, 21/-, including fitting. Re-treading with steel-studded rubber tread... 25/-

" " seven-ribbed corrugated tread 17/6

TYRES!

We are Special Agents for all Rubber, and also Steel-studded Covers.

THE "ROM" INNER TUBE. "THE CAR TUBE IN MINIATURE."

Prices, complete with valves.

26 & 28 x 2.	9/-	Endless.	11/-	Butt-ended.
26 & 28 x 2½	10/-	"	12/-	"
26 & 28 x 2¾	11/-	"	13/-	"

Extra heavy quality only.

Whatever your requirements, write for our "ILLUSTRATED TYRE LIST" (sent free). This gives prices of all Covers, full particulars of our allowances on old Covers, prices for Re-treading, fitting Bands, etc. Trade List on application.

R. FRONT WHEEL STAND. **R.**

O. (See description and illustration in last week's *Motor Cycle*).

M. IMPORTANT.—A Special Model is now made to fit "Triumph" Motor Cycles. Lists, etc., FREE ON APPLICATION.

THE CONTINENTAL MOTOR CO.,
32, Rosebery Avenue, LONDON, E.C.

Phone: Holborn, 1513. Tel.: "Bromitch," London

ELEGANT COMFORTABLE.

THE INVINCIBLE

Motor Cycle Suit.

It is made as an ordinary Norfolk suit. The breeches are lined throughout with flannel, with lace knees. The jacket is made with a detachable leather body lining, which can be taken out when not required. With the leather lining in, this jacket is perfectly weatherproof. Made in fancy tweeds and homespuns. Price—

42/ 46/6 50/

**Motor Clothing
and Accessories
Catalogue (Illustrated) post free.**

JOHN PICCOTT Ltd.
117-118, Cheapside, and Milk St.,
LONDON, E.C.

MISCELLANEOUS.

AUTOGENOUS Welding.—Send that broke casting to the Alvaston Motors, Derby to be welded by patent process; metal reunited.

AUTOGENOUS Welding.—Costly casting saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, and a thousand other things.

AUTOGENOUS Welding.—Wonderful results. Broken flanges, lugs, brackets, etc., all amenable to our process; send par to-day; quotations on sight.

AUTOGENOUS Welding.—Alvaston Motors Derby. Telephone, 1, Alvaston.

X'ALL Spring Forks; 8s. 6d., or exchange adjustable pulley (Minerva).—Maurice Hall, Louth.

CASH Bargains.—Clincher A Won motorcycle, B.E., 28 by 2½, 21s..

MOTOR Cycle Covers, wired edge, 26 by 2½, and 2½, 11s. 6d.; 28 by 2½, 2½, 12s. 6d.; beaded edge, 2s. extra; Clincher motorcycle tube, 26 by 2½, 6s. 9d.; Macintosh tube 26 by 2½, 28 by 2, 6s. 9d.

PRESTED 12 Amp. Accumulators. 9s. 6d. two-way switches, 2s.; searchlight lamp, with separate generator, 22s.; vol or ammeters, 4s. 6d.; large double-twist horns, 5s. 6d.; belt fasteners, 8d.; belt punches, 1s. 3d.; ratchet plated control levers, 1s. 6d.

BELTING, best quality leather, V. 3, 8d., 10d., and 1s.; rubber and canvas, 1in., 1s. 2d. per foot; approval against cash. — Bastone, 215 and 217, Pentonville Road, King's Cross, London, N. Telephone 2481 North.

LONGUEMARE Model H. Carburetter; 10s. 6d. cash.—Knight, Maypole House, Berkeley, S.E.

LARGE Stand Camera, half-plate, Lancaster lens; £1; useful exchange.—8, Lodge Road, Tonbridge.

CONTINENTAL Belt, 3in., 4s.; 3in. leather belt, 4s.; Minerva pulley, 3s. 6d.—Brain, 106, Powis Street, Woolwich.

DON'T Scrap that cracked cylinder; try Barker's iron cement; 1s. tin saves pounds; many testimonials.—Oxford Road, Worthing.

SINGER Wheel, complete, with tyre and everything, ready for fitting to machine, 2½ h.p. magneto, good condition; 45s.—Sikson, Bond Street, Leicester.

2½ h.p. Engine, carburetter, coil, perfect; £3; water pump, 5s.; four accumulators, 8s. 6d.; 22s. gas lamp, 11s. 6d.—C. 162a, Dalston Lane, London, N.E.

KENT two-speed gear box and free, large foot clutch, starting handle, and back wheel, suit tricar; £4 15s. lowest.—George, 47, Montague Road, Norfolk Road, Dalston, London.

BROWN-BARLOW Carburetter, 12s. 6d., unused; blowpipe and bellows, 22s.; tandem, Chater-Lea, £5 10s.; chemical fire extinguisher, new, 10s. 6d.—8, Herndon Road, Wandsworth.

TWO Palmer Square Tread Covers, 28 by 2½, new, but soiled, and air tubes, 1700 by 65 rims, £2 2s. 6d.; forecar or sidecar seat, wicker, upholstered, Cee springs, 17 6d.—102, Mare Street, Hackney, N.E.

NEW Fuller Coil, twin, plain, 15s.; pair Basse plain coils, 15s.; pair tricar paraffin lamps, 15s.; brass headlight, 5s. Bowden control lever, 4s.; lady's motorcycle, £12.—61, Denmark Hill, Camberwell.

FRAMES, No. 6, latest, £3; tanks from 5s.; long handle-bars, 4s.; swanneck saddle-pillars, 2s. 6d.; all to your own requirements; machines cut down; low price for all repairs.—Green, 14, Avondale Road, Peckham, S.E. Works, McDermott Road.

FOR Sale, 6 h.p. Aster engine, water-cooled, guaranteed running order, £8; motor trailer, splendid condition, 35s.; four-cylinder trembler coil, brand new, 30s.; two-cylinder trembler coil, brand new, 15s.; 6 by 65 car tyre, as new, £1; Collier car tyre heavy tread, £2.—Askham, Commercial Road, Kirkstall.

THE

Stanley Dermatine

MOTOR BELT

is sold and stocked by all leading motor agents and factors throughout the British Isles, simply because it is British manufacture and the most reliable canvas and rubber belt on the market.

The Original Canvas and Rubber Belt ever placed on the market in any part of the world.

Beware of imitations.

First prizes in The Tourist Trophy Races two years in succession, 1907 and 1908.

Holds many records and has gained over 100 gold medals for reliability trials, hill climbs, etc., during season 1908.

Hundreds of Testimonials. British Made.

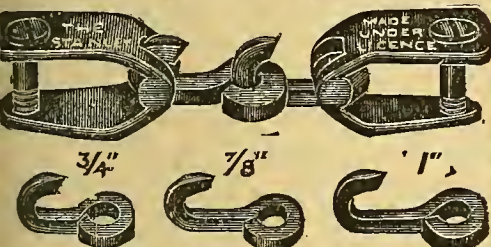


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1/2 in.	3/4 in.	1 in.	1 1/4 in.
1/2	1/4	1/8	1/11 per ft.

POST FREE.

The Stanley Adjustable Fastener.
20,000 sold in first week.



Price 1/6 each. Hooks only 1/- set of three can be used with Stanley fasteners.

The Stanley Detachable Fastener.
80,000 in use.



With Unbreakable Hook. Guaranteed. (Made under Simplex Patent.) In sizes 3/4 in., 1 in., 1 1/4 in., 1 1/2 in., 1 3/4 in. Wholesale and Retail.

The STANLEY DERMATINE
MOTOR BELT CO.,

32, London Road, BROMLEY, KENT.
STANLEY WEBB, Manager.

Readers who purchase, or contemplate purchasing, a new machine, should advertise their present mount in these columns. Experience has shown that "The Motor Cycle" is, in the majority of cases, successful in finding a purchaser. This applies also to accessories and spares.

MISCELLANEOUS.

LEATHER Jacket for sale (height of wearer 5ft. 4 1/2 in.), cost 12s., also new leather cap, 6 1/2 in.; sacrifice 12s. 6d. lot.—1,130, The Motor Cycle Offices, Coventry.

MICHELIN Inner Tube, endless, good condition, 7s. 6d.; Michelin tube, butt-ended, new, not used, 9s. 6d.; Basse-Michel coil, plain, oblong, perfect condition, 9s. 6d., cost 19s. 6d.—73, Church Street Camberwell.

READERS having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium; 1/2d. per word, minimum 9d.—Address, "Photography and Focus" Offices, 20, Tudor Street, London, E.C.

LUBRICATION Troubles Cured.—Name engine and order K. brand oil; gallon tins 4s., half-gallons 2s. 3d., quarts 1s. 4d., carriage paid anywhere, and money returned if not approved.—Kelly and Company, Bridge End, Leeds.

PULLEYS for any motor.—De Dion, M.M.C., 6s. 6d.; Antoine, N.S.U., Kelecom, Roc, F.N., 5s. 9d.; Peugeot, Brown, 5s. 6d.; Triumph, Fafnir, Sarolea, Minerva, 4s. 9d.; plated, guaranteed, carriage paid.—J. Perkins, High Road, Leyton, London.

ANGLO-SAXON Bargains.—Two-note motor cycle Fanfare horns, our price 6s. 9d. each; Perfecta separate generator lamps, large size, 9s. 6d., complete; long motor bars, all shapes, 6s. 9d.; new pattern drop seat pins, 3s. 11d.—31, Newgate Street, E.C.

PALMER Cord Cover, 28 by 2, wants repairs, 7s. 6d.; spring forks, 8s. 6d., new; free engine clutch, pulley, new, 25s.; pair 23 by 2 plated wheels, with coaster hub and brake, 20s., or exchange; Chapman's two-speed gear, 20s.—237, Hertford Road, Edmon- ton.

3 IN. Watawata, 7ft., good condition, 6s.; Brooks B100, 12s.; Price's stand, 5s.; carrier and stand, 5s.; Prested coil, 5s.; Marconi accumulator, 6s.; 2 1/2 h.p. Genuine De Dion, Chater-Lea, De Dion carburetter, perfect, £18.—Cox, 25, St. Andrew's Street, Cam- bridge.

LATHE, screw-cutting, by Buck and Hick- man, London, cost £48, accept £28. or offer; small lathe, £4 10s.; brazing hearth, £2 10s.; portable vice and stand, £2; set Sayer's brass carriers, for spare tyres, cost 50s., set 20.—Hancocks, High Street, Batter- sea, S.W.

B. and B. Carburetter, complete, 4s.; 25 amp. C.A.V. accumulator, 6s. 6d.; 10 amp. ditto, 3s. 6d., as new; plain coil, 4s. 6d.; double Van Raden ditto, 6s. 6d.; 26in by 2in wired Continental cover and tube, unpunctured, 11s. 6d.; "Motor Cycle," complete, 1906 and 1907, 5s. the lot; tool roll and eight tools, as new, 5s. 6d.—W. Searle, 4, Crampton Road, Penge, S.E.

FOR Sale, back axle, with wheels, differ- ential, springs, and two-speed gear, for light car, 50s.; pair 26in. front wheels, axle springs, and 2 1/2 in. tyres, suit car or tricar, £2; steering column, with gear and wheel, 6s.; pair of forecar springs, 2s. 6d.; bonnet for light car, 2s. 6d.; stamp for reply.—127, Salisbury Avenue, Westcliff-on-Sea.

5,000 Government Gauntlet Gloves, all buckskin leather, 2s. 6d. pair; 500 leather belts, 1s. and 1s. 3d. each; leather leggings, 2s. 6d. and 3s. 6d. pair; Bedford cord riding breeches, 4s. 6d. and 5s. 6d.; Government all-wool military socks, 10d. pair; police capes, 4s. 6d. and 5s. 6d. each.—Anscomb, Government Contractor, 14, London Road, London, S.E.

4 1/2 h.p. Horizontal Engine, complete for workshop, almost new, £5; 2 1/2 h.p. De Dion engine, 50s.; 2 1/2 h.p. Birchfield, new, £5; 1 1/2 h.p. Minerva motor cycle, £5; Chater- Lea frame and wheels, 50s.; new coils from 10s. 6d.; 10 h.p. Continental car, less engine, two-seater, Wolseley gear box, nearly new, what offers?—Harper, Week Street, Maid- stone.

SALE or Exchange genuine 8 h.p. twin- cylinder Buchet engine, fitted with Longuemare, and exhaust boxes, £12; two plain coils, 4s. 6d. each; 40 feet Hans Renold 1in. by 3/4 in. new roller motor chain, 30s.; Model H. Longuemare, 15s.; wanted, bucket seat, for tricar, 26 by 23, beaded studded tyre, anything useful.—Knight, 48, Adding- ton Road, Barking Road, Canning Town.

W & R J
LONDON

For a PENNY
worth of petrol you can
TRAVEL 14 MILES
if your machine is fitted with

W & R J
LONDON

White's Economiser

(Prov. Pat.)
(reckoning petrol at 1 1/2 per gall.)

Mr C. E. KETTLE (3 1/2 Triumph) averaged
198 MILES TO THE GALLON in Manchester
M.C.C. Consumption Test, using the "White's
Economiser." (See "The Motor Cycle," Oct.
28th, page 848).

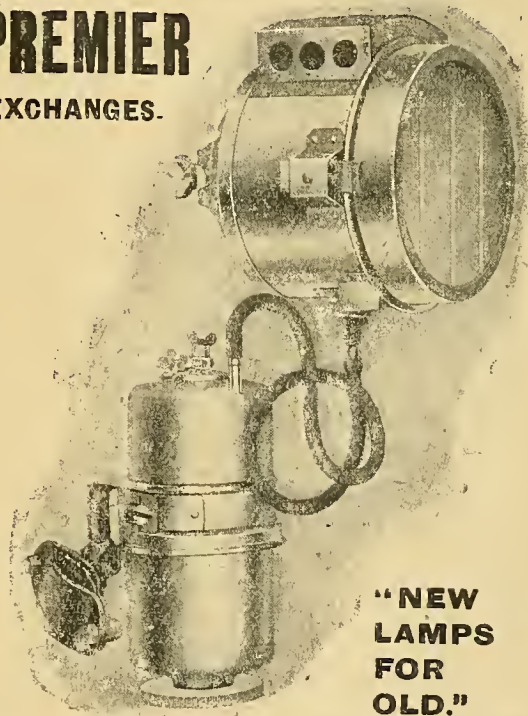
Try one for yourself—only 4/- each, and
don't forget that with it **INSTANT STARTING**
IS ENSURED AT ALL TIMES, THROUGH-
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Protect your Belt and Spare Tube by using the
"ELECTARY" Combined Case at 6/8.

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STANLEY SHOW.**

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PREMIER EXCHANGES.



**"NEW
LAMPS
FOR
OLD."**

NOT ONE PER CENT. of our offers to exchange **THE PREMIER SEARCHLIGHT** for our customers' old lamps have been declined. This is **proof** that we make most liberal allowances. It was the first lamp of this type to be marketed; it has stood the test of time, and will outlast any two of the (cheap) sort introduced since **THE PREMIER** proved such a distinct success. Send your old lamp and we will make an offer per return. **THE PREMIER is BRITISH.**

Complete, 30s.; Lamp only 24s.; Generator, 6s.
The PREMIER MOTOR Co., Ltd.,
ASTON ROAD, BIRMINGHAM.

"PEUGEOT" ENGINES.

FOR

Speed, Reliability, Power.

1907

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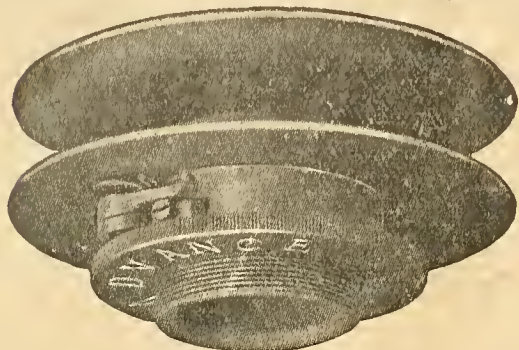
(Twin-cylinder class) and 1908.

Full particulars, with list of **GENUINE SPARE PARTS** and Picture P.C., on application.

**J. TAYLOR, 318, Percy Road,
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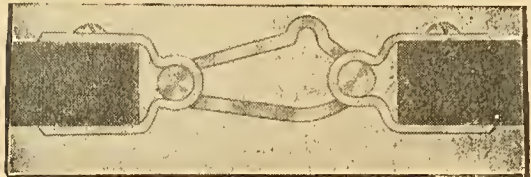
Call at No. 244 Gallery, Stanley Show.

AN EXCELLENT COMBINATION! "ADVANCE" ADJUSTABLE PULLEY,



Price 20/-, and the

"ADVANCE" Adjustable BELT FASTENER.



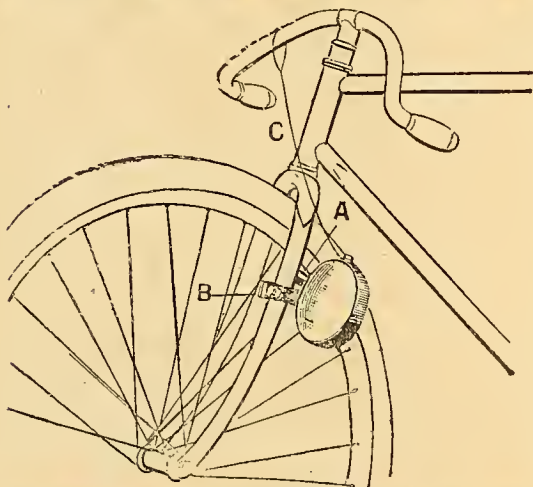
No jockey pulley required to take up the slack if you use the above. Price 2/6.
The only pulley and belt fastener on the market adjustable without removing the belt.

MANUFACTURERS—

ADVANCE MOTOR Mfg. Co., Ltd.,
NORTHAMPTON.

Have **YOU** tried
the new Road-
clearer for bicycles?

TAMBOURONG



Replaces the old-fashioned bell and horn.
The Effect is Startling!

Fixes on front forks. A cord from handle-bar pulls trigger when required in contact with front wheel spokes and sounds like a noisy drum or gong.

Stamped metal gong, 1/6.
LEO. RIPAULT & CO.,
64a, POLAND ST., LONDON, W.

Sole Agents for the genuine Parisian made article.
NOTICE. As we find the parchment model is detrimentally affected by damp weather we have abandoned this pattern in favour of the new stamped metal gong, which is the thing for Motor Cycles, and made specially strong.

Genuine Birmingham "QUADRANTS."

A large stock of parts still to be cleared.
Write for latest list.

REG. SAMSON,
232, LADYWOOD RD., BIRMINGHAM.

MISCELLANEOUS.

MOTOR Stand, 3s. 6d.; air-cooled cylinder head, 3 h.p., 10s.; water-cooled cylinder head and piston, 3½ h.p., 38s.; one pair 26 by 2 inner tubes, 10s.; one pair 28 by 2½ ditto, 10s. 6d.; one pair 760 by 90 ditto, car, Dunlop, 24s.; four 7 lb. tins gear grease (best), 3s. tin; one motor horn (good), 8s.; complete set vulcanising, 20s. size, full directions for use, 10s. 6d.; H.F. vulcaniser, £3; tyre tester, 5s.—Hancock, High Street, Battersea, S.W.

LUCAS Autolite Headlight, nickelled, condensing lens, £3 10s.; Continental armour treaded cover, Dunlop heavy tube, 700 by 80, unpunctured, £3 5s.; 42 amp. Premier accumulator, 12s. 6d.; 20 amp. ditto, 7s. 6d.; single trembler coil, 10s. 6d.; Lucas motor pump, 90G., 5s.; Millennium jack, 5s.; voltmeter, 2s. 6d.; or nearest offers, all perfect.—Webb, 186, South Road, Handsworth.

FRONT Axle and Wheels, complete, with steering column and wheel, suit small car or tricar, 30s.; Mabon free engine clutch, for inch belt, 25s.; 7 feet 4in. Shamrock-Gloria belting, 4s.; plain coil, 5s.; trembler, 6s.; 1½ h.p. Minerva engine, complete, with tank, carburetter, and silencer, 30s.; 28 by 3 Dunlop wired cover, 9s.; 26 by 2½ headed, 7s.; pair 700 by 65 wired Continentals, perfect, £1; wanted, coach-built fore-car seat.—Stevens, 4, Goldhawk Mews, Shepherd's Bush.

TRAD Direct and Save a Profit. — The Albany waterproof jackets, from double texture paramatta, at 18s. 6d., are going well, but for winter riding you may prefer our 21s. jacket, made from best plain fawn proof, lined self beaverteen; this is a heavy, warm, tailor made jacket, with latest improvements; any size sent carriage paid; cash with order.—G. Raws and Sons, Indianrubber Manufacturers, Oldhall Street, Liverpool.

CHATER-LEA Frame, inclined, chain wheel, cranks, pedals, handle-bar, saddle pin, Davison tank, £2 10s.; pair Chater-Lea hubs, 13s.; parts for Chater-Lea spring forks, cost £1 5s., 17s. 6d.; 12 belt fasteners (Star), 4s. 6d.; 2½ h.p. Jap-Douse engine, £2; 2½ h.p. Hawco, roller bearing, new, £3; Brown and Barlow carburetter, 12s. 6d.; Longuemare, new, H., 16s.; Basse-michel trembler coil, 8s.; Basse-michel plain, new, 8s.; 4in. Wright's leg vice, 9s.; belt rim, 19 by 2, 2s. 6d.—Preater, 15 New North Road, Hoxton.

STAMFORD HILL.—40 amp. Peto and Radford accumulators, new, 16s. 6d.; 20 amp. 9s. 6d.; Michelin tyres, 26-2, 18s.; 26-2½, 20s.; 26-2½, 26s.; 28-2½, 21s.; Michelin butted tubes, 2, 2½, 2½, 10s. 6d., 11s., 12s.; speedometers, 6s. 6d.; leather D.B. jackets (new), 10s. 6d.; two-speed and reverse gearbox, 37s. 6d.; motor cycle tanks from 6s. 6d. each; splendid V belting, from 8d. foot; carburetters—3½ h.p. spray, 12s. 6d.; 2 h.p. ditto, 9s. 6d.; twin Kerry, 16s.; Norman two-speed gear, 45s.; 2 h.p. engine, 15s.; Midget plain coils, twins, 10s. 6d.; single, 6s. 6d.; 2½ h.p. Rex engine, £3 18s.; Clincher inner tubes, 6s. 6d. each; latest motor cycle searchlight, new, complete, 25s.; 4in. steel mudguards, 1s. 9d. pair; tricar wing mudguards, 6s. 6d. pair; very large, 9s. pair; long handle-bars, dropped ends, 7s. 6d.; over-back seat-pillars, best plating, 4s.; list just ready, free.—128, High Road, Tottenham.

TRADE ADVERTISEMENTS.

CLEMENT-GARRARD Genuine Parts.—Sole English Agent, Frank Walters, 82, New Street, Birmingham.

WHY Pay More? — Adjustable pulleys, from 8s.; plain pulleys, from 4s.; pistons, from 7s.; re-bushing, from 12s. 6d.; satisfaction guaranteed; list free.—Lee, engineer, 18, Somerset Road, Edmonton.

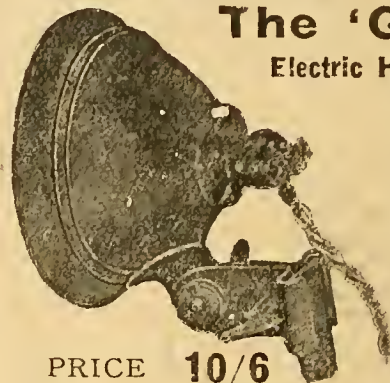
N.S.U. Two-speed Gear and Free Engine: we can now fit this gear to Peugeot and Vindec machines for £5 15s.; recommended for sidecar work and winter riding.—Eagles and Co., N.S.U. Agency, Acton. Telephone, 556 Chiswick.

TWENTIETH Century Motor Co., Ltd., Padua Road, Penge, S.E.—Carburetters, new, from 8s.; control levers, new, from 1s. 3d.; oil pumps, new, 3s. 3d.; circulating pumps, new, 15s.; distribution wheels, new, 4s. per pair; brass silencers, 2s. and 4s.; piston, ring, and pulley castings; approval.

HALF a MO

The 'GLARE

Electric Headlight



PRICE 10/6

Consumes only 4 volt ½ amp.

Weights only 8 oz

Throws a beam 100 ft ahead.



THE ORIGINAL VARIABLE SPEED PULLEY, £1.



ADJUSTABLE HANDLE BAR LAMP BRACKET 4s. 6d.

ACCUMULATOR and Box for Glare, £1

A few of our Specialities. Write for particulars.

MAGNETO CUT OUTS, 1/9 each. Thousands in use.

J. W. GREENWOOD, Ltd.

PORTLAND PLACE WORKS, HALIFAX.

London Offices and Showrooms: Agents—Messrs BURT, 166, Clerkenwell Road, London.

Car Bargains.

GREGOIRE, 8 h.p., two cylinders, bucket seats, perfect condition, very smart. To clear, £68 10s.

SINGER, '07, 7/9 h.p., hood, screen, etc., as new, £155.

HUMBER, 15 h.p., '07, £175.

SIDDELEY, 1908, 14 h.p., new; **SIDDELEY**, 18 h.p., '08 Trials car; **SCAT**, '08, 22 h.p., new; 10/12 h.p. **WOLSELEY**, etc. Offers?

1908 Triumphs and Cash
for any of above.

ERIC S. MYERS,
"No Worry Depot,"
BRADFORD.

ADVERTISERS — Please note that Friday is the latest day we can receive advertisement copy for the following week's issue.

THE MOTOR CYCLE

Vol. 6. No. 294. CONTENTS. Nov. 11, 1908.

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Agents for the Colonies: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

Subscription Rates: Home, 6s. 6d.; Foreign, 10s. 10d.; Canada, 8s. 3d. per annum.

ADDRESS—20, TUDOR STREET, LONDON, E.C.

The Number of Motor Cycles.

IMPORTANT evidence of the very marked increase in the number of motor cycles in use has come to our knowledge through a source which can be fully relied upon. Everyone is aware that high tension magneto ignition has been practically universal on 1908 motor cycles, and that the great majority of these magneto machines have been supplied by the Bosch Magneto Co., London, or the works at Stuttgart. It occurred to us that a firm manufacturing such a large quantity of magneto machines, which are almost universally used on motor cycles, would be in a position to inform us of the number sent out from their works during twelve months. We therefore communicated with the company, and were informed that, although no separate records were kept of the number of magneto machines sent to different countries, the total number was at our disposal. We decided that a very fair estimate could be obtained of the number of magnetos used in this country fitted either to British or Continental built motor cycles, including those re-exported to our colonies. The figures with which we have been supplied fully confirm the opinion we had formed, that the increase in the number of motor cycles during the past twelve months has been very considerable. To the figures provided by the Bosch Co. must be added an estimated number of motor cycles sold with battery ignition, also an estimated number of motor cycles fitted with the various other makes of magneto machines. It is difficult to estimate these additions at all accurately, but presuming that the total number of battery ignited and other

magneto ignited motor cycles is 50% of the figures given by the Bosch Co., we have a total of over 20,000. The total number of motor cycle magneto machines sent out from the works of the Bosch Magneto Co., Ltd., from July 1st, 1907, to June 30th, 1908, was 13,756. Of these 9,553 were for one cylinder and 4,203 for two and four-cylinder motor cycles respectively. At a low estimate, we should say that 60% of these magnetos have reached England, either for fitting to British made motor cycles, or as part of the equipment of imported Continental machines. If 60% of the total of other magneto ignited and battery ignited motor cycles are added to those figures we have a total of about 12,379, which, notwithstanding the period of depression in trade which we have gone through during the time mentioned, shows a distinct increase in the popularity of motor cycles. It is, of course, impossible to obtain the exact number of motor cycles turned out by the different home and Continental manufacturers and assemblers, but a rough estimate we had previously prepared from information obtained fully confirms the figures sent to us by the Bosch Magneto Co. with regard to the increase in the number of machines sold. It will be noticed that the figures given us are from July, 1907, to June, 1908, so that it is practically certain that the machines they represent do not remain in stock. Even if a proportion are unsold they only represent a similar stock which existed previously, and which one might call the floating stock—a figure which does not affect the estimate. The increase for a similar period of 1906 and 1907 according to the registration figures we published on July 31st, 1907, was 8,142.



THE LAST RUN OF THE SEASON.

By E. DOUGLAS FAWCETT,

Author of "The Riddle," "Hartmann the Anarchist," "Swallowed by an Earthquake," "The Secret of the Desert," etc., etc.

A GLORIOUS November afternoon, with the sunshine flooding the chalet, on the balcony of which I take lunch. The motorist's season in the Alps is drawing to a close. The snows of approaching winter are stealing down the great mountains across the valley; the garden looks desolate, and its paths are strewn with dead leaves; there are brown patches on the once green slopes around me; the music of the cowbells is no longer heard, the cattle being shut up in their winter quarters, whence they will not emerge till the spring. It seems about time to house the Bat up here for the winter, but a satisfactory run is, of course, to be enjoyed first. I descend from our eyrie to the pathway beside the torrent, and thence to the Bat's quarters in an outhouse some three hundred feet below the chalet. There are no adjustments to be made, and I am soon spinning along the rough road which leads from Chateau d'Oex in the "High Country" of the Canton de Vaud to Rougemont.

Speeding along amid Magnificent Scenery.

Stretches of newly laid stones make travelling unpleasant at first, but once clear of the village I give the 6 h.p. twin its head, and speed along merrily amid superb scenery. To the left are the long chalet-set slopes of the mountain on which I live; to the

right stretches the valley of the Pierreuse, bounded by lofty and rugged peaks. The Sarine winds far below in its pine-set sinuous gorge. The road is unlike those for which the mountainous parts of France are famous; its windings compel caution; it is narrow and badly surfaced. Happily, there are few carts about, and a good pace (somewhat above the Swiss legal limit) is maintained. Soon Rougemont is reached, and with it the Bernese Oberland, where German begins to replace the French spoken in the canton of Vaud. Further on, topping a mound above the road, are the ruins of a fastness once owned by robber barons of ill repute; the pines are now growing in the floor of the ruined hall. On my right tower the peaks of the Rublihorn, 7,500 or so feet in height, and a barrier of dark-wooded mountains walls in the valley on the left. Some miles forward, and Saanen, the capital of the upper valley, is reached. The industry of this high valley centres round cattle and the wood trade. There is little else of importance to keep things going, though, doubtless, the disbursements of the summer and winter tourists prove of use.

At this point I have now a choice of roads. On the one hand, I can go to the right, and, passing Gstaag (Gsteig), and crossing the Col de Pillon (a grand run, reaching 5,000 feet), descend steeply to lovely



View from the balcony of the chalet. The quarters of the Bat can just be seen at the bottom of the illustration.



An early winter scene from the author's chalet, Chateau d'Oex (Gummfluh range).

The Last Run of the Season.—

Ormont-dessus; or, on the other hand, I can cross the Col of Saanen and descend into the valley of the Simme, which leads past Zweisimmen towards the lower country beside the Lake of Thun.

Ascending the Col of Saanen.

I take the latter route, and put the twin at the climb without ado. This "col" is an easy one, as the turns are not severe, and one can let the machine go in a way impracticable on curving ascents. I have only one corner to negotiate with reasonable prudence, and the twin is playing with the gradient in a manner that augurs well. The corner past, a long stretch of straight going meets the eye. I open the throttle, and am borne up the hill at a rush, startling some road-menders and leaving a long trail of dust in my wake. A kick frees the silencer, and the warning bark of the engine heralds my coming to all interested ahead. At the top (4,200 feet) I dismount to enjoy the view. There is a fine view down the sunlit green valley. The Rublihorn, Gummfluh (8,060 feet), and the other great peaks past which I have come show grandly in the distance, while towards Gsteig, whither the just-

left Sarine Valley winds, there is a vista of far snow-fields and glaciers. I recall a pleasant summer crossing—on foot, of course—of the Sanetsch from Gsteig to Sion in the Rhone Valley last August. Delay would be pleasant; however, the breeze up here is somewhat keen, so, mounting once more, I cross the last portion of the "col," and descend to Zweisimmen. This latter place is of no special interest, but the run thither is through remarkably lovely scenery. Two wooden bridges (covered as a protection against the winter snows) over torrents are passed.

An Ever-changing Picture.

The pine-clad mountains, backed by snow-crested distant peaks, furnish an ever-changing picture. One is forced to slow the going, for a descent of this superb-kind at any speed is ridiculous, even if it were not a crime to rush down such a wonderland. Anon I meet cattle whose antics compel two dismounts. Zweisimmen itself I find in the throes of a cattle fair, and note signs that the function is breaking up. Not desiring to thread a road blocked with drovers and their charges, I spend a bare five minutes in the village, and am soon well on my return journey up the "col." The ascent, which does not tax the twin seriously, is delightful to a degree, contrasting favourably with a former crawl up the same place in a slow car. I get past the unruly cattle with the help of the clutch, avoiding a dismount, and, topping the pass, float swiftly down

to Saanen, and thence along the beautiful valley home. But now comes a novel experience. The bicycle has to be got up to the chalet, where it is to be housed for the winter. I pass its old quarters, turning out of the high road into a path that leads up the mountain. All available power will be needed, so with cut-out kicked open I flit up the steep, bumpy track, on which, it is safe to say, motor cycle has never sped before. The clutch is twice taken out to let the engine race, and is then let in smartly with excellent effect. An old peasant woman with basket on her back leaps aside in dismay. I am rising fast, when, behold, at a bad turn, cautiously approached, I find progress blocked; a wood cart, with front sleigh runners of the mountain sort, stops the way.

Help from a Horse.

I have to dismount, and, finding anon that further advance is impracticable, owing to stones and steepness of gradient alike, cooee loudly to the chalet, which is still far above where I am. My landlord, with horse and mountain "charrette" (having front runners), descends the slope to my left, and, fastening the bicycle to the charrette, and leaving me to steer

it on foot, gets his very efficient hay motor going. A strange procession struggles up the steep grass slope and halts beside the chalet. There will be no release of the bicycle from its prison until March, but I am closing the season without regrets, winter sports, which include two or three months of skating, being shortly due. I am sorry that the quaint spectacle of the final climb was not "snapped." The innovation was really worth recording!



Where even the twin won't go!

Motoring in the high Alps is of enthralling interest, and the enthusiastic motor cyclist gets more fun, in my experience, than the man on a car. I must reiterate my advice to all and sundry to taste of its pleasures for themselves. It is encouraging to see that some of my readers have taken this advice to heart. But if the best sport is wanted they must not rest content with minor ascents like the Fauçille, Col de Megève, or Col des Mosses. They should steer their wheels over all the high places which I described in these columns last year. Further, a run up the Stelvio (9,100 feet) would also be tempting, but, unfortunately, access to it *via* Switzerland is not yet allowed.

The Overheating Question.

Perhaps a few remarks on hill-climbing may be in place. I am no engineer, but a practical rider with considerable experience of mountaineering on wheels. My opinion is that the best of twins must sometimes overheat and lose efficiency on the very long climbs. I

The Last Run of the Season.—

mean by a long climb anything from three to twenty miles in length. I have never on any occasion found a motor cycle engine, however hard driven and however close was the weather, overheat on the level. But on four or five occasions I have had stops due to overheating during the ascent of passes. And on



Bringing hay down from the mountains to the chalet.

some other occasions considerable skill was required to effect non-stop ascents. The trouble encountered was due to two causes—(1) the numerous turns which the more difficult climbs present and (2) specially hot weather.

Regarding No. 1, I could cite many stiff passes, *e.g.*, Mont Genève (on the French side), where the gradient—1 in 9 or 10, as it may be—is not the source of worry at all. The 6 h.p. Jap would hardly shy at miles of this sort of thing, were it not for the turns. These latter are often of the hairpin kind, and must be taken more or less slowly, and the ensuing “pick-up,” with temporary overloading, tends to heat the cylinders apace. I topped the Col of Mont Genève (6,080 feet) in sweltering heat, but had to take the corners as quickly as the position of the footrests permitted. I note that a writer in *The Motor Cycle* found the turns troublesome in climbing the less formidable Col des Mosses (4,700 feet)—a very familiar jaunt of mine near here—but his Vindec possessed the advantage of a seemingly most excellent two-speed gear.

Regarding No. 2, I attach great importance to this factor of the weather. Thus in climbing the Col des Mosses on a very hot August day I was brought to a stop for five minutes unquestionably by loss of power due to very hot cylinders, the oil, I take it, burning off the cylinder walls and reduced charges of mixture entering the combustion chambers. The heat was very marked, especially in the back cylinder. Later, on a cold autumn day, riding an unaltered machine and using the same lubricant (“Very Thick” *Huile Vitesse*), I was able to play with the climb, despite the soft, mushy condition of the road in the upper portion of the pass. The contrast with the foregoing run was surprising indeed, an ample reserve of power and splendid picking up qualities being shown throughout. A test of this kind, which involves miles of climbing (slowing being necessary for stiff turns and when meeting carts, etc.), speaks for itself. Let me add here that the Jap engine and Bat bicycle have acquitted

themselves most excellently, in view of my continual “getting upstairs.” I have seldom taken out the machine without indulging in a fairly serious climb.

General Advice to Tourists.

Lubricants are very important. I am very satisfied with both Huile Vitesse (very thick) and De Dion-Bouton oil. In touring, always carry a spare oil tin. Petrol is always to be had in France and Switzerland in any place which is not a mere hamlet, but good oil is often very difficult to obtain.

A clutch is useful on the long passes, on some of which restarting after a stop would be impracticable without its aid. But a two-speed gear is, of course, better still. I should not dream of purchasing another touring mount for use in the Alps unless it comprised such a gear. My fix last year on the one in six corkscrew turns of the Galibier is still vividly present to memory. And there remain some formidable freak climbs which I have not attempted, for the simple reason that no single-gear twin (with an adjustable pulley yielding, say, a 5 to 1 or 5½ to 1 gear at need) could possibly be expected to tackle them. It must be admitted, however, that these climbs are all on byroads or rough tracks, and that the twin has never failed on any of the main roads which traverse the Alps. A wonderful contrivance is the twin motor cycle, even in its present form!

Two final hints. A good leather belt (I use a chrome leather Demange) is very much to be preferred to a rubber one for climbing. I have done with rubber belts for use in the Alps.

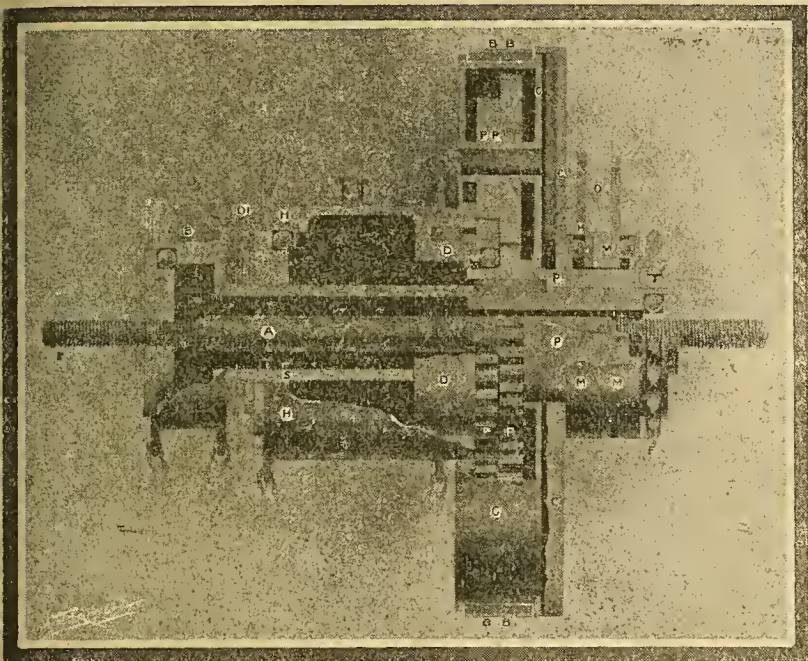


Near the top of the Col de la Faucille (on the way up from Gex and Lake Lemman).

Heavy boots, nailed as if for mountaineering, make very effective reserve brakes. They would, however, hardly suit machines which retain pedals, if the usual guides' nails are adopted. The best motor cycle brake I ever saw is the N.S.U. wooden shoe, which is forced into the groove of the belt rim. The popular fibre-lined band brake is a makeshift quite unsuitable for Alpine work. It failed me both on Mont Cenis and the Galibier.

Powell's Two-speed Hub Gear.

THE above title is that of the redesigned Fitall hub gear, which was shown at the Stanley Show last year. Belt or chain drive may be used. Two models are made—one for passenger work, and a light type for engines up to $3\frac{1}{2}$ h.p. In the



Sectional view of Powell's Two-speed Geared Hub.

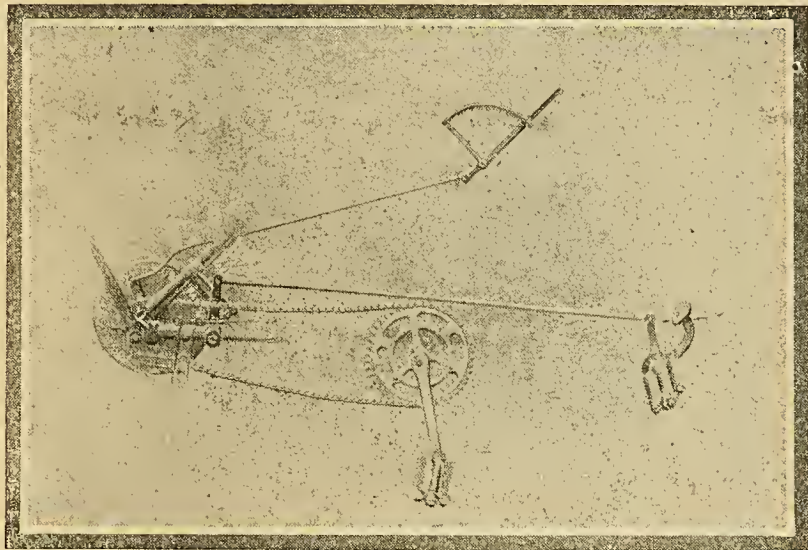
smaller size the gear reductions are 55% and 33%, but in the larger models only 33%.

On a fixed motor cycle rear wheel axle A in ordinary fork ends a sleeve S revolves on ball bearings, which carries driving belt spokes to the rim B and the usual free-wheel clutch F. On this sleeve is keyed a pinion P, which is also a cone for the ball race, corresponding to ball race cone. D. The hub shell, with tyre rim spokes, revolves on the two bearings O_1 and O. In the hub shell H is fixed a pinion D forming the cap of the ball bearing O. G is the gear box, and this turns round sleeve S, and contains three planetary pinions, of which two are shown at P P. These pinions are in continual mesh with pinion P on sleeve and pinion D, which is a part of the hub shell. C C₂ is a leather faced clutch mounted on a squared portion of the pinion P. M and M are cams for operating the leather faced clutch by rods or otherwise, and B B is a band brake round the drum of the gear box.

To start the engine the levers are placed in the neutral position; the pedalling gear is then revolved, which turns sleeve S, belt rim, and engine pulley

without rotating the road wheel. The rider then seats himself, and with his foot presses the low speed lever, which tightens band brake B B and holds gear box stationary. The mechanical conditions are then as follows: Engine drives sleeve S and pinion P, which in turn rotate the three pinions P P, and thus the motion is communicated to the hub shell (and bicycle wheel) through pinion D. In climbing hills, if further reduction is required the clutch may be slipped. The gear box S being capable of rotating idly, as soon as brake band is released the free engine position is obtained. From this free engine position the change to top gear is effected by bringing the external member of leather faced clutch C into contact with the internal member C₂ by means of cam M operated by rod (shown in the second diagram), which is connected with a handle on the top tube. Thus the gear box and hub shell revolve solidly with sleeve S turned by the belt rim.

For starting no handle is required; pedals only are used, and, being always at hand, the engine can be started in traffic without dismounting. If the rider prefers to start the engine by using the clutch, the reverse shock will not damage the gear.



The gear and its operating mechanism fitted to a motor cycle. The engine is started by the pedal, the low gear engaged by pushing forward the pedal on the footrest, and the high gear by pulling the lever on the tank towards the rider.

A. D. Powell and Co., 3, Aylestone Street, Leicester, who fit the gear complete with back wheel excepting tyre, say it is necessary that the back forks of ordinary motor cycles should be set out or so altered as to take the longer axle of this gear.

A SUNDRIES STOCKING SCHEME.

HITHERTO motor cyclists have been greatly inconvenienced through their inability to quickly obtain sundries and replacements for their machines. Especially when touring does the inadequate arrangements for supplying sundries become apparent. There are exceptions, but very few agents take the trouble to stock any parts at all so as to meet the call which is made upon them.

For 1909 the Rex Motor Mfg. Co., Coventry, have determined that, so far as they are concerned, every possible facility shall be given to the public for obtaining immediate delivery of any part which may be required for either 1906, 1907, 1908, or 1909 Rex models. The Rex scheme is a simple one. The

company have arranged with their leading agents to always have in stock a complete assortment of accessories and sundries. So far twenty sundries stocking agencies have been arranged, and the company wish to urge upon the public the advisability in future of passing their sundry and repair business through the local centre, as by this means they will save delay and cost of carriage.

The cities and towns in which the above arrangement has been completed are as follow:

Birmingham	Dorchester	Kendal	Manchester
Bradford	Dublin	Leeds	Newcastle-on-Tyne
Cardiff	Edinburgh	Leicester	Preston
Chester	Glasgow	Liverpool	Swindon
Doncaster	Hull	London (2)	Weymouth

SHADOWS BEFORE.

SOME IMPROBABILITIES.

HALFWAY up a half-mile rise of respectable gradient the engine stopped for want of petrol, and I was stranded. Still, a fairly frequented road in the middle of an August afternoon is not a hopeless proposition for the begging of the needful, so it was with great resignation that I arranged myself in comfort on the bank at the roadside to await succour. I must have been sprawling there in a sleepy condition for half an hour or more when I was roused by a peculiar sound—a tiny vibrating hum such as might be expected to issue from a liliputian threshing machine when heard at a great distance. Guided by its apparent direction I looked down the hill, and there quite close was a motor cyclist speeding towards me, the engine giving out this strange note.

Spotting me couchant in my lair, he stopped.

"Anything wrong?" he asked.

"Juice all gone," I replied.

"That's soon put right, if you've got anything to pour some into."

I had a pocket tumbler which answered the purpose admirably, and while the transfusion was proceeding I inspected my deliverer's machine.

Nothing quainter was ever seen than that mount of his. The engine and its "outbuildings" were all hung round the saddle tube, just above where the bottom bracket is situated on most machines. It was for all the world as if the vitals of a lightweight had been torn out and lashed haphazard to a pedal bike.

[Cylinder as Big as a Breakfast Cup.]

The engine was upright in position; but such an engine! A cylinder about as big as a breakfast-cup, and as innocent of radiating ribs. I could see no sparking plug at all, which seemed a fatal obstacle in the way of satisfactory service. There was a copper crank case on the same wee scale as the cylinder, and on one side of this was the outline of a chain case—quite small—continuing to the rear wheel, the gear ratio being apparently about two to one. The opposite side of the crank case was occupied by a drum-like extension which, in a hazy sort of way, I decided must contain the ignition and valve gear—if there were any. A solitary tank was attached to the side of the seat tube away from the engine, and I tried to trace out the pipe arrangement in the hope of its leading me to daylight. One pipe extended upwards from the cylinder for about three inches, and there ended in a queerly shaped copper box of small size, which, from the fact that it was furnished with a row of holes and had evidently been pretty hot at times, I took to be the silencer. The only other pipe from the cylinder turned sharp at right angles just above, and disappeared into a small brass cylinder decorated with a couple of screw plugs and a tap, and joined to the fuel tank with a graceful festoon of fine tubing. "The carburetter," thought I, and was thankful for even so little as this that accorded with my notions of a motor.

"That's about as much as I can spare," my benefactor now remarked. "I daresay it will take you to where you can get some more."

He seemed a friendly sort of individual, and I prepared the way to an indaba by proffering a Molachrino.

"That is quite an unusual little jigger of yours," I said. "Do you mind giving me a few details?"

He politely intimated he would be delighted.

"To begin with, the engine is rather a high-speed one—about 4,000 revs."

"4,000!" I echoed, amazed.

"Yes; fairly fast, is it not?" He seemed to find it a matter for gratification. "Of course," he went on, "speeds have been rising the last few years, but this is about as far as we have got for ordinary work."

"Gear looks high," I suggested.

"Well, you can hardly tell from outside," he replied. "You see, the crankshaft carries a gear wheel meshing with an internally-toothed ring which carries the band on its outside."

"And you run your belt in oil?" I ventured to remark, in a burst of sarcasm.

"Of course," came the unperturbed reply; "these steel belts drive much sweeter that way."

"Steel belts!" I was just able to stammer in my bewilderment.

"Yes; like a measuring tape, you know—it was a German idea, I think."

At this point I reflected rapidly. Now, I thought, I have you. No radiating ribs and a speed like that. I said, "What about cooling at such very high speeds?"

His glance struck me as indicating mystification. "You can't cool salamandarite, you know, because—well, because you can't heat it to start with," said he.

"Sala—sala— Excuse me. Sala—how much?"

"Salamandarite," he answered, rather impatiently. "The special cylinder material that can't be heated and doesn't conduct heat. The burning charges don't heat the cylinder, and therefore the cylinder can't heat the fresh gas."

He seemed inclined to enlarge at this point, so I contented myself with murmuring, "Just so; I see."

"The effect is," he continued, "that the heat of each explosion is retained in the cylinder until the exhaust valve opens, when it vanishes and leaves the walls perfectly cold. It's a fine thing; there was quite a fuss when it was first brought out."

I did not remember either the fuss or the bringing out, but contradiction seemed hopeless. Besides, I was boiling over with curiosity.

"The engine looks small," was my next venture, remembering his healthy pace up the hill.

"Oh, about ordinary," he replied. "These engines don't have to be as big as the old Otto cycle ones."

This was getting decidedly too hot. "Old Otto cycle," I repeated menacingly, feeling ready to uphold the sacred principle with my life.

But he was busy with an adjustment in the region of the carburetter, and did not appear to have heard me.

"Is this one of those two-cycle contraptions then?" I enquired, compressing as much disdain as possible into my tone.

"Not the ancient Day dodge, if that's what you mean," he reassured me. "The gas is drawn into the crank case and then forced into this container." (Indicating the brass cylinder which I had mentally accused

Shadows Before.—

of being the carburetter.) "As the piston moves downwards the gas follows it from the container until enough is in the cylinder, when it is fired by an incandescent wire heated with current obtained from a low-tension magneto generator."

I felt argumentative. "Seems wasteful to lose half of each stroke," I complained.

"Not more so than the antique method of losing the whole of every other one," was the pulverising retort.

"Aren't the impulses awfully weak?" (I was losing heart.)

"Can't be so very, to get five-horse out of that," indicating his ridiculous-looking engine. "You've got to remember there's no compression to provide for, and no heat being lost by radiation the full expansion of each charge is available to the end of the stroke."

"What about carburation?" said I, becoming conscious of a sick longing to know the worst.

"The air is carburetted as it enters the container."

Foiled here, I mentioned the matter of lubrication.

"The air is sprayed with oil as it enters the crank case," he glibly countered.

I saw a ray of light. "Doesn't the oil burn when it enters the cylinder?"

I could swear there was triumph in his voice as he replied, "Not at all. The mixture is given a rotary movement as it enters the cylinder, and centrifugal action throws the heavier particles of lubricating oil on to the walls."

Up to this point I had been standing. Here I sat down. I thought it safer. My brain was in a whirl. Feebly I muttered to myself, "The year 1908 and the Lenoir cycle redivivus." My friend must have heard me, for he said, "1908. Oh, no. It has only been adopted during the last two years."

Before I had time to seek light on this cryptic utterance he added, "I can't imagine why the makers fitted such an infernally noisy magneto; it's the most diabolical orchestra you ever heard."

"Er—noisy magneto?" I felt I must have misunderstood him.

"Yes; hums like an aeroplane, due to molecular movement in the armature caused by changes of polarity."

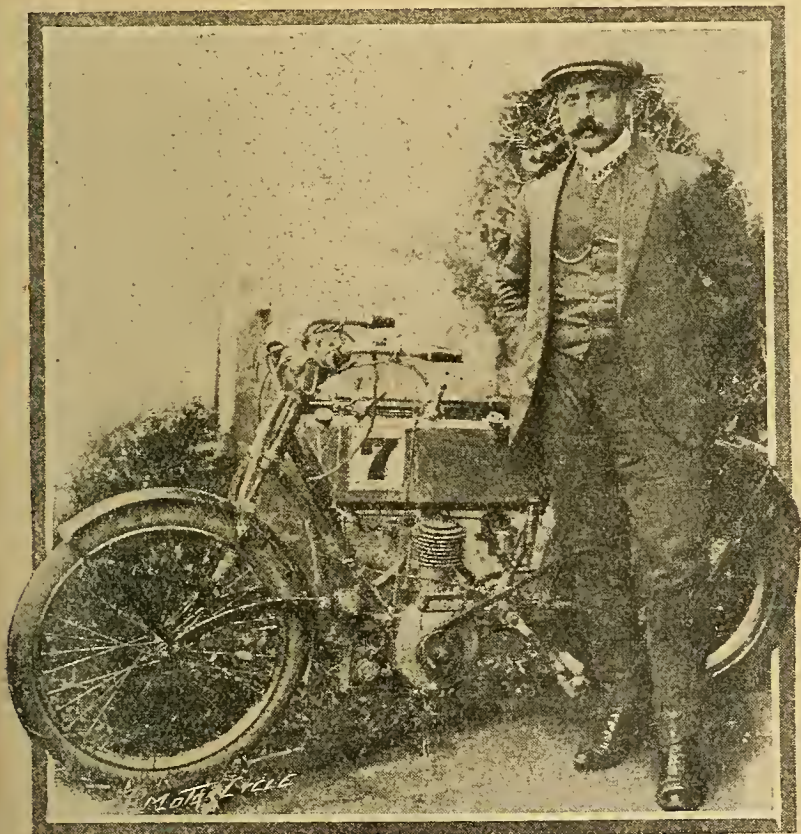
I stared open-mouthed. Staring seemed all that was left for me to do. I should be staring now, but suddenly the unmelodious tooting of a horn fell on my ears, and then—

Well, then I awoke.

J. B.

A FIFTY MILES ROAD RACE IN AUSTRALIA.

THE Victoria Motor Cycle Club held a fifty miles road race at Campbellfield, near Melbourne, on September 12th. The course was to a point twelve and a half miles out and back, and was covered twice. The contest proved exciting. Out



C. S. Cox, who rode a Peugeot in a 50 miles Australian road race.

of twenty-three entries, twenty-one riders competed, as follows: G. Overgaard (2¼ h.p. Hogan), 2m. 45s. start; W. H. Cuddon (2¾ h.p. Peugeot), 2m. 49s.; C. Cook (3½ h.p. Triumph), 3m.; A. Millidge (3½ h.p. Triumph), 3m.; J. Miller (3½ h.p. Triumph), 3m. 1s.; J. Biddlecombe (3½ h.p.

Triumph), 3m. 1s.; C. Cox (3½ h.p. Peugeot), 3m. 2s.; J. R. M'Kenzie (3½ h.p. Peugeot), 3m. 2s.; H. Jenkins (3½ h.p. Triumph), 3m. 2s.; D. Fraser (3½ h.p. Peugeot), 3m. 3s.; F. Ortner (3½ h.p. Triumph), 3m. 3s.; L. Benn (3½ h.p. Triumph), 3m. 4s.; W. Stevens (3½ h.p. Triumph), 3m. 4s.; N. Jackson (3½ h.p. Peugeot), 3m. 4s.; L. Fallon (4 h.p. Brown-Jap), 3m. 6s.; R. Heath (5 h.p. Peugeot), 3m. 8s.; H. Perry (5 h.p. Peugeot), 3m. 9s.; E. W. Brown (5 h.p. Peugeot), 3m. 9s.; L. Kidgell (5 h.p. Peugeot), 3m. 10s.; W. J. Dwyer (5 h.p. Peugeot), 3m. 10s.; and H. F. Hall (5 h.p. Peugeot), 3m. 11s.

A strong north wind was blowing, and the road was dusty. At the end of the first twenty-five miles the leading fifteen were riding in the following order: Cuddon, Miller, Ortner, Cox, Overgaard, Cook, M'Kenzie, Heath, Jackson, Jenkins, Hall, Perry, Dwyer, Brown, and Biddlecombe. As the riders went over the course for the last round, a gale was blowing strongly, and in places the dust proved somewhat dangerous. The leaders dashed by the winning post for the last time in the following order: Cox time, 1h. 20m. 50s.), 1; Miller (time, 1h. 21m. 15s.), 2; Hall (time, 1h. 13m.), 3. Then came, in the order mentioned, H. Fraser, Biddlecombe, M'Kenzie, Ortner, and Jackson. Hall's time averages a little better than forty miles an hour, which, considering the wind that blew, was a creditable performance.

It has been pointed out to us that Mr. B. H. Davies, the contributor of a recent interesting article, "Which is the Best Sidecar?" had nothing to say about two-wheeled sidecars, such as the Lowen, which has been on exhibition at the last two or three Stanley Shows. Perhaps some reader with considerable riding experience of this particular model will kindly supply the obvious deficiency.

LETTERS TO THE EDITOR.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Lightweight Experiences.

[3651].—Many motor cyclists appear interested in lightweights. The chief objection would appear to be due to slipping belts. Yet a round belt and jockey pulley have many advantages. Can no one suggest a method by which a round belt could be prevented from undue slipping, say, by having wire coiled around it, to engage with grooves in the flanges of the pulley?

I would suggest that lightweights would be better with an open frame; not only could they be ridden by a lady, but they would be easier to mount and dismount, minimise the effects of side-slip, and allow one to wear a longer coat.

Let us hope the Stanley Show will give us a greater choice in really light machines.

CONVERTED.

[3652].—I should like to add my testimony to the efficiency of the Moto-Rêve. I consider it an excellent machine for a medical man—quiet, and clean to ride. It starts easily, although when I first had my machine I had much difficulty in this respect, and in the end I sent the machine back to London, and the company put in a new engine rather than keep me waiting while they found out the cause.

Since then I have had no difficulty. I have ridden in all kinds of weather, and have had no mechanical breakdowns. I also have no interest in the sale of the machine beyond the fact that I believe it will supply a long-felt want to those medical men who shrink from the troubles and trials of a heavyweight.

LEONARD MINTER, M.D.

The Handicapping of Motor Cycle Races.

[3653].—With reference to the letter from Mr. W. W. Genn *re* the handicapping at Brooklands, while I must admit he puts his case very well, his proposed remedy (handicapping on engine capacity alone) would not improve matters. I would like to remind Mr. Genn that when he was delighting *habitués* of Canning Town track with skilful exhibitions of motor cycle riding he was in receipt of ten and even fifteen seconds start from a rider using an engine of the same bore and stroke, viz., 76 mm. x 76 mm., and even then his name did not figure in the winning list except on very rare occasions. I should also like to point out to him that the 5 h.p. he speaks of at the Stadium was a 3½ h.p., and was about double the weight of his machine (a converted racer), and was driven by a man 3 stones heavier than himself.

"FIVE" HORSE-POWER.

Unsuitable Accessories.

[3654].—In *The Motor Cycle* of September 9th I find a correspondent has written regarding accessories supplied by firms from whom the motor bicycle is purchased and their consequent misfit. I will give you my experience.

I ordered a motor bicycle from the London agents of a well-known firm, and whilst the bicycle was on the way out to India I wrote them quoting them the machine, etc. (as they had shipped it direct from their stock), asking them to forward the following: One horn, one lamp and generator, three belt fasteners, and one inner tube. Of course, I expected them to know all details as to size, etc. When they arrived imagine my surprise when I found the horn would not fit anywhere, and has since been put on a motor car; it was sent with a long flexible tube and dashboard mountings. Lamp would not go on the bracket, and the generator clip holder had to be thrown away and another made to suit fork. Belt fasteners too small, and the inner tube 2¼ in. instead of 2½ in. Disgraceful is hardly the word.

India.

S.V.

Which is the Best Sidecar?

[3655].—With reference to an article by Mr. B. H. Davies in your issue of October 21st, entitled "Which is the Best Sidecar?" I quite agree with him in claiming for the duplex steering sidecar the six advantages enumerated. He also says "that the correct adjustment takes some finding." Again I agree with him, but why, oh why did he not tell us how to do it? I have made a full size drawing of the steering gear, and have come to the conclusion that it cannot be done with the fittings supplied by the makers, because a long wheelbase requires an altogether different fitting from that of a short one. As many of your readers may have these sidecars still in use, I would be glad to furnish particulars of what is required to anyone who writes to me care of the Editor, sending a stamped addressed envelope, and stating length of wheelbase and width. L. JEFFORD.

Belts and their Fasteners.

[3656].—Several letters have recently appeared in your paper regarding the vexatious manner in which fasteners of the ordinary pattern tear out of the ends of rubber belts. I have had a great deal of trouble in this way lately. On one occasion this occurred while I was running at a considerable speed, and the loose end of the belt whipped round the driving wheel mudguard, and dragged it down on the tyre, skidding the wheel, and abruptly arresting the machine. Had I been turning a corner at the time, a disastrous fall would have been inevitable.

The pulling out of the fasteners became worse when I had an Osborne four-speed pulley fitted to the bicycle, owing to the extra strain caused by the jockey-pulley and the change-speed mechanism. I wrote to Osborne Bros. for advice, and they recommended a patent fastener, made by Mr. Stanley T. Robson, 7, Blake Lane, Birmingham. The fastener has four small teeth projecting from a washer, which is prevented from turning and forms the nut into which the screw is fastened. These teeth grip the belt in such a way that it would probably break before the fastener tore out. At any rate, since using this fastener I have been freed from this exceedingly annoying source of delay.

M. EDEN PAUL, M.D.

Magneto Manufacture.

[3657].—It is a matter of regret to myself and also to many other motor cyclists that of the few makes of magnetos placed before the public we can find none that are of British origin. How is this? Why is this branch of the motor industry so fearfully neglected by our countrymen? Is there some master patent which covers this principle of obtaining ignition? We think, sir, that you are the right person to give us poor cyclists a little light on the matter, and at the same time give the names of a few British designed and manufactured magnetos for motor cycles. It is strange that the much advertised magnetos are foreign made, and in some cases, or most cases, British firms are the agents; firms, in fact, whom we should expect to be leaders in manufacturing.

Again, may I ask you on behalf of myself and friends and a very large body of motor cyclists generally to kindly bring this matter forward.

J. JACKSON.

[There are two or three magneto machines for motor cycles manufactured in Great Britain, but none, so far as we are aware, are purely of British origin. It is often commented upon in motor circles that the largest British electrical firms are somewhat apathetic with regard to motor ignition generally.—Ed.]

Magnetising of Watches.

[3658].—I should like to inform the writer of letter 3646 that he may save himself the trouble of getting a rubber bag for his watch. The only bag likely to be effective is one made of iron or steel. Rubber has not the slightest insulating properties as far as magnetism is concerned, as Mr. Hutchinson may prove for himself by inserting a strip of this material between a magnet and its keeper and testing the pull. By far the most likely explanation is that the watch was not magnetised at all.

J. O. THAIN.

A Valve Grinding Tip.

[3659].—I herewith enclose a good tip for grinding inaccessible exhaust valves which you may or may not, as you think fit, publish in your invaluable paper. Also allow me to compliment you on your exceedingly useful book, "Motor Cycles and How to Manage Them," which I find most instructive. A good tip for grinding inaccessible exhaust valves is this. With your right hand take a screwdriver and press firmly on head of valve. With your left hand take another screwdriver or like instrument, and insert in slot in valve stem provided for cotter and turn backwards and forwards. It will be found that the task of valve grinding will be easier and quicker done than in the old way of turning with screwdriver, and the results are equally good.

H. HART-DAVIES

Lightweight Singles and Motor-assisted Tandems.

[3660].—I was very much interested to read the letter of your correspondent (Mr. J. W. Chalfont) with reference to motor-assisted tandem bicycles. I have long thought of doing it, but have always been told that it would be a failure. I should be very much obliged if Mr. Chalfont would let me know a few particulars as to how he fixed the engine, and upon what part of the machine. I presume it was upon a lady back tandem.

CD 213.

[3661].—I have read with great interest the experiences of various riders on lightweight motor cycles. But the letter [No. 3633] by J. W. Chalfont which appeared in *The Motor Cycle* dated the 28th October is, in my opinion, either sarcastic or requires confirmative evidence; presuming, of course, that "with perfect ease" means without pedal or other assistance, and that stops were not made to cool the engine.

The writer stated that riding a 1½ h.p. motor cycle he had "been carried across Dartmoor from Exeter via Moretonhampstead to Plymouth, taking all hills with perfect ease."

I have been over the road from Moretonhampstead to Plymouth (route 725 in the Contour Book) on my 5 h.p. twin Vindec, and if a 1½ h.p. motor cycle took a twelve stone rider up all the hills from Exeter to Plymouth by that route without assistance I should like to know how many stops were made to cool the engine, and how long the journey took? Was it blowing a gale behind him?

From Moretonhampstead the road rises nearly 1,000 feet in about six miles, is of a very winding character, and the surface when I was last there none too good.

Your correspondent's statement, reading it as I do, requires some substantiation, and I should be only too pleased, on behalf of other readers, to go over the same route with this gentleman at any time which can be conveniently arranged.

If the machine again does what is claimed, one at least enthusiastic heavyweight motor cyclist will have been converted to the lightweights.

CECIL R. J. ROBERTS.

A Problem to be Solved.

[3662].—I note letter 3618 in the issue of the 21st ult., which introduces the interesting and important question why slightly lifting the exhaust valve often causes an acceleration of speed.

My own opinion, borne out by experience, is that, in the majority of cases, the cause is too much play between the valve stem and tappet rod, occasioning, consequently, insufficient exhaust clearance. It therefore follows that, the valve opening being further assisted by a slight touch of the lifter, better results take place, thus relieving the cylinder from undue choking or back pressure, which latter must, of course, retard the engine working properly.

I assume, of course, that the tappet itself is not worn and has the correct amount of lift. Finding that even $\frac{1}{16}$ in. of play between rod and valve stem affected considerably the

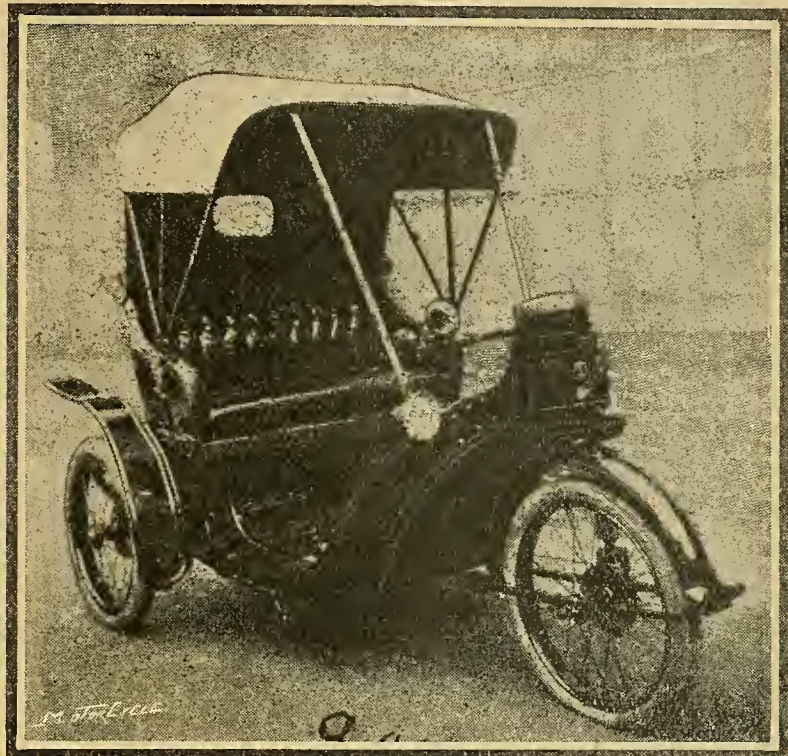
running of my engine, I fitted a new rod with an adjustable cap, screwed on and held in position by a lock-nut underneath, thus enabling a very fine adjustment to be made at any time minus the trouble of removing the cylinder for packing up or lengthening the rod.

This arrangement I think your correspondent "A Lever" will find to be the usual solution of the problem.

R. G. LINDSAY.

[3663].—With reference to the letters which appeared in recent issues under the above title, might I venture to suggest my opinion as to the reason why the slight raising of the exhaust valve sometimes gives better running? I believe this to be due either to insufficient lift of exhaust valve or to the cam being slightly out of correct timing.

In proof of this I give an experience I had last summer. On my 3½ h.p. the roller which bears on the exhaust cam broke, and the valve was then raised by the pin on which the roller had been running, and the lift consequently greatly reduced. In addition, the valve closed before the top of



A Harborn electrically-driven tricycle of German origin, which was described on page 859 last week.

the exhaust stroke. I continued under these conditions for some time, making very poor progress, but presently I found that by slightly raising the exhaust lifter I ran almost twice as fast. This was solely due to the greater facility offered to the escape of the exhaust gases. Of course, this is an extreme case, but I think that those who have found the same phenomenon would do well to look to the timing and lift of the exhaust valve.

TS 211.

A Useful Machine for Hilly Country.

[3664].—I have been a constant reader of *The Motor Cycle*, and in looking over several back numbers, and scanning a number of letters and articles on "Belt v. Chain," "Single v. Two or More Speed Gears," "Pedals or No Pedals," and other such controversies relating to the pastime of motor cycling, it occurred to me that my little experience may be of some use to those who are looking about for a mount for next year, or at least ought to be doing so if they desire to have in good time a machine specially built to suit their own ideas.

I am a pedal cyclist of over twenty years' experience, and took to motor cycling as the natural outcome of my love of the cycle. I started with a second-hand 3 h.p. belt-driven single-gear machine, and got a good deal of experience. Riding as I do in a hilly district, I found the single gear unsuitable. After careful study of the opinions of various riders appearing in *The Motor Cycle*, I resolved on the following machine: 3½ h.p. Quadrant engine, Phelon and Moore two-speed gear with chain drive (gears 5 and 9 to 1), Bosch magneto, Druid spring girder forks, 2in. Clincher extra-heavy tyres, and footboards, no pedals. The machine

was assembled by a local cycle builder, and has proved quite a success. The engine runs sweetly, and the machine starts off quite smoothly—no jerking either at the start or on the journey. The gear I have found most satisfactory. Of course I always run on the high gear, but I find the low gear most useful for starting, climbing stiff hills, going round nasty corners, and also in crowded traffic. For sidecar work the low gear is indispensable. I have had absolutely no trouble with the chain drive, and would not think of comparing it with belt drive for the same work. Both have their advantages, but for all-round work, including sidecar work, nothing can be better than the chain, at least in conjunction with this gear. I propose putting a much heavier tyre on the driving wheel, as I find the 2in. rather light. S. P.

Experiences with the Four-cylinder F.N.

[3665.]-Perhaps the following brief experiences may interest some of your readers.

Three months ago I purchased a 5-6 h.p. four-cylinder F.N., which I have since ridden some 1,200 miles purely as a pleasure mount in the short intervals at my disposal.

It is the first motor bicycle I have ever ridden, and my knowledge has been gained partly from your valuable paper and partly from direct experience.

I have never found the slightest trouble with the machine. Its ease of starting is remarkable; on the stand a quarter of a revolution of the pedals and it starts; on the road I run alongside, jump on by the pedals, and although I am comfortably seated, drop the valves and go away at once.

The longest non-stop run I have made is ninety miles, and I have done 100 miles on one gallon of petrol. I have also climbed, with ease Dashwood, Amersham, and Batchworth Hills, Sunrising Hill, the mile out of Great Missenden going towards Chesham, and the hill leading up from Tring, and, I believe, Wielding Tor, as well as the hill on the Hemel Hempstead Road out of Chesham.

Concerning fast speeds I say little, for I seldom attempt any, though, if required, I find the machine is capable of fast running. Of transmission troubles there are none, of vibration there is none, and the exhaust is silent.

I think, sir, that the above result from a machine in the hands of one quite inexperienced says much for its qualities, and enables me to ask a question which has long interested me, and which perhaps some of your readers may answer for me. What is the relative advantage of belt over gear transmission which causes all English makers to adhere to that form? I find no shock, and no excessive tyre wear, and, as I understand it, a vertical position of the cylinders is the best.

I have no interest whatever in this or any other make of motor cycle. M.D.

Handle Starting. A Useful Tip.

[3666.]-I have been very much interested in the discussion *re* above, especially with regard to the Roc clutch. One rider suggests placing the exhaust lifter somewhat nearer the starting handle, and I, being a short rider, quite agree with him. When starting it is just as much as I can manage to reach the handle and exhaust lifter at the same moment.

With regard to the type of Roc clutch fitted to the Rêx machines. In five cases this summer I have been able to put other users of this clutch on the way to get the best out of it. A friend purchased a mount fitted with this type of Roc clutch, which for the first fifty or sixty miles gave such satisfaction that I placed an order for a new machine so fitted. Later this machine began to get very slow on hills. Of course, everything got the blame, and the local repairer got a lot of cash, and suggested a new belt for which 23s. was asked. My friend was in despair, and one wet day in the spring I enticed him with his machine into my shed. We decided we could not make matters worse, so took, or rather commenced to take, the parts to pieces. We detached the rod from the clutch pedal to the lever working the cam pin, and there was the trouble at once. The pin is squared and the lever also, but the corners of the square had in this short distance worn nearly round. A new lever with the hole cut truly square cured the trouble, and the machine will now go anywhere with sidecar and passenger. Possibly the tip may be of use to those who find the means of adjustment not satisfactory.

Now, will some other rider suggest how the exhaust lifter can be brought near the starting handle? ESSEX.

Valve Cams and Noise.

[3667.]-I have been much interested in reading the description of the new Quadrant engine. Mention is made that the cams are so shaped that the valves open quickly to the fullest extent, remain open the longest possible time, and close quickly.

Now this is violating what I have always imagined to be the very essence of silence, and it seems a pity that it should be incorporated in a new engine of apparently such excellent qualities. Doubtless all your readers are acquainted with the secondary attraction of ginger-beer or even of champagne bottles. If the loosened cork is held down, and then suddenly released, a mild explosion occurs, but if it be first slightly raised, and then suddenly and completely removed there is no noise whatever. Surely it is the same with the petrol motor. If the valves open quickly to the fullest extent the whole blast of the explosion is set free and has to be tackled by the silencer. If, however, the cam is so constructed that the valve is given a small preliminary lift, and then opened to its fullest extent, the noise is appreciably lessened.

I believe the Mercédès cams work on this principle, which is surely proof enough that the operation can be effected in the necessary short space of time.

I firmly believe also that this is in the main the secret of the "Silent Knight," though I have nowhere seen it expressed. However quickly the sleeve moves it is bound to first uncover a very thin slit, which gradually enlarges as the sleeve performs its function. This state of things cannot exist with the ordinary cam and valve, as the first "thin slit" describes a large circle, thus exposing a far larger opening to the exhaust than is the case with the Knight engine.

Of course, if the cams were made on the principle I suggest, there would be a loss of compression, and, consequently, of power, but it would occur so late in the stroke as to render that negligible, and, at any rate, would surely not be such a poison to power as a restricted silencer.

E. A. GIBB.

An All-British Machine.

[3668.]-A short time ago I ordered a heavy twin of British manufacture throughout. In due course the machine arrived, but refused to run satisfactorily. On investigation, the timing of both magneto and valves proved to be hopelessly inaccurate. The inlet valve springs (automatic) were far too weak, and had to be replaced by stronger ones. All went fairly well for about five hundred miles, and then the forked connecting rod snapped at the fork, making such a mess of the engine that it had to go to the makers. They returned it in a week, having practically rebuilt the engine.

Things went on much better now, except for the replacement of a rear wheel cone which had broken, a steering head cap also fractured, twice mending oil tank, two spokes broken at the heads, and sundry smaller breakages. After about 3,000 miles the connecting rod broke again in exactly the same place, and now I am having the engine repaired by an engineer, who tells me the bushes, gudgeon pins, and other parts are made of very poor material.

I received a bill for over £2 from the engine makers for repairs, which, under the circumstances, I refused to pay, since the engine had run only five hundred miles. I received a letter in reply, in which they say: "... it is difficult for manufacturers to hold themselves liable for consequential damage owing to the failure of any small part, particularly in a piece of high speed mechanism, such as a high speed motor." This is from a leading firm of engine makers. It is only fair to add that the makers of the frame did all they could to help me, but that did not make up for the incessant failure of various small parts.

I particularly ordered an all-British machine, feeling sure that it would give me complete satisfaction, and I think that for nearly £60 one may expect a good article. However, I have learnt to my cost, as some of your readers have, too, that all that is British is not necessarily good—far from it; and, having learnt the lesson thoroughly, I am awaiting the delivery of a twin of a well-known Continental make.

I would like to say a word in favour of the Celerio belt fasteners. They are particularly suitable for a comparatively shallow belt like the Continental, and are better threaded than most fasteners. 6-7 H.P.

OCCASIONAL COMMENTS.

By "IXION."

Pocket Tools.

We see many tool kits sold especially for motor cyclists, but really only one or two of them are practicable. The main tool kit may be well carried in a big leather roll, provided the roll has proper saddle attachments. The special value of the tool kit system to the motor cyclist lies in the fact that there are three or four small requisites, which he often needs on occasions when it is a nuisance to open up the main kit. The first tool on the list is a screwdriver, the second a tiny spanner, the third pliers, and the fourth a belt punch. I use a Bonza kit, which is no larger than my letter case, and it contains one interchangeable handle, into which screwdriver, chisel, saw, file, and several borers may be snapped. To supplement this, I carry a vest size King Dick, and a belt punch loose in a waistcoat pocket. Will someone supply a pocket kit holding miniature wrench, screwdriver, file, pliers, borers, and belt punch?

Four-cylinder Motor Cycles.

I begin to doubt if we English motor cyclists are taking the four-cylinder machines seriously enough. They will certainly never make a strong appeal to novices, who are sufficiently timid about a single sparking plug, etc., to attend to; but the modern editions of this pattern are undoubtedly very attractive machines. It is a delightful change to mount one fresh from a ride on a thumping single-cylinder, which has proved liable to knock at low speeds, difficult (very possibly) to start, and so forth. The modern four-cylinder starts off its mark with ease in the shortest possible distance, and runs with a perfectly enthralling sweetness at very low speeds, while, odd as it may seem, I am unable to discover any failing in reliability as opposed to the singles and twins. Somehow or other, in spite of its comparatively complicated ignition and valve system, it seems to be as free from involuntary stoppages and to maintain its power at least as

well as the singles and twins. I think a good many of our more expert riders would thoroughly enjoy a year on a good four-cylinder by way of a change.

Cuffs or Gauntlets.

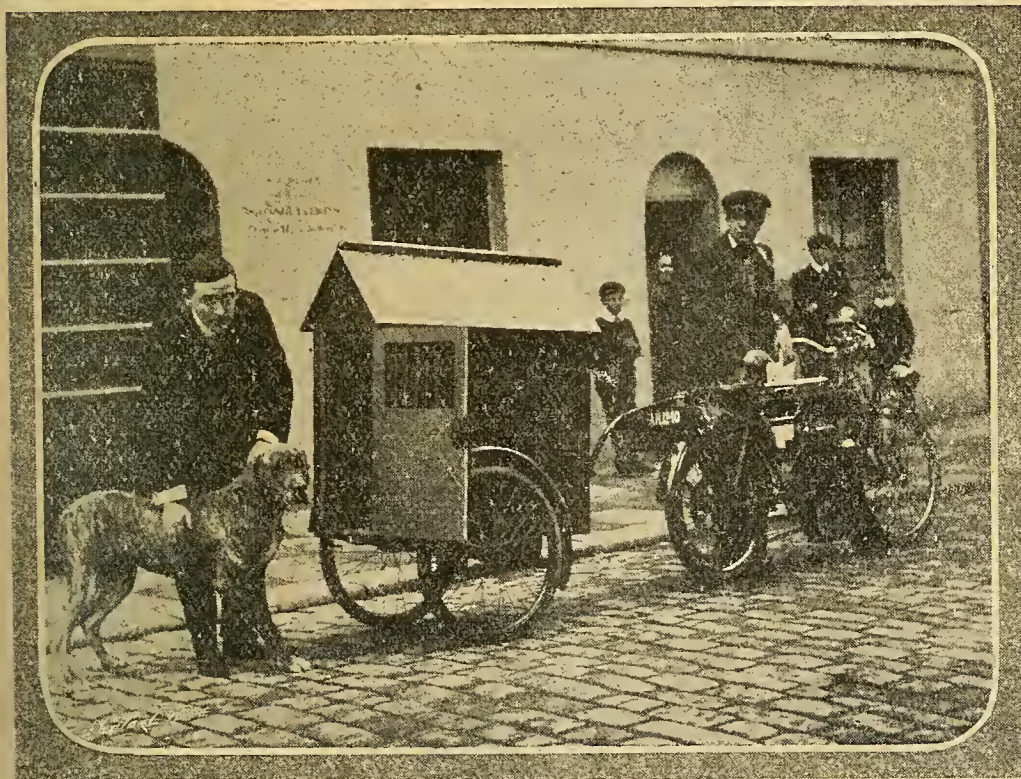
I differ from one piece of advice in Mr. Hart-Davies's notes for winter riders. He advises us to tuck the cuff of a glove inside the coat sleeve to prevent water running into the glove. I have had several narrow escapes of upsets through my coat cuff catching on the handle-bar or brake lever unintentionally, and I make it an invariable rule to have a glove that slips over a rolled or strapped coat cuff, having witnessed one or two nasty tumbles resulting from the opposite habit. Moreover, with the modern low seat and upturned handle-bar, I notice it is very uncommon for a rider's hand to be lower than his elbow—my wrist, when steering a Triumph, is three inches higher than the crook of my elbow—so on all grounds I advise the use of gauntlet gloves. They are also considerably more comfortable than the alternative wind cuff inside the coat sleeve, with its irritating wrist pressure.

A Gudgeon Pin Attachment.

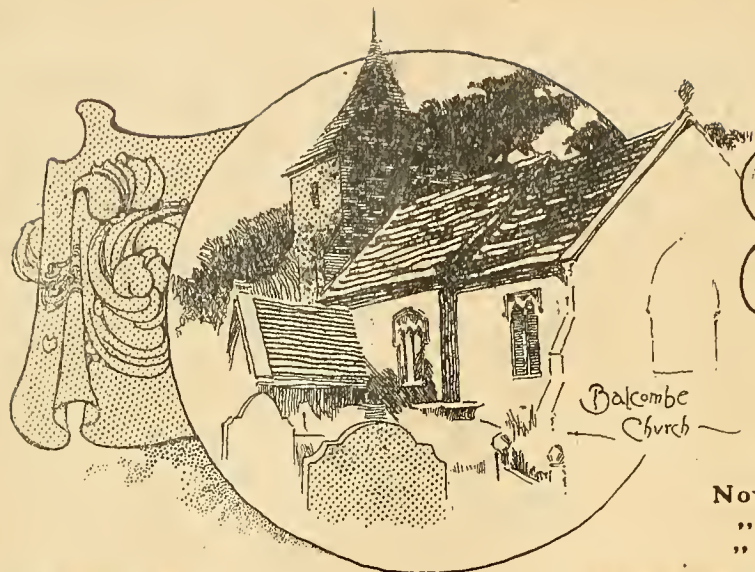
Yet another mode of securing the gudgeon pin has been suggested to me. One of the original set-screws came adrift and caused trouble, so the rider removed both the setscrews, and in their place employed two copper wedges. The ends of the gudgeon pin were split to permit of the setscrews passing through it, and into each of these splits he hammered a copper wedge, filing its outer end off flush with the cylinder, since when he has had no further difficulty. Personally, of all the fastenings I have tried the Riley patent is that which seems most perfectly reliable. The bed for one end of the gudgeon pin is oblong, which entirely prevents the gudgeon pin from turning, while a cotter threaded through its tapered end renders it impossible for the pin to move endways. As there is no movement whatever in the gudgeon pin, the split pin in its end is as safe as a split pin would be if used to lock any other fixed joint, such as the nut on the end of a saddle pin bolt. I believe it is true that no gudgeon pin secured after this fashion has ever given any trouble. I myself have employed it for many thousands of miles, and it has never shown signs of coming adrift, nor do I see how it can.

A MOTOR CYCLE DOG'S AMBULANCE.

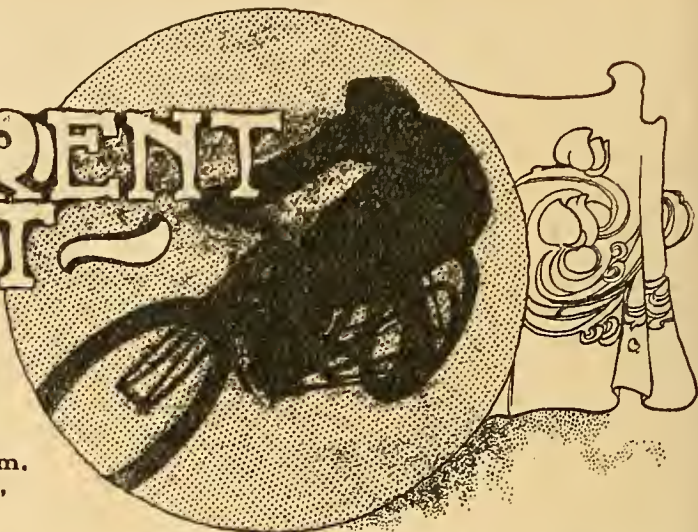
A dog's ambulance has just been placed upon the London streets by the Animals' Hospital. Motor cyclists will be interested to learn that this quaint-looking ambulance is drawn by a $3\frac{1}{2}$ h.p. Quadrant motor bicycle, which is found invaluable. The ambulance is coupled to the motor cycle by means of a ball socket coupling, so that in the event of a sudden skid or a sharp turn there will be no danger of upsetting the ambulance, which is padded to minimise any possible shocks. This is another case of the useful services into which a motor cycle can be pressed.



A dog's ambulance drawn by a motor bicycle.



CURRENT CHAT



TIME TO LIGHT LAMPS

Nov. 11th ... 5.17 p.m.
 " 14th ... 5.12 "
 " 18th ... 5.7 "

Next Week's Issue.

Next week's issue will be the first of our special Stanley Show issues, and will contain an illustrated article on "1909 Improvements."

1909 Travel Exhibition.

The World's Touring, Sport, Pastime and Travel Exhibition will be held at Olympia in July next. Full particulars can be obtained from the management, 75, Chancery Lane, W.C.

Curious Hill Feature.

We hear that an attempt is to be made to climb Constitution Hill, Chatham, on a standard single-geared single-cylinder motor cycle. It will be necessary to take the right-angled bend at the foot at the best possible speed. Curiously enough, this hill has two names. The board at the top reads "Constitution Hill," the other at the foot says "Grange Hill."

Barnes in America.

Little has been heard of George A. Barnes lately. At present he is in America, and last month paced Hugh MacLean, America's champion pace follower, to victory in a five-cornered hour race at the Clifton (N.J.) Stadium for a purse of 1,000 dollars. The distance covered in the hour was 40½ miles, and the racing was witnessed by 7,000 spectators. Barnes is using a 6-7 h.p. pacing machine almost exactly similar to the one used by Meredith's pacer.

Farlow Bank Climbed.

Two or three readers point out that Farlow Bank has been climbed by a single-geared motor bicycle, although "A 4726" in last week's issue considered it an impossibility owing to the steepness and the bad bends. Apparently, the first rider to climb the Bank was A. M. Lomax on a standard 1908 Triumph belonging to Mr. F. G. Sandison, on the occasion of a competition organised by the Birmingham Motor Cycle Club two months ago. Mr. Sandison has climbed the hill himself, but on the occasion of the competition lent his machine to Mr. Lomax, thinking it was not good policy for him to compete for his wife's prize. H. Rem Fowler is another rider who has climbed the Bank on his 5 h.p. T.T. Norton, but he considers the hill about the worst he has seen or ridden, and as for Sunrising and Birdlip—well, in comparison they are nowhere.

Another Motor Cycle Club.

A movement is on foot to start a motor cycle club for Devonport and district.

Cambridgeshire Police Active.

We are advised that the police throughout the whole of Cambridgeshire are now very active and are working traps on nearly every road leading to Cambridge within a radius of eight to ten miles. Usually two policemen are engaged, one timing the motorist and the other stopping him if the limit has been exceeded.

Utility of Fire Tricar.

On receipt of a call the other day, we are informed the new motor tricar at the Beckenham fire station was started up within fifty seconds of the alarm, three miles being covered in very fast time. The machine is stationed at the entrance to the station in readiness, and naturally it is kept in spick and span condition.

American Hour Record.

A new American hour record has just been created by Fred Huyck, of Chicago. Riding a 7 h.p. twin-cylinder Indian he covered 61½ miles in the sixty minutes—nearly five miles better than the previous American record. The figures do not compare

very favourably with Collier's recent world's hour record of 70 miles 105 yards on an 8 h.p. Matchless-Jap, but they approach Giuppone's French hour record of 63 miles 1,078 yards on a 10 h.p. Peugeot.

The Number of Motor Cycles.

The estimated increase in the number of motor cycles in use, compiled from figures supplied by the makers of the Bosch magneto machines, will be interesting to riders and makers alike. The article will be found on page 871.

Collier's Record Breaking Machine.

It has been stated that the Matchless machine used by the world's hour record holder was of 8-10 h.p., but we are asked to point out that the engine is a standard 8 h.p. Jap, the cylinders measuring 85 by 85 mm. The identical machine and engine were used in the T.T. Race, and entered as 7 h.p.

Resignation of Mr. de Rodakowski.

The Committee of the Brooklands A.R.C. informs us that Mr. de Rodakowski, whose agreement with the club expired on October 31st, has vacated his office as clerk of the course. Mr. de Rodakowski announced his intention of retiring from his position in June of this year, but he will not sever his connection with the club.



Belgian soldiers carrying staff messages on four-cylinder F.N. motor bicycles.

Trapping Pedal Cyclists.

At the Saddleworth Police Court last Wednesday six pedal cyclists of Oldham were each fined 5s. 6d. and costs for riding at a speed of twenty or more miles per hour down Grotton Brow.

Police Traps.

A trap has recently been instituted at Austerlands, between Oldham and Delph, also between Horse-shoe Clump Hill, and Esher on the Portsmouth Road.

A Monument to Cissac.

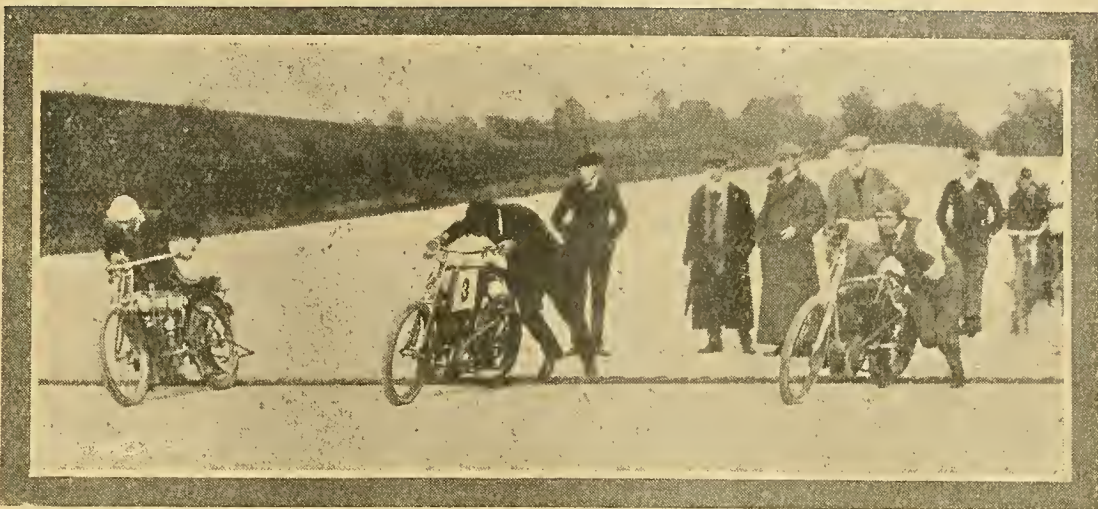
A monument is to be erected to the memory of the racing motorist, Henri Cissac, who met his death while competing in the French Grand Prix motor car race this year.

A Motor Cyclist and Lawn Tennis Player.

G. W. Hillyard, the champion lawn tennis player, and well-known as an enthusiastic motor cyclist, is at present on his way to South Africa with Messrs. Doherty, Eaves, and Escombe, the quartette comprising the All English lawn tennis team, to meet the pick of South African tennis players. They will play at Port Elizabeth, Johannesburg, Bloemfontein, and Cape Town.

Incorporated Institution of Automobile Engineers.

Meetings of the committees of the Birmingham and Coventry branches of the Incorporated Institution of Automobile Engineers were held on Tuesday, 3rd November. It was resolved to proceed forthwith with the formation of graduates branches in both cities, and a general meeting of the pupils, apprentices, and junior draughtsmen employed in the motor industry in both districts will be held in the beginning of December. Previous to the December meeting of the Coventry branch Mr. A. Craig will give an address on "Some Features of the Exhibits at the London and Paris Shows." Particulars of the Institution and forms of application for admission may be obtained on application to the secretary, 1, Albemarle Street, Piccadilly, W.



Cambridge University M.C.C. Race Meeting at Brooklands. Start of the handicap race for twin-cylinder machines.

Imports and Exports.

The imports of complete motor cycles show a falling off for the month of October. The value of imported complete machines for last month is £1 248, as compared with £1,633 in 1907; parts of motor cycles are up, viz., £2,190, against £1,936 in 1907. For ten months the total figures are £58,006 against £71,438 in 1907. The exports of machines and parts made in England for the ten months of 1908 are slightly lower than 1907, viz., £44,655, against £45,575. This is accounted for by the decrease in parts exported, £17,079 against £22,835. The value of complete machines has risen from £22,740 in 1907 to £27,576 in 1908.

Re-exports from the United Kingdom.

The increase in the exports of foreign-made motor cycles and parts from this country is quite remarkable. The total figure has jumped from £4,981 to £10,876, only £1,714 worth of this total being complete machines. This points to the fact that colonial firms are building up machines from foreign parts.

Farlow Bank Again Climbed.

Seeing the paragraph in last week's issue respecting the severity of Farlow Bank, Cleobury Mortimer, Dr. J. C. O'Rafferty, of Daventry, and Mr. I. B. Hart-Davies, of Rugby, rode over last week-end, and we hear that both successfully climbed the Bank on their standard 3½ h.p. Triumph machines. Dr. Rafferty does not mention the ratio of gears used, or whether pedalling had to be resorted to.

Dazzling Headlights.

The Committee of the R.A.C. at its meeting on Wednesday last decided that in the opinion of this Committee the use of any dazzling lights on motor cycles and motor cars is unnecessary and objectionable within the London County Council area, and that they should be prohibited. In order that the investigation may be brought to a practical issue the Club proposes to hold a trial of headlights for motor cycles and motor cars in January or February of next year. This trial should encourage the use of efficient but not dazzling headlights.

***TRICARS: Dead, Living, and Unborn.**

MR. DAVIES commenced by humorously saying that a friend told him only this week that he was really going to the Club to pronounce a funeral oration over the ashes of countless dead tricars. No doubt hundreds of dead tricars had departed to that mysterious bourne where all the bad motors go, and where he piously hoped they found no more peace than their users had found when the tricars were with them. It was also true that there were very few really "live" tricars remaining on the road or on the market to-day. But he hoped it was equally true that out of the ashes of these dead tricars there was going to spring a new type of machine, cheaper, lighter, more reliable than its predecessors. In that event he was sure his friend Mr. Hooydonk would agree with him in expecting there would be something of the Phoenix about it.

Things were not quite ripe yet for this resurrection; motor cyclists needed a little education before that time came. Many keen riding amateurs could not afford cars, they detested sidecars, and liked to take a companion with them on their rides. These all wanted tricars, but did not know where to find a good one. On the other hand, men in the motor cycle trade wanted to expand their business. It might be said all that was necessary was to put these two parties in touch with each other. But, unfortunately, that was impossible at present, as the wants of this potential tricar

public were so varied, not to say absurd. One wanted a 16 h.p. four-cylinder tricar, and did not mind price, so long as it did not give him any trouble. Another wanted a 5 h.p. water-cooled type with three speeds and reverse, only it must not cost more than £60. No two men wanted the same thing, and all wanted at least twice as much as they could ever expect to receive for their money.

Mr. Davies asked that two points might be considered in view of these extraordinary demands. The first was, what is the price limit for a future tricar which a large enough public could pay, and the price at which the trade could supply a machine?

Specification and Price.

Secondly, what sort of a specification could be expected at that price? It was said the tricars of the past had been killed through faults of design and workmanship. He denied that emphatically. Early motor bicycles suffered more than the tricar had ever done from these faults, but the development of the motor bicycle had proceeded in a steady, unhesitating march towards perfection, until to-day it was nearly perfect. At the present moment there were only about four makes of tricars on the market. The analogy of the motor bicycle proves that the faults of design and workmanship were not the prime cause, though they might have been a secondary cause, of this failure to become popular. In his opinion, they died out because of their price—from £100 to £150 apiece. To-day, matters from a price point of view

* Summary of a paper read by Mr. R. H. Davies before members of the A.C.U. at 112, Piccadilly, W., on November 5th, 1908.

Tricars: Dead, Living, and Unborn.—

were even worse. If he were entering the tricar trade, £60 would be the figure at which he could reckon on a decent demand, and £70 would be the absolute limit.

For this amount it was impossible to supply a tricar possessing a miniature four-cylinder engine, a three speeds and reverse gear box, and 3in. tyres on all wheels. He did not profess to say what the trade could offer at the figure suggested, but obviously, if we were going to get any good new tricars, it would mean relentlessly paring down any costly luxuries and refinements.

From his own experience he wished to state what he considered would be a specification for a roadworthy tricar for which he would be prepared to pay £60 or £70.

Sketching out broadly a specification for the tricar of the future, he asked his hearers to keep the Rex Litette in mind, because everything obviously depended on the engine power required. He would choose a 5 h.p. twin. It was far more flexible and vibrationless than the best singles. As to cooling, it was a common idea that air-cooled engines overheated in tricar work; but he had never known an air-cooled engine, specially designed for tricar work, do that. The overheating bogey in connection with tricars was due to the old habit of bolting a forecar on to a motor bicycle, possessing a high compression engine, designed to extract the last ounce of kick out of a given cylinder capacity. Many people have had their sole experience of air-cooled tricar work with high compression engines, which were very prone to overheat. Against that experience, he related how he once broke the high gear chain on a Vindec, and drove it for twenty miles in an hour on the low gear of 9 to 1, and it did not overheat, but of course he gave it quantities of oil. He believed, therefore, that a low compression 5 h.p. twin-cylinder engine would supply the requisite power, and would never overheat if properly lubricated.

The frame. He believed it was possible to manufacture a tubular frame more cheaply than any other, and so he advocated a tubular frame. He saw no reason why an open frame should not be made as free from whip as a diamond frame. He demanded a rigid rear frame and a sub-spring fore frame, with the front seat insulated by Cee springs and the driving seat by coiled springs, a sprung hinge on the lines of the Zenette frame, or a rear cantilever seat such as is found on the Rex Litette.

The Ideal Transmission

must be two-speed (not three or reverse) and chain drive. He considered the original Riley or Humber gears simple and reliable.

Seats must be cheap; cane or wicker in front, big saddle astern. Coachbuilt seats might be listed as extras.

Brakes. The best and simplest rear brake, he found, was to have a dummy belt rim with a brake shoe. The front wheel brakes became more reliable and efficient if the diameter of the drums be increased to about twelve inches.

The remaining details of his ideal specification approximated very closely to the high-grade motor bicycles of the present day. Instead of a fragile accumulator and coil, a high-tension magneto would be demanded. If some of the early tricars had possessed this most reliable of all known ignitions they would not be discarded to-day. Instead of carburettors with inaccessible jets, loosely-made throttles, and dozens of small screws and parts, we shall demand one of the more modern cleanly-cast vaporisers, with instantaneously detachable jet. Instead of the old 2in. tyres with thin treads, we must demand 2½in. or 2½in. covers with thicker understandings, and the rear cover must have a detachable or butt-ended tube.

If he was right about price, the matter of specification would solve itself automatically, as the maker would be limited. In his opinion, the only hope of a fresh boom in tricars lay in the marketing of a very simple, light, air-cooled chassis on cycle lines, at a price not exceeding £70.

THE DISCUSSION.

THE CHAIRMAN (Dr. E. W. Brewerton) complimented Mr. Davies on the admirable way in which he had stated the case for the makers. Personally, he thought both the high-priced, heavy tricar and the low-priced one were dead. The big tricar had been killed by competition from the small motor car, and the small-priced tricar had been driven out by the sidecar attached to a motor bicycle. The new tricar would meet its keenest competition from the latter vehicle. He thought, however, they would have to go as high as £80 for

a good tricar, so as to get something rather better than a sidecar. He heartily agreed with Mr. Davies's proposals as to the engine; a twin-cylinder would be essential, and of 5 h.p. A single-cylinder engine was a horrible jumper. The cylinders must be accessible. As to transmission, this must be by chain drive, with gear box, as no belt would drive a machine which weighed 4 cwts., and when carrying two passengers and luggage the weight would be brought up to 7 cwts. Two speeds would be sufficient; reverse would be quite unnecessary. Back springing was absolutely essential for the sake of the machine as much as the passengers; without back springing the nuts would become loose and spokes break. Magneto ignition seemed to be possible with a three-cylinder engine. With regard to tyres, it appeared to him that the lighter the machine the heavier the tyres required to be. If there was light framework, there must be large diameter and heavier tyres to save the frame from breaking. He thought 3in. to 3½in. voiturette tyres were necessary. These would never burst. He had driven a heavy tricar 15,000 miles and only had one puncture, and that was before he had big tyres put on. Mr. Davies's proposition as to the tricar of the future, with a few alterations, he thought would eventuate in a successful machine.

Mr. J. TUCHMANN said the tricar when it first came was going to be the passenger vehicle of the future, but it had not lived up to that prediction. It had formidable rivals. To review how it came into existence was interesting. It first had two wheels in front and one behind, the rear one being the driving wheel; this was because the bicycle was so driven. But in some countries this design changed, and the front wheel is the driving one. In Berlin, where there are a lot of tramlines, he had seen machines running about the streets of a very convenient type. They were used greatly by the large emporiums there, and were easily manipulated in the traffic. They seemed rather expensive—he thought about £120. They had air-cooled engine fitted in front, by far the best position from a cooling point of view. The driving wheel was in front; they did not skid. Certainly the tricar had very severe competition to reckon with. No doubt motor bicycles would be getting cheaper; then the tricars would have to follow suit. He preferred motor bicycling to riding in a tricar, yet he thought there might be a future for the type of machine he had described which he saw in Berlin.

Mr. A. C. PEMBERTON related at some length his experiences with a light machine. Since 1904 he had driven it 20,000 miles, which he considered a good test, and he was perfectly pleased with it. It was an Excelsior bicycle fitted with a forecar. Its total weight was 2½ cwts., and it had a two-speed gear.

An Economical Tricar.

Its petrol consumption for a 500 miles run was 124½ miles to the gallon. This was on fairly level roads. Its highest consumption came out at 89.9 miles to the gallon; that was going North into Yorkshire and about the Peak District. His longest delay was one half-hour, and it had something to do with the ignition, but it put itself right. The drive was by an ordinary threequarter Watawata belt, which he found to be all that could be wished for. He used 2in. or 2½in. Clincher tyres, and they lasted a year. He found Palmer's ordinary fabric tyres excellent in wear on the back wheel. They ran 2,000 or 2,300 miles. At present he had a 2½in. Palmer cord tyre, and it had gone 2,000 miles and looked good for another 2,000. When voiturette tyres were used a big engine was needed.

Mr. SIMMS said he had had experience with tricars, motor bicycles, and motor cars. He began with an old Singer tricar, and then purchased several classes of motor bicycles, also an Argyll car, then another Argyll car, and he was now driving a Phoenix Trimo. The last named was the cheapest and most satisfactory machine he had ever had in his possession, and he had had no less than fourteen different classes of machine altogether. The Trimo had Palmer cord tyres, and had always been absolutely reliable. It did a lot of work every day, and he had taken his wife with him touring on it nearly all over England, and he had never had any stop or any trouble with it. It took any hill, and had never stopped on a hill. He often went to Tunbridge Wells on it, and always ascended River Hill without the slightest trouble. He thought it surprising that the public did not take to the light tricar. The Phoenix Trimo cost very little to run. His conviction was that the light tricar was far from dead, and the public would begin to find out their mistake. The public expected too much from these light

Tricars: Dead, Living, and Unborn.—

tricars; when they took to them again they would find their advantages. They cost very little, they were cheap to run, easy to start, very accessible, and not the least advantage was that they were so light. When once a tricar was put on the market at about £60, he thought the public would take them up again.

Mr. A. F. ILSLEY congratulated Mr. Davies on sectionising his remarks as he had done. From the dead tricar to the unborn one was about as wide a leap as one could wish to get. He did not agree that price had killed the tricar, but, taking each individual type, it would be ascertained that it had some shortcomings which would give the reason why it had dropped out of existence. Nor did it necessarily follow that because a particular machine was not made to-day that that type of machine had been killed. Some discreet makers might have decided not to force a certain type upon the public when it was not desired. The decline of the tricar dated from the inception of the heavy machine. He would like to have heard a longer statement as to the tricars that are living to-day. He thought they lived because they embodied a correct principle—a principle which had been correctly carried out, one in which the taste or scramble for high-powered machines had not been pandered to to any great extent. It seemed to him that those machines which pursued the middle course had survived. With regard to the tricar unborn, Mr. Davies had tackled a very great problem. Here was a large field which should be approached with a great amount of diffidence.

Price the Stumbling Block.

The tricar of the future, he believed, would prove to be the tricar of early days—a prototype of the 1904 and 1905 tricars. Of course, the great stumbling block was price.

Mr. F. A. HARDY, as an old motor cyclist, said he had two tricars, representing the two ends of the argument they had had that evening—one a small one with air-cooled engine, the other one of those big things which had been decried so much. He had had a great amount of fun out of both. A tricar is much more sociable than a motor bicycle, and you do not part company with your passenger. He commenced to use a tricar in 1905. Before that, when he wanted to take his wife out with him, he attached a trailer behind, until one day the hind wheel of the trailer was caught by another vehicle when they were travelling round a corner, and the trailer was overturned. He then got a 3 h.p. Quadrant tricycle, which had been transformed into a tricar. This was a success in every way except that the belt was a little troublesome. He thought that for £60 a tricar with the bare necessities on it could be produced, but that for £80 something in the way of luxuries might be looked for.

Mr. W. RANDLE thought the question was practically one of personal taste. He started motor cycling with a bicycle, and had very good times, but got tired of it and added a trailer. That took him back nine years. With the trailer he had an accident. After that he bought a Phoenix Trimco, on which he and his wife had some good sport. The belt

was somewhat of a trouble. He had also a light Garrard, and at present he was driving a Lagonda, which he had used for the last three years. He was favourable to the heavy tricar, although he acknowledged some advantages in the light one. If out with a sporting motive the driver wanted power; on the other hand, a light machine would do for a twenty-five miles run. For touring, a heavy one was preferred.

Mr. BOILEAU (*The Motor Cycle*) added a few words from his experience of tricars, beginning in 1904 with a 3½ h.p. motor bicycle and forecarriage attachment. This machine needed a good many additions, especially a good two-speed gear. The belt, too, gave trouble. He then got a tricar with chain transmission and a very simple form of two-speed gear. It was light, handy, well made, and most reliable, but it was most uncomfortable. The springing of the front seat was not very good, but that was a point which could easily be altered. His opinion was that eventually that type of tricar would prevail which was fitted with magneto ignition. The heavy type which had been condemned was a thoroughly practical vehicle; it had been killed by the cheaper forms of cars put on the market. A good deal had been said about the future change-speed gears of the tricar. There were two types of gear—the epicyclic and the sliding type. If the future type was to be the sliding gear box, a three-speed gear would be quite practicable. He thought the complete machine would come out between £75 and £80. He did not think they ought to grumble at £80.

An Experienced Tricarist's Views.

Mr. W. GUNN, who had been associated with the heavy tricar for the last three years, said everyone who took up the tricar had simply gone the way of all motor cyclists who went in for the passenger machine; they commenced with the smallest and lightest, first a two-seated tricycle, then a motor bicycle with a trailer, then a belt-driven tricar such as Mr. Pemberton described, and so on to the very heavy machine that they had come together that evening to mourn, or to rejoice over, as the case might be. He thought the whole question was one of price.

Mr. W. PRATT thought the sidecar was the cause of the death of the tricar. He knew many who said they preferred the sidecar both to the light and the heavy tricar. He asked the lecturer if he had seen the A.C. tricar?

Mr. DAVIES: Yes, I have seen it once on the road, and I have the drawings of it in my study now.

Mr. PRATT (continuing) said he thought it would meet a great demand, although it did not get through the Quarterly Trials successfully.

Mr. J. VAN HOOYDONK said Mr. Davies's lecture resolved itself into a commercial proposition, which was a very sensible way of looking at it.

The CHAIRMAN then called upon Mr. Davies to reply, which he did briefly. The hour was by this time very late, or he would have fully gone over the many interesting points raised in the discussion.

Votes of thanks to the lecturer and to the chairman closed the proceedings.

"THE AUTOCAR" LECTURES.

FIVE of these lectures have now been given in the London and three in each of the provincial centres. The dates of the remaining lectures in each centre are as follows:

LONDON.—3.30 and 8.30 p.m. November 17th, 24th, and December 1st.

BIRMINGHAM.—7.30 p.m. November 11th, 18th, 25th, December 2nd and 9th.

LEEDS.—7.30 p.m. November 12th, 19th, 26th, December 3rd and 10th.

MANCHESTER.—4.0 and 7.30 p.m. November 13th, 20th, 27th, December 4th and 11th.

NEWCASTLE-ON-TYNE.—7.30 p.m. November 16th, 23rd, 30th, December 7th and 14th.

Synopsis of lectures:

FOURTH LECTURE.—Clutches: Cone, Expanding, Metal-to-metal, Disc, etc.—Gear Boxes—Cardan-shafts—Universal Joints—Back Axles.

FIFTH LECTURE.—Carburation—Cooling and Lubrication.

SIXTH LECTURE.—The whole of this lecture will be devoted to various forms of ignition, particular attention being given to High Tension Distributing Systems and Magnetos.

SEVENTH LECTURE.—Frames — Steering — Brakes — Bearing Chains, etc.

EIGHTH LECTURE.—Bodies — Wheels — Tyres — Accessories — Hints on Driving—Organisation.

To meet the wishes of some of our readers it has been arranged to issue tickets to admit to *any four* of these lectures at a fee of 10s. 6d.

Applications for tickets should be made immediately to the Lecture Secretary, 20, Tudor Street, E.C.

THE NEW PENNY EDITION OF "THE AUTOCAR."

Readers of "The Motor Cycle" who are interested in motor cars are reminded of the new Penny Edition of "The Autocar," now obtainable of all Newsagents and Booksellers every Friday Morning.

CAMBRIDGE UNIVERSITY M.C.C. RACE MEETING.

A SMALL race meeting of an entirely private nature was held at Brooklands on Saturday last by members of that enthusiastic body, the Cambridge University Motor Cycling Club. The weather was all that could be desired, but a cold easterly wind blew across the track. The first event was a scratch race for single-cylinder

twin-cylinder machines fitted with engines of any size, Mr. Milbourne was the winner. The open three-lap race was won by Mr. E. H. Lees (5 h.p. Peugeot). Next followed a motor bicycle v. car race, in which the participants were Mr. A. H. Moreing, the secretary of the club (38.1 h.p. Daimler), and Mr. E. D. Dickson (5 h.p. Vindec). The result was a

A group of competitors and officials at the Cambridge University M.C.C. Race Meeting at Brooklands on Saturday.



machines to decide the handicap, and in this Mr. J. H. Whitlark (2½ h.p. M.M.C.) was first, and Mr. J. Ashworth (2½ h.p. Minerva) was second. In the race for twin-cylinder machines fitted with engines not exceeding 76 x 76, the winner was Mr. E. D. Dickson (5 h.p. Vindec), and Mr. R. G. Heyn (5 h.p. Rex) was second. In the scratch race for

win for the car by about 5s. The handicapping was most ably carried out, as not more than a second separated the first and second men in most of the events. The officials to whom the success of this excellently managed meeting was due, were Messrs. C. H. C. Smith and U. F. M. Oliver, timekeepers; and Mr. A. H. Moreing (the secretary), starter.

CLUB NEWS.

Coventry M.C.

At a committee meeting of the above club on Wednesday last, the decision of the A.C.U. Formula Sub-committee, which met to consider the A.C.U. formula when applied to two-stroke motors, was discussed. The committee of the Coventry M.C. unanimously decided that the decision could not act retrospectively with regard to the motor cycle hill-climb at Newnham. The published results therefore hold good.

Hull and East Riding A.C.C.

After a most successful year the Hull and East Riding Auto Cycle Club held its annual dinner at the Grosvenor Hotel on Thursday last, with the president, Dr. W. H. Coates, C.C., of the Army Motor Reserve, in the chair. There was a large attendance, several of the lady members of the club being present. The loyal toast was submitted from the chair.

Following the usual speeches was an excellent musical programme, during which the prizes won during the year were presented by the chairman, who also, on behalf of the members and friends, presented to Mr. Straker, the indefatigable secretary, a gold watch in recognition of the very satisfactory way in which he had discharged his duties. The presentation was made amidst hearty applause, and suitably acknowledged by Mr. Straker.

Brighton and District M.C.C.

This club concluded a very successful year with a hill-climb. The venue chosen was known as Captain Kidd's, near Hartfield, with an average gradient of about 1 in 8, with parts of 1 in 5, and one mile in length. The surface was very fair, but had small patches of grease on the worst corners. The following were the starters and order of finishing:

Twin-cylinder Class.—1, R. W. Cartwright (7-8 h.p. Minerva); 2, W. Brett (5½ h.p. Rex); 3, J. Coleman (5 h.p. Rex); 4, H. Saunders (5-6 h.p. Bat-J.A.P.), J. Best (4½ h.p. Minerva), and G. H. Nottingham (3½ h.p. Alcyon).

Single-cylinder Class.—Not enough of these machines turned up to make a class, but Mr. Hale was timed up the hill on his 3½ h.p. single-cylinder 1908 Rex, and made an excellent ascent in 3m. 7s.

A whist drive is to be held to-morrow (Thursday), and members are requested to turn up in full force to do justice to the delicacies provided by the host, Mr. Smith.

Members are reminded that the mud-pluggers intend to hold informal runs throughout the winter.

Essex M.C.

Now that motor cycles have attained such a degree of reliability there is no need to store them away during the winter months. The above club therefore intends to hold week-end runs throughout the winter months, alternately to the George at Bishop's Stortford and the White Hart at Witham, or if desired the destination may be varied. The first of such runs will be held on the 22nd inst., lunch at the George Hotel, Bishop's Stortford, at 1 p.m.

Edinburgh M.C.C.

The single-cylinder class in the hill-climb organised by this club held on October 24th has been settled. Owing to the most unusual closeness of the first two competitors the matter was referred to the Editor of *The Motor Cycle*, and acting on his advice the Trials Committee has declared this class to be tied, with S. Thomson (3½ h.p. Triumph) and R. H. Mouat (3½ h.p. Griffon) first equal, the latter making the fastest time by 1½s. The following is the position of the others who ascended the hill:

	Figure of merit.	Behind fastest time.
3. J. Cameron (3½ h.p. Triumph) ...	105.3	7½s.
4. T. Durie (3½ h.p. Triumph) ...	106	8½s.
5. G. A. Bostock (3½ h.p. Triumph) ...	114	17s.

Cambridge University M.C.C.

The following are the results of the Croydon hill-climb, held on October 31st last:

Rider and machine.	B. & S.	Time.	merit.
C. L. Mere (3½ Triumph) ...	84 x 86	25.9	37.93
— Stapler (3½ Triumph) ...	84 x 86	28.6	39.69
C. Stephenson (5 Vindec) ...	75 x 76	25.8	39.95
E. D. Dickson (5 Vindec) ...	75 x 76	25.8	42.29
E. H. Lees (5 Peugeot) ...	75 x 75	21.8	44.15
N. W. Hutchinson (3½ Triumph) ...	82 x 86	33.0	44.6
— Perkins (3½ Peugeot) ...	66 x 70	30.5	47.33
G. Seth-Smith (5½ N.S.U.) ...	75 x 75	30.0	50.02
J. M. Oakey (5 Vindec) ...	75 x 76	32.3	54.4
F. M. F. Pilkington (7-9 Peugeot) ...	80 x 98	21.4	57.03
W. B. R. Moorehouse (7-9 J.A.P.) ...	85 x 95	23.1	67.13

Fastest time was made by F. M. F. Pilkington (7-9 h.p. Peugeot). The timing was effected by means of an electrical apparatus designed by Mr. F. P. Dickson and Mr. U. F. M. Oliver.

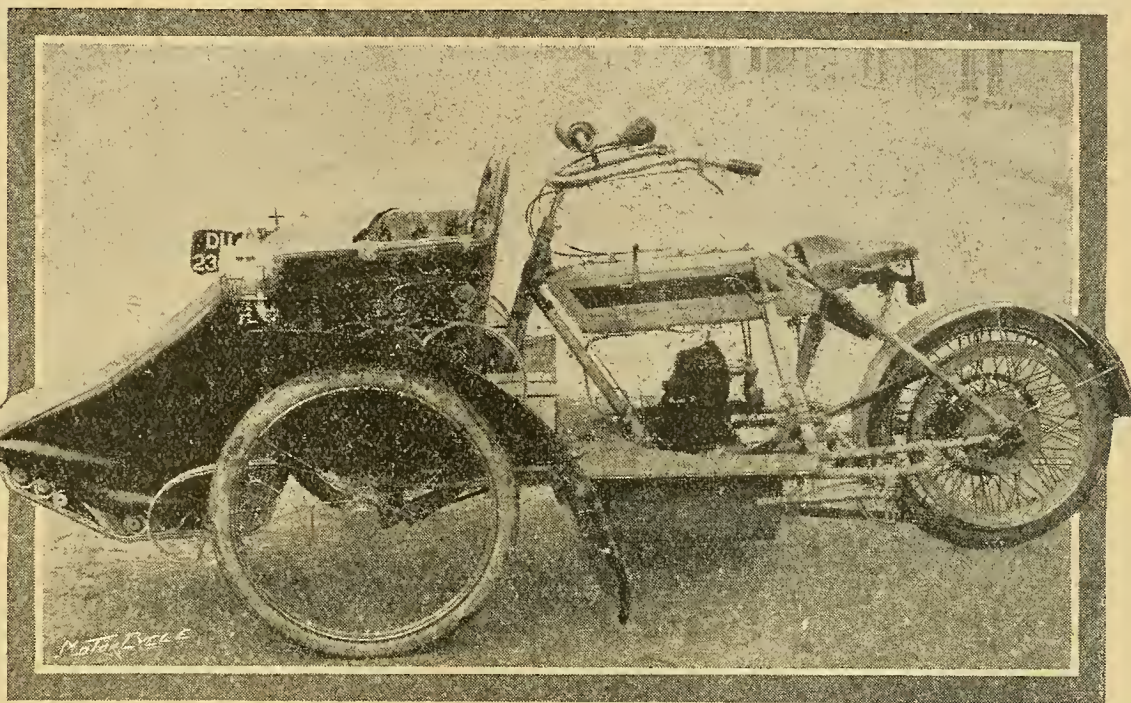
The Possibilities of a Light Tricar.

READERS will remember that a few weeks ago we wrote a leaderette on the possibilities of the light form of air-cooled tricar. The article was inspired by a few months' use of a light tricar built to our order by the Rex Motor Mfg. Co., Ltd., and which we understand that the firm named has resolved to standardise and exhibit at the forthcoming Stanley Show. When we ordered the machine the Rex Co. had no idea of marketing it, but they kindly carried out our wishes and built it entirely in accordance with the suggestions we made at the time, which were to take one of their standard $3\frac{1}{2}$ h.p. single-cylinder motor bicycles with Rex two-speed gear and Roc clutch and build it up with a Litette forecarriage, but instead of springing the front axle to spring the front seat. With this combination all our expectations have been realised, for the tricar has given no trouble, with the exception of a slight derangement of one of the engine ball bearings and a tendency for the low speed brake drum to slip on a very steep hill. Both these little faults have been remedied, the former by the alteration of the design of the bearing, the latter by altering the brake band to increase the gripping power. The illustration of the machine shows that the frame at the rear is exactly the same as an ordinary $3\frac{1}{2}$ h.p. Modèle de Luxe bicycle with two-speed gear. In other respects the only departure is in the method of operating the clutch and two-speed gear, which is by a hand lever, clearly shown in the illustration. We prefer the hand lever, as both feet are free to operate the brakes, and, moreover, there is no necessity to keep the foot on the low speed pedal (as in the case of the bicycle), as the lever is provided with a notched quadrant to hold it in the low speed position as long as required. In the central notch, the engine is free for starting by means of the handle fitted to the right-hand side of the live axle. A forward movement of the lever engages the low gear gradually, and a backward movement brings the low gear out of engagement and engages the high speed clutch.

Other Details of the Tricar.

The engine is fitted with an Amac carburetter, handle-bar controlled, and underneath the front seat is a long round silencer extending nearly the whole width of the front axle. This special silencer renders the machine very much quieter than the majority of motor cycles, unless it is climbing steep hills with throttle full open. On the engine shaft is an Advance adjustable pulley, which has given every satisfaction. The transmission is by $1\frac{1}{8}$ in. Giant Watawata belt. This belt, after being taken up in the initial stages, has received no attention beyond scraping in about 500 miles running. For passenger work, there is no doubt if belt transmission is employed the belt should be well above the work required of it. That is the reason we specified a $1\frac{1}{8}$ in. Watawata belt in preference to a standard $\frac{7}{8}$ in. or 1 in. belt, which, although quite

adequate for solo work, naturally gives more or less trouble on a passenger machine. It will be noticed that the engine, magneto, etc., are well guarded by means of a metal pan fitted under the engine and up to the side members of the frame; the pan is also closed in front. The front wings are very wide, and have leather extensions at the ends; in addition, a metal splashguard is fitted between the seat and the wheel, effectually preventing mud and water from reaching either the passengers or the engine and magneto. In fact, the whole of the rear part of the machine keeps



Rex $3\frac{1}{2}$ h.p. light passenger machine, a type which will be exhibited at the Stanley Show.

remarkably clean, and the only portions which get splashed when running on muddy roads are the back stays and chain stays; and all behind the rear wheel from a vertical line drawn through the centre of the saddle seat. This latter, by the way, is a Brooks saddle seat with compound springs, and in combination with the Rex cantilever spring seat-pillar is extremely comfortable—in fact, on fairly good roads one would hardly believe that the tricar had a rigid frame. To the right of the saddle, and strapped to the back stays, is a leather holster for carrying the starting handle, and a tyre foot pump is attached to the steering column. On the footboards behind the front seat are two neat boxes. The one on the right-hand contains a drip generator for the acetylene lamps, the other is a case of tools. The cane forecarriage is provided with a strong apron and a compartment runs the whole width of the seat just above the footboard. This is very handy for carrying a spare air tube, etc. The tyres are a 26 in. \times $2\frac{1}{2}$ in. Clincher on the rear wheel with a small car air tube; the fronts are 26 in. \times $2\frac{1}{4}$ in. Avon. The lamps are the new F.R.S. recently described in our article on motor cycle lamps, and the F.R.S. generator which we have received for trial. We intend to fit the latter to the diagonal tube.

We can confidently recommend a machine of this description to any motor cyclist who wants a passenger vehicle for use on good roads where the hills are not excessively steep, and where economy both in petrol

The Possibilities of a Light Tricar.—

consumption and tyres is a consideration. As an example of what it will do in the way of hill-climbing, it has been up the first portion of Sunrising with two up, and completed it with one up. It has also completed the whole round of the Wye Valley at an average speed of about 18-20 miles an hour. The gear ratios are 5 and 10 to 1, and unladen it does not exceed 3 cwt. For heavy winter roads and hilly districts the single-cylinder engine gives barely sufficient power,

but we understand the Rex Co. will fit either single or twin-cylinder engines—in fact, we are about to try our own tricar fitted with a 5 h.p. twin engine, and shall be most interested to see if it will keep as cool as the single when run on the low gear. We think it will, because it is being made with a specially low compression, as was the single-cylinder. The tricar is finished in light French grey with dark lines, so that it always presents a light and clean appearance despite dust and splashes of mud.

Hints and Tips for Motor Cyclists. By Road Rider.

MUDFLAPS.

263. The usual type of mud-flap, fitting circumferentially round the wheel, is not remarkably efficient, as the mud splashes often cannon wide of it, and are flung by draughts upon the rider's legs, or caught by some portion of his anatomy before the splashes have time to fall. Wherever there is sufficient clearance a mudflap extending out radially from the wheel will be found to afford far better protection. Even when there is only bare clearance between the magneto and the front mudguard, there is often room to fit a practically horizontal extension of the front guard, and this will be found twice as efficient as the usual type, which is shaped to follow the front wheel. A similar principle may well be applied to the back guard for winter riding, and will keep mud off the back of the engine, and also off bags or other articles strapped to the carrier.

ANGLE OF PROJECTOR HEADLIGHTS.

264. The normal acetylene projector will be found to concentrate its rays at a point too close to the rider if its carrying brackets are strictly vertical. If it is tilted upwards a little its long distance rays are of far better service in night riding. A hood is then required to deflect some of the light down on to the number-plate, and the reflections from this hood simultaneously serve to light up the road surface close under the front wheel, and enable the rider to dodge stones, hedge cuttings, and rough bumpy places.

PEDALS AS FOOTRESTS.

265. To mount by a swinging pedal is a method almost certain in time to lead to disaster, and the foot-rests on most modern machines are too far forward to mount from. If a rider is accustomed to mount from the near side he should screw a steel eye into the near crank, close to the pedal spindle, and stretch a coiled spring from this eye to any suitable point on the frame, in such manner that the pedal is held by the spring at about the 8 o'clock position. The pedal is then always in the correct position for a mount, and should the pedal gear be required for testing the engine on the stand, or for assistance up a particularly bad hill, it is always a simple matter to unhook the spring. Riders who never use their pedals as such can obtain a comfortable choice of riding positions by reversing one pedal on the

crank spindle, so that the two are pointing vertically downwards, using a spring to keep them from swinging.

CHOKED SPRAY IN INACCESSIBLE CARBURETTER.

266. If an engine will not start, and time presses so that the dismantling of the carburetter is unwelcome, it is a good plan to inject petrol liberally into the cylinder or cylinders, and then to make a fresh effort to start the engine with the handle, pedals, or running along, as the case may be. The petrol will produce one or two powerful explosions, and very often the suction so induced will drag the obstruction out of the jet, and so delay the moment when the cleaning of the carburetter becomes indispensable.

SECURING H.T. MAGNETO TERMINALS.

267. The spring push terminals of the high tension wires to a magneto are not always vibration proof, and may occasionally jump off and necessitate a dismount. The simplest way I know of securing them is to make the wires a trifle longer than was previously necessary, and then to procure an indiarubber letter band about six inches in diameter. This is slipped over the end of the magneto, the springpush terminal put in place, and the thong then passed over so that it nips the wire against the horseshoes. The cost of this device is only one penny, and no terminal so fitted can ever jump off. A somewhat similar tip serves to protect these terminals from short-circuiting through wet. The magneto terminal is unscrewed. Its projecting end will be found to be tapered. A circular piece of cycle patching rubber is taken, and a small hole cut in the centre of it so that it slips up the terminal almost to the end. The terminal is then replaced and the wire attached, with a tiny rubber ring threaded on the wire. The loose edges of the disc of patching rubber are then folded down to entirely cover the brass eye of the wire, and the little rubber thong slipped over the crumpled rubber to keep it in place. This affords absolute security from shorts due to rain or mud.

EASY STARTING.

268. Pending the general adoption of carburetters on which both top and bottom air are adjustable (the only ideal arrangement), most carburetters which are adjusted to give the best possible supply of air at full speed

afford too weak a mixture for really easy starting. I recently adapted a Brown and Barlow as follows: The difficulty in starting was traced to a surplus of bottom air (non-adjustable). I therefore got a piece of brass turned up very thin and light, exactly the shape of the lid of a circular cigarette tin, but smaller; its diameter was a shade less than the internal diameter of the bottom of the spray chamber. It was drilled centrally, so that it could be threaded over the jet holder, and put in the carburetter, so that it lay over the bottom air orifices. A stout crosswire fixed to the jet holder prevented it being sucked up into the inlet pipe. It was placed with its up-turned rim on top. I found there was no need to tickle the float needle to get a start, and that the machine started at a far lower speed than ever before. At high speeds the light brass disc lifted well up in the spray chamber, and an ample supply of air was sucked up through its central hole, which was somewhat larger in diameter than the jet holder, as there was naturally a surplus of metal round the base into which the holder screwed. Devices are now obtainable for varying the amount of opening of the air intake.

(To be continued.)

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Price 8/10, post free.

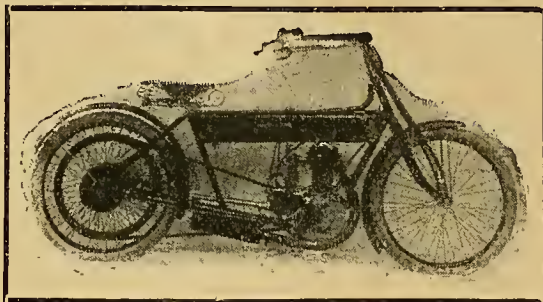
A real necessity when on tour. It is well printed on linen, and folds up into a neat and strong case, 7½ x 9½ in. An indispensable motor cyclist's companion.

A full list sent on receipt of postcard.

ILIFFE & SONS LTD.,
20, TUDOR ST., LONDON, E.C.

THE ROC—Its Rapid Rise.

The rapid rise of the ROC to foremost place among motor cycles is due to natural causes—a common-sense construction—a sensible means of starting and stopping—the sensible plan of starting from rest and proceeding in comfort at slow or any pace up any gradient and with safety in traffic. The ROC is often spoken of as “the car on two wheels” by reason of its hand-starting and car-like control. The ROC is a pioneer machine—the long, low, safe design of the ROC military models are known all over the world.



ROC 4 h.p. Royal Military Model, ball bearing engine, clutch and two-speed gear, etc., selling at 48 gns. inclusive. The 1909 models contain several detail refinements, notably in relation to perfection of spring forks and brakes. These will be conspicuous at the STANLEY SHOW. Orders are already being booked.

A. W. WALL, Ltd.,

Roc Motor Cycle Works,

Aston Rd. and Dartmouth St., BIRMINGHAM.

Telephone: 5712. Telegrams: “Roc, Birmingham.”

The ROC conversion set is the one thing needed on any motor cycle. Write for illustrated pamphlet to Clutch Dept., A. W. Wall, Ltd., Aston Road and Dartmouth St., Birmingham.

“GRADUA” INFINITELY VARIABLE GEAR

JUST A GENTLE TURN OF A SMALL WHEEL—THAT’S ALL!

RESULT—ANY GEAR DESIRED BETWEEN $3\frac{1}{2}$ to 1 and 10 to 1.

DEMONSTRATION FREE

AT OUR WORKS (BY APPOINTMENT).

WORKING MODEL AT STAND No 124

(WHICH WILL BE THE GREAT CENTRE OF INTEREST FOR MOTOR CYCLISTS AT)

STANLEY SHOW.

The “Gradua” Gear has most successfully solved the great problem of satisfactory change-speed gear. (To save needless correspondence, we beg to say that we will not fit to other makes of machines, at present.)

“ZENITH-GRADUA”—The high-grade motor bicycle, rigid frame, Druid spring forks most luxurious fitments throughout, will be exhibited for first time.

“ZENETTE”—the patent “double-scissors” spring frame motor bicycle, luxurious to a degree. Its absolute reliability has been fully proved in the various 1908. reliability trials, etc., in which it has been ridden. Fitted with “Gradua” Gear (just a gentle turn of a small wheel—that’s all!).

ZENITH MOTORS, LTD., 119, STROUD GREEN ROAD, LONDON, N.

Stations—Finsbury Park, G.N.Ry. Crouch Hill, Mid. Ry.

The well-known “Zenith Bicar,” “Zenith” Tricar, and “Zenette” Tricar-de-luxe will also be on show.

In answering either of these advertisements it is desirable that you mention “The Motor Cycle.”

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London (20, Tudor Street, E.C.), by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

THE LARGEST DEALERS

In New and Second-hand Motor Cycles in the World.

EXCHANGE.

APPROVAL.

DEFERRED PAYMENTS.

Covered by **CERTIFICATE of FITNESS.**
SECOND-HAND & SHOP-SOILED BARGAINS.

SINGLE CYLINDERS.

ROC, 1908, two-speed, magneto, 4 h.p.	£33 0
N.S.U., 1908, magneto, 3½ h.p., shop-soiled, £40 machine	£30 0
N.S.U., 1907, spring forks, Roc two-speed gear	£28 0
REX DE LUXE, 1908, two-speed, 3½ h.p., shop-soiled	£35 0
VINDEC two-speed, 1907, magneto, perfect..	£26 0
F.N., lightweight, magneto, spring forks	£20 0
ROC, 1907, magneto, clutch, spring forks	£19 0
QUADRANT (Birmingham), 3½ h.p., spring forks, Palmer cords, condition good as new	£17 0
WARWICK, 1908, shop-soiled, two-speed, clutch, magneto, spring forks, £50 machine	£31 0
QUADRANT (Birmingham), 3½ h.p., spring forks	£15 0
SINGER, 3 h.p., magneto, belt drive, Mabon clutch, perfect order	£15 0
ASTER, spring forks, Longuemare carburetter, tyres sound, good order	£9 0
WHITLEY, 3 h.p., spray carburetter, girder forks	£6 10
B.S.A, M.M.C. engine, 3½ h.p., Druid forks, Lomax band, grand condition	£11 0
MINERVA, 2 h.p., spray carburetter, M.O.V.	£6 0

TWINS.

N.S.U., 1908, magneto, 4 h.p., shop-soiled, £50 machine	£39 0
BROWN, 1908, shop-soiled, 5½ h.p., two-speed, Palmer tyres, cost over £67	£45 0
ROC TWIN, 5 h.p., magneto, clutch, show model, done 300 miles, perfect	£30 0
VINDEC, magneto, spring forks	£25 0
ROC, 5 h.p., Peugeot engine, magneto, clutch	£22 0
KERRY, 5 h.p., two-speed	£16 0
REX TOURIST, 5 h.p., magneto, spring forks	£25 0
REX, 5 h.p., spring seat, spring forks	£17 0
WERNER, 4 h.p., spring forks, good order ..	£11 0

MILLS & FULFORD SIDECAR, shop-soiled, Palmer cord 2½ in. tyre	£9 10
RILEY TRICAR, 5 h.p., twin, two-speed, coach-built, lamps, spares, etc., perfect order	£50 0

THE NEW PREMIER HORNS.

BINOTE. TRINOTE.

BETTER THAN THE ORDINARY HORN,

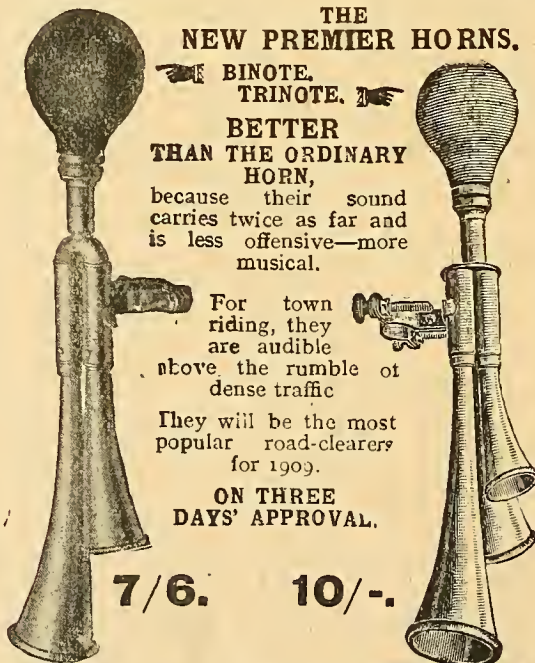
because their sound carries twice as far and is less offensive—more musical.

For town riding, they are audible above the rumble of dense traffic.

They will be the most popular road-clearers for 1909.

ON THREE DAYS' APPROVAL.

7/6. 10/-.



— REX PARTS. —

We keep a **COMPLETE** stock of parts for **ALL REX MODELS**, and can supply per return any part from complete engine to smallest screw or nut. We can save you money.

WRITE FOR LISTS OF ACCESSORIES.

PREMIER MOTOR AGENCY,

Aston Road, BIRMINGHAM.
Telephone 4,310. Telegrams: "Primus, B'ham."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20 Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham and Westmoreland.

SPLENDID Motor Cycle, 1908, climb anything, light, magneto. — Particulars Dr. Iliffe, Kendal.

h.p. Rex, Whittle belt, non-skid on back wheel, luggage carrier, not ridden 500 miles; price £16. — Rev. Swann, Crosby Ravensworth Vicarage, Westmorland.

3 h.p. Fafnir (1906), Chater-Lea, Palmer cord and Hermetic, Gloria spring forks long bars, Lycett stand, etc.; further particulars on application; offers; good condition, powerful.—Harrison, Queen's Place Kendal.

N.S.U., 3½ h.p., with Millford Sidecar (specially built wheel, Chater-Lea hub) both new 1907, magneto, new two-speed gear set of spares, including unused Clincher Dreadnought and Peter-Union tyres, two headlights, and accumulator tail light, motor in first-class running order; price £22 10s., or separate; trial.—Tweddell, Mining Engineer, Seaton Delaval, near Newcastle-on-Tyne.

SECTION II.

York and Lancashire.

MANCHESTER.—4 h.p. Roc, free clutch, magneto, starting handle, run 1,000 miles; £25.

MANCHESTER.—3½ h.p. Phoenix Cob, two speeds, handle, run 1,000 miles; £25.

MANCHESTER. — 3 h.p. Humber, won world's hour record, 33in. from ground to top saddle; £12 10s.

MANCHESTER.—A large selection of motor cycles, tricar, etc., at bargain prices.—Foxwell Gray, 262-264, Deansgate, Manchester.

31 h.p. Bradbury, 26in. wheels, in good order; £18.—42, Taylors Road, Stretford.

1907 Twin Minerva, 2½ in. tyres, Brown-Barlow carburetter, handle-bar control; £20.—7, Blair Grove, Southport.

OFFERS wanted.—Chater-Lea motor cycle, Palmer cord tyres, complete, less engine.—Clarkson, Cowan Bridge Kirkby Lonsdale.

£10 10s.—3 h.p. Stevens-Beech, Chater-Lea trembler, Longuemare; genuine bargain; no offers.—Little, 67, Lawrence Road, Liverpool.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

1907 3½ h.p. Quadrant, Palmer front Shamrock back, new Watwata, new Fuller accumulator, splendid running order; must sell; 16 guineas, absurd sacrifice. — Scott, Power Station, Chepstow, Mon.

DEX 5½ h.p. Twin Motor Cycle, magneto ignition, very fast, powerful and reliable machine, almost new condition; sacrifice £18 18s.; approval arranged; must sell; cash wanted. — Lancaster, 103, Heeley Road, Selly Oak.

EXCELSIOR, 2½ h.p., girder forks, with springs, guaranteed perfect, too powerful for owner, sidecar, Chater fittings, upholstered leather, not run ten miles; exchange for Motosacoche, or sell.—Barrett, Henry Street, Ross.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

1903 h.p. F.N., thoroughly overhauled, perfect, accessories, spares; reasonable offer.—13, Whitley Street, Reading.

LIGHTWEIGHT N.S.U., 1½ h.p., new as from crate, spring forks; listed £36 7s. 6d., nearest offer.—Long, 46, Upton Street, Gloucester.

1 h.p., long, low, vertical, girders, long bars, Matchless spring forks, Longuemare, Dermatine, going order; £12.—Martin, Mahan, Salerie, Guernsey, C.I.

3 h.p. Lightweight F.N. motor cycle, magneto ignition, Michelin non-skid tyre, variable pulley, splendid condition; trial by appointment; £14 10s.—Bishop, Morris's Garage, Oxford.

FOUR-CYLINDER F.N., splendid condition, spring head, magneto, pedals taken off, footboards substituted, lamp, horn, tools; £17 10s.—Wenborn, Bungalow, Bursledon, Southampton.

3 h.p. Havelock Motor Cycle, Brown engine, trembler coil, new belt, tyres good condition, good running order; £8 s.; trial by appointment. — Fletcher, Morris's Garage, Oxford.

FOUR-CYLINDER 4½ h.p. F.N., condition whole machine perfect, tyres unpunctured, splendid machine for all-weather riding, lamp, spares; any trials; £28.—11, Penchay Road, Oxford.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

1 h.p. Minerva, spring forks, footboards, very low.—52, Tredegar Square, Mile End.

h.p. Twin Sarolea, Chater, Longuemare, new; £30, or offer.—10, Thornhill Road, Leyton.

TRIUMPH, 1908, 3½ h.p., magneto, little used, perfect, spares; £36.—Clevedon, Venocks.

h.p., spray, splendid condition; £9; photo free. — Moore, 7, Cambourne Road, Sandsworth.

WIN Werner, new condition; £16, offers; buying new machine.—Portland Garage, Portslade.

3 h.p. Minerva, vertical, good going order, tyres perfect; £10 10s.—Russell, 29, East Street, Barking.

1 h.p. Brown, splendid running order; bargain, £10 10s.—28, Seven Sisters Road, Holloway.

1 h.p. Minerva, splendid condition, very fast, long bars; £14, or offer.—Ridge Farm, Enfield.

DEX, 3½ h.p., 1906, spring forks, good condition; what offers?—30, Bickerton Road, Highgate, N.

N.N., 4½-5 h.p., 1908 model, four-cylinder, magneto, spring forks, spare cover, mp, almost new; £27 10s.—Below.

BAT, 3½ h.p. M.M.C. engine, De Dion carburettor, beautiful order; great bargain, £15 10s.—Below.

DEBOK, 3½ h.p., 1908, M.O.V., practically new; £12 10s.—Whittle, 41 Skelbrook Street, Earlsfield.

Money Saved is Money Earned

Consider the following before purchasing elsewhere:

50/- DOWN AND 5/- WEEKLY SECURES

REX, 3½ h.p., vertical engine	£8 10
MINERVA, 2 h.p. M.O.V., spray	£8 0
HUMBER, 2½ h.p., splendid condition	£10 0
WERNER, 3½ h.p., twin	£13 0
MINERVA, 3½ h.p., 26in. wheels	£10 0
QUADRANT, 2 h.p., good condition	£7 0
JAP, 2½ h.p.	£8 0
WERNER, 2 h.p.	£9 0
EXCELSIOR, 3 h.p., very good tyres	£10 0
SINGER, 2 h.p., magneto	£8 0
REX, 3½ h.p., 1905, 26in. wheels	£13 0
PHENIX, 2½ h.p., good tyres	£8 0
HUMBER, 2 h.p., splendid condition	£8 0

CASH OFFERS WANTED

ANTOINE, 5 h.p., twin, 1907 model	£20 0
SAROLEA, 5 h.p., twin, spring forks	£20 0
MABON, 3 h.p., high tension magneto	£14 0
REX, 5 h.p., twin, 1907 model	£18 0
F.N., four-cylinder, magneto	£18 0
CLYDE, 3 h.p., magneto	£10 0
REX, 3½ h.p., 1906, footboards	£15 15
MINERVA 3½ h.p., 26in wheels	£14 10
TRIUMPH, 2 h.p. Minerva engine	£8 10
CLARENDON, 3 h.p. Peter Unions	£9 0
GIVAUDAN, 3 h.p.	£15 0
QUADRANT, 3 h.p., spray	£12 0
SINGER, 2 h.p., open frame, magneto	£6 0
F.N., 2½ h.p., splendid machine	£10 0
ARIEL, 3 h.p., brand new	Offers
ARIEL, 2½ h.p., lightweight, 1908, new mag.	£33 0

TRICARS.

REXETTE, 8-10 h.p., two speeds and reverse; a perfect article	£60 0
MINERVA Pat. 3½ h.p., spray, good tyres	£16 0
REXETTE, 8 h.p., open frame, two speeds, perfect order	£38 0

CARS.

24 h.p. DARRACQ, perfect order throughout, trial run	£110 0
14 h.p. GOBRON-BRILLIE, four speeds, two-cylinder, five-seater	£80 0

SIDECAR.

BAT, 26in. wheel, Clincher	£4 10
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ACCESSORIES.

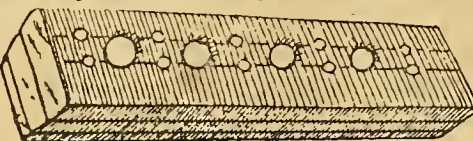
THE LATEST IN LAMPS.

Best quality brass and riveted (not soldered rubbish which is cheaper but useless) separate generator head lamps. The same quality head lamp at anything like the price has never been placed before the public before, and it is only owing to a dispute that we are able to offer them.



PRICE 14/11 complete with generator.

Knowing the quality of these goods we send on approval willingly. Only one gross, so order immediately and save disappointment.



ALBANY BELTING.

3in. 7d., 3in. 8d., 3in. 9d., 4in. 10d. per foot. Approval. Immediate delivery.

MAUDE'S MOTOR MART, Pow. St., HALIFAX

The fair factors (behind the Victoria Hall). National Telephone 433 day, 904 night.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD for reliable machines.—2½ h.p. Kerry, good condition, new back tyre, all accessories, spring forks; £8.

HAMPSTEAD.—1908 3½ h.p. Triumph, run 500 miles; only £36, great bargain.

HAMPSTEAD.—3½ h.p. Peugeot, Chater-Lea No. 6 frame, good condition; only £14, bargain.

HAMPSTEAD.—1908 Lightweight N.S.U., magneto, only shop-soiled; £18, with all accessories.

HAMPSTEAD.—3½ h.p. N.S.U., late model, magneto, 24in. wheels, new condition, guaranteed perfect; only £15.

HAMPSTEAD.—3½ h.p. 1908 Triumph, handle-bar control, new condition; £34, with all accessories.

WANTED, Motor Cycles, any condition, sidecars or cycles, in part payment for brand new 1908 Rexes; we allow £15 for old machines, £8 for sidecars, and £6 for cycles; write or call.—Motor Works, 5, Heath Street, Hampstead. Tel. 2678 P.O.

HAMPSTEAD for new machines, F.N.'s, 5-6 h.p., late models from stock; exchanges entertained; £30 allowed on old ones.

HAMPSTEAD.—5 h.p. Twin Peugeot, Chater-Lea No. 6 frame, splendid condition, like new; £20.

HAMPSTEAD.—New Griffons at second-hand price; £4 under catalogue price, only shop-soiled.

HAMPSTEAD.—3 h.p. Fafnir, good condition, low, with all spares; £10, guaranteed.

HAMPSTEAD.—F.N., 4½ h.p., four-cylinder, 1908 model, magneto and spring forks, all accessories; £25.

HAMPSTEAD.—Sole agents for Griffons, Triumphs, Vindecs, Minervas, F.N.'s, N.S.U., Browns, Rexes, and Rocs. We allow £10 upwards for your old machines, any condition, in part payment for new models, any make. Write, call, or telephone, 2678, P.O.—Motor Works, 5, Heath Street, Hampstead.

SINGER, 2½ h.p., spares and tools; £7 10s.; appointment by letter.—Shaw, 42, Alexandra Road, Hornsey.

N.S.U., 3½ h.p., magneto, as good as new; cheap for cash.—E. Martin, 193, Brook Street, Kennington, S.E.

21 h.p. Peugeot (as new), 2 h.p. Bowden, 1½ h.p. Werner; offers in cash wanted.—21, Balfour Road, Ilford.

31 h.p. Ariel Motor Cycle, late 1907, ridden 200 miles; cost £37, cash £27.—Ariel, 5, Connaught Road, Leytonstone.

1908 3½ h.p. Triumph, first rate condition, Shamrocks, lamp, horn tools, spares; £37.—Barton, Ravensdale, Bushey.

MOTO-REVE, low model, Druid spring forks, V belt, numerous spares, equal to new; £25.—Bunting, Wealdstone.

21 h.p. F.N., excellent little machine, fine puller, very reliable; £9.—Motorist, 7, Bodney Road, Hackney, London.

STAMFORD HILL.—2½ h.p. Rex, B. and B. carburettor, excellent machine, in perfect condition, lightweight; £7.

STAMFORD HILL.—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL.—1½ h.p. Quadrant Lightweight, Minerva engine, two brakes, all in very good condition and perfect order; £5 10s.

STAMFORD HILL.—2½ h.p. Precision engineered lightweight, in good running order, and very good condition; £6 15s.—128, High Road, Tottenham.

£11.—3 h.p. Kerry, low built, long handles, good hill-climber, few accessories.—J.G., 26, Gaskarth Road, Balham, London.

3 h.p. Quadrant, in splendid condition, footrests, pedals, and stand, spare valves, cover, and belt, climb any hill; £12.—Below.

31 h.p. Kerry, low, long bars, Brooks saddle, stand, spare valves, and cover, engine almost new, variable pulley, new; £13.—Hartnup, 2, Wellfield Place, High Street, West Chislehurst, Kent.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

GODFREY and Applebee.—Winter bargains. Lovely twin Rex, grand condition, R.O.M. contact; £13 10s.

GODFREY and Applebee.—Similar machine as above, fitted with Bosch magneto; £18; guaranteed.

GODFREY and Applebee.— $\frac{3}{2}$ h.p. Rushworth, overhead valves, low, long wheelbase, grand condition; £8.

GODFREY and Applebee.— $\frac{2}{3}$ h.p. Minerva, good going order; £5; Palmer tyres, Longuemare.—165a, Hoe Street, Walthamstow. Phone, 464 Walthamstow.

MOTOSACOCHE, 1908, excellent order; trial, appointment; £17.—Sub-Lieutenant Bennett, Naval College, Greenwich.

4 $\frac{1}{2}$ h.p. Twin-cylinder Givaudan, in excellent condition and running order; trial; £12.—50, Castleton Road, Goodmayes.

IF You Want Bargains in second-hand motor cycles you can get them at Wanchope's, 9, Shoe Lane, Fleet Street, London.

BARGAIN.— $\frac{3}{2}$ h.p. Bat, $\frac{2}{3}$ h.p. F.N., 3 h.p. Kerry, perfect order; first offers welcome.—26, Harcourt Street, Marylebone Road, W.

5 h.p. Twin Sarolea, Chater-Lea frame, Peter-Union tyres, long handle-bars, footrests; £17.—224, Wood Street, Walthamstow.

WERNER, $\frac{2}{3}$ h.p., long, low, Dunlops, in good condition; £8 10s., or bicycle part payment.—191, Cricklewood Broadway, N.W.

3 h.p. Fafnir, long Chater-Lea frame, Longuemare, Dunlops, tools, numbers; what offers?—Schon, Westwood, Hampton Hill.

3 h.p. Werner, splendid hill-climber, warranted perfect, with all accessories; £9 15s., or nearest offer.—198, High Road, Wood Green.

PEUGEOT, $\frac{2}{3}$ h.p., 26 by 2 wheels, Longuemare, new belt, splendid condition; £8 10s.—Barber, 17, Galena Road, Hammersmith, W.

3 $\frac{1}{2}$ h.p. 1907 Quadrant, magnificent order, engine just been made as new, Palmers; £19.—Sevenoaks Motor Company, Sevenoaks.

3 $\frac{1}{2}$ h.p. Excelsior, very powerful, will take sidcar easily, in first-class condition; £11 15s., or nearest offer.—478, High Road, Tottenham.

7 h.p. Twin Peugeot, Chater-Lea frame, torpedo tank, studded back tyre, footboards, very low; £24.—164, Tachbrook Street, Pimlico.

6 h.p. Heavy Twin, J.A.P., Palmer cords, No. 6 Chater, new two weeks ago; cost £55, bargain, £40 cash.—Motor, 20, Godson Road, Croydon.

3 $\frac{1}{2}$ h.p. Perry, new Clincher tyres, Longuemare, long bars, drop pin, very fast, climb any hill.—Barber, 17, Galena Road, Hammersmith, W.

5 h.p. Twin Kerry, perfect running order, low and powerful, footboards; £15, or lower power and cash.—17, Kenmore Road, Hackney, London.

3 h.p. Bradbury, in splendid condition, very powerful, also Million sidcar to fit; the lot £14.—C.S., 35, Davenant Road, Upper Holloway, London.

IF You Want good bargains in second-hand or new motor cycles you cannot do better than come to 5, Heath Street Motor Works, Hampstead.

2 $\frac{3}{4}$ h.p. Mechanical Minerva, magneto, £12; $\frac{1}{2}$ h.p. lightweight Werner, £7 10s., or offer; splendid running order.—Wetherby, Ash Grove, Hackney.

6 h.p. Antoine, Bosch magneto, Chater-Lea No. 6, stard, tubular carrier, B. and B. handle-bar control, new June; £28.—87, High Street, Clapham, S.W.

4 h.p. Twin, Magneto, good running order, tyres good, lamp, and spares; £10, or close offer; seen after 6 p.m.—J.L., 49, Cavendish Road, Brondesbury.

3 $\frac{1}{2}$ h.p. Centaur, Palmer and Clincher, $\frac{3}{2}$ footboards, good climber, running order; trial given; £10.—Kew, 160, Manor Park Road, Harlesden.

ALL FOR YOU

Shop-soiled—UNRIDDEN—Guaranteed.

1908 $\frac{3}{4}$ h.p. magneto REX, ball bearing engine; 1st price £39 18s.; our price	£25 0
1908 TWIN REX; list price £45 13s.; our price	27 0
1908 REX, magneto, lightweight; list price £26 4s.; our price	19 9

1908 Magneto TWIN REX, brand new	offers
5 h.p. Twin VINDEC, magneto, Truffault ..	£29 10
5 $\frac{1}{2}$ h.p. REX DE LUXE, 1907, brand new ..	£31 10
5 $\frac{1}{2}$ h.p. Twin REX, spring forks, black finish ..	£18 18
5 h.p. Twin ZENITH BICAR	£20 0
Twin-cylinder FAIRY, very smart	£15 0
6 h.p. Twin REX, non-skids both wheels ..	£18 18
Twin KERRY, Chater Lea, with Sidecar ..	£22 10
5 $\frac{1}{2}$ h.p. Twin REX, magneto, 1907	£22 0
4-5 h.p. Twin ALCYON, N.S.U., two-speed ..	£20 0
5 h.p. Twin SAROLEA, long frame	£18 18
6 h.p. Twin ANTOINE, R.O.M. ignition ..	£22 0
6 h.p. Twin ANTOINE, spring forks	£22 0
Four-cylinder F.N., guaranteed	£19 19

Ten 1917 $\frac{5}{8}$ h.p. REX DE LUXE, Rac clutch, magneto, twin tyre, spring forks, spring seat, handle starting. Best sidcar machine on the market. £27 10s. Same are like new.

SINGLES—Cash Offers Wanted.

1908 $\frac{3}{4}$ h.p. REX, magneto, brand new	offers
1908 $\frac{3}{4}$ h.p. REX, 2-speed, shop-soiled	£31 10
1908 MOTOSACOCHE, splendid condition ..	£19 10
1908 N.S.U. Lightweight, magneto	£19 10
1907 $\frac{3}{4}$ h.p. Magneto REX, black finish ..	£19 10
1907 $\frac{3}{4}$ h.p. N.S.U., magneto	£21 10
4 h.p. Magneto ROC, Roc clutch, very low ..	£21 0
$\frac{3}{4}$ h.p. N.S.U., magneto, guaranteed	£17 10
3 h.p. TRIUMPH, magneto	£24 10
3 h.p. TRIUMPH, spring forks	£21 0
3 h.p. RIP, brand new, very low	£16 0
$\frac{3}{4}$ h.p. Magneto REX Racer, a flier	£25 0
$\frac{3}{4}$ h.p. 1906 REX, spring forks, long bars ..	£15 10
$\frac{2}{3}$ h.p. Magneto REX, 1908, shop-soiled ..	£19 19
$\frac{3}{4}$ h.p. MINERVA, M.O.V., vertical, spray ..	£16 10
3 h.p. GIVAUDAN, nearly new, very low ..	£16 0
3 h.p. QUADRANT, spray, spring forks ..	£13 0
3 h.p. LLOYD'S, 26 x $\frac{1}{2}$ in. Palmers	£13 10
4 h.p. ANTOINE, vertical, M.O.V., spray ..	£16 0
$\frac{2}{3}$ h.p. MINERVA, fine condition, M.O.V. ..	£13 10
3 h.p. CLYDE, magneto, vertical, spray ..	£15 0
4 h.p. ANTOINE, 26 x $\frac{1}{2}$ in. tyres	£16 10
$\frac{3}{4}$ h.p. SIMMS, magneto, $\frac{1}{2}$ in. Palmers ..	£17 10
$\frac{3}{4}$ h.p. CENTAUR, free engine, M.O.V.	£16 0
$\frac{2}{3}$ h.p. F.N., special frame, reliable	£12 10
3 h.p. HUMBER, spray, good climber	£10 10
$\frac{3}{4}$ h.p. REX, 22 in. frame, trembler coil ..	£11 10
$\frac{2}{3}$ h.p. MINERVA, 26 x $\frac{1}{2}$ in., spray, vertical ..	£11 10
3 h.p. BROWN, spray, guaranteed	£12 10
4 h.p. ATELIER, long bars, low saddle ..	£13 10
$\frac{3}{4}$ h.p. EXCELSIOR, spray, trembler coil ..	£10 10
$\frac{2}{3}$ h.p. COVENTRY EAGLE, vertical spray ..	£10 0
$\frac{3}{4}$ h.p. Two-speed REX, suit sidcar	£13 10
$\frac{2}{3}$ h.p. F.N., light, low, smart appearance ..	£12 0
$\frac{2}{3}$ h.p. CLEMENT, very low, good order ..	£11 0
$\frac{2}{3}$ h.p. KERRY, spray, low, reliable mount ..	£10 10
2 h.p. RALEIGH, spray, smart	£8 0
$\frac{2}{3}$ h.p. ROYAL, vertical, spray, trembler coil ..	£7 15
$\frac{2}{3}$ h.p. HASKARD, spray, smart	£11 10
$\frac{1}{2}$ h.p. MINERVA, spray, suit light rider ..	£5 10
$\frac{2}{3}$ h.p. EXCELSIOR, trembler coil	£8 0
2 h.p. HUMBER, chain drive, trembler coil ..	£6 10
2 h.p. PEUGEOT Lightweight, smart	£9 10
2 h.p. MINERVA, spray, smart, good	£7 0
$\frac{2}{3}$ h.p. PEBOK, free engine, nearly new ..	£10 10

5-6 h.p. TWIN REX, £18 18s., or £4 and '07 Sing e Rex, or £5 a d $\frac{3}{4}$ Rex, or level exchange with single magneto Rex. Any machine taken.

TRICARS.

5 $\frac{1}{2}$ h.p. REXETTE, W.C., two speeds	£35 0
REX TRICAR, coach built	£13 10
Twin REXETTE, W.C., two speeds, 8 h.p. ..	£47 10
4 $\frac{1}{2}$ h.p. STEVENS Tricar, very low built ..	£15 0
5 h.p. HUMBER, open frame, W.C., 2 speeds ..	£35 0
REX, Phoenix Two-speed, coach built	£18 10
$\frac{3}{4}$ h.p. BROWN, two speeds, foot clutch ..	£22 10

Extended payments to suit all requirements. If you can't pay cash down, write and state what credit you require, and we will endeavour to accommodate you.

10-12 BRUSH, tonneau, 3 speeds and reverse £55 0

Gnawiter Rubber and Canvas Belting.

$\frac{1}{2}$ in. 10d., $\frac{3}{4}$ in. 1/1, $\frac{1}{2}$ in. 1/4, $\frac{1}{2}$ in. 1/9 per foot. 3/- allowed for old belts.

The Halifax Motor Exchange,

Agents REX and N.S.U.
16, Westgate, Halifax.
Telephone: 766. Telegrams: "Perfection."

MOTOR BICYCLES FOR SALE

4 h.p. Stevens, with tandem attachment Chater-Lea fittings, engine quite low what offers?—B.H.P., 41, Conley Street, East Greenwich, London, S.E.

£22—4 h.p. Kelecom, with Ariel cane side car; cost 65 guineas, as new; any trial piano part exchange.—Motorist, 167, Wighman Road, Harringay.

3 $\frac{1}{2}$ h.p. Bat, spring frame, Continental Watawata, good condition, just overhauled; £19, offers; exchange.—Porter, 1 Belsize Grove, Hampstead.

3 $\frac{1}{2}$ h.p. Rex, long handles, low position tyres perfect, Price's stand, good hill-climber; £10 10s.—James Olegg, 59, Beckenham Road, Beckenham.

5 h.p. Twin Rex, new Shamrock tyre synchronised ignition, good condition throughout; £20, or exchange.—Ritchie, 3 King Edward's Gardens, Acton.

MINERVA, $\frac{3}{4}$ h.p., new January, guaranteed faultless, £20; sidcar, £3; any trial; exchange considered.—Kingsley, fishmonger, Pitfield Street, Hoxton.

2 $\frac{1}{2}$ h.p. Singer, magneto, tyres splendid lamp, worth 15s., large horn; £7 10s. the lot; viewed any time; must be sold. 107, Woodford Road, Forest Gate.

TRIUMPH, June, 1907, handle-bar control, excellent condition throughout, a usual Triumph details; nearest £30; no exchanges.—186, Peckham Rye, S.E.

LOOK.— $\frac{3}{4}$ h.p. late 1907 Minerva, spruce footboards, Richs tubes, etc., grand bike; £16 10s., or exchange for twin or tri-car.—171, High Street, Tonbridge.

3 h.p. Quadrant, spring forks, recently repainted, enamelled, in perfect order, very new and reliable; bargain, £11.—Motorist, French Place, Shoreditch, London.

3 h.p. Humber, free engine, running order with sidcar, £12, or sell separate; h.p. Auto, running order, new tyres, £10, nearest.—Smith, plumber, Wivenhoe.

LAATEST 1908 Twin-cylinder 5 h.p. Belvedere Chater-Lea, Palmer cords, very low exchange for lower power and cash.— Jennings, 268, Hornsey Road, Holloway.

J.A.P., $\frac{3}{4}$ h.p., Chater-Lea, $\frac{2}{3}$ Palmer cords, Brooks B105, non-trembler, perfect condition; what offers? seen by appointment.—Watts, 36, Taylor Street, Woolwich.

3 h.p. Falcon, 26 in. wheels, low, Brooks B100, perfect condition, fine hill-climber, very reliable; £9 only; any trial.—A.T., 86, Colvestone Crescent, Dalston, London.

1908 5 h.p. Viadeo Special, Truffault for magneto ignition, splendid machine, satisfaction assured; £32 10s.—At Wanchope's, 9, Shoe Lane, Fleet Street, London E.C.

5 $\frac{1}{2}$ h.p. Twin Onaway, Palmer cord tyres, Whittle's belt, trembler and plain coils, spares, all in good condition; £20 owner buying car.—Carr, 15, Park Hill, Croydon.

9 h.p. Bat, twin, magneto in tank, spring frame, automatic lubrication, Jap engine clutch, complete; £35.—At Wanchope's, 9, Shoe Lane, Fleet Street, London E.C.

1908 Featherweight Rex, magneto, star unused lamp, horn, mirror, toolbag, all new; reasonable offer.—L., O'Connell News Agency, 19, Dartmouth Street, Westminster.

J.A.P., 6 h.p. twin Matchless, spring frame, magneto, Mabon clutch, $\frac{2}{3}$ Palmer cords, Whittle belt, splendid order; £30 Batchelor, 165, Harbutt Road, Clapham Junction.

5 h.p. Twin Peugeot, No. 6 Chater-Lea frame, Davison tanks and gauges, perfect running order, only new in May, £25, or best offer.—Dee, Bellevue Road, N. Southgate, N.

2 $\frac{3}{4}$ h.p. Clyde, spring forks, engine in re-bored, new pistons and rings, tried, ready for years of hard wear; will take £11 10s. for quick sale.—Motor, 7, Bodu Road, Hackney.

£12 10s.—Minerva, 1906, $\frac{3}{4}$ h.p., splendid condition, 26 in. by $\frac{1}{2}$ in. Continental tyres, stand, lamp, horn, and several spares, must sell; bargain.—Schlotter, 36, May Road, Clapton, N.E.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TRICARS FOR SALE.

BOOTH.—New 6 h.p. twin Antoine, £8 15s.; 3 h.p. Simms, magneto, M.O.V., £5 10s.; water-cooled 5 h.p. Antoine, M.O.V., new, £8; 5 h.p. Aster, w.c., £7 10s.—Booth's Motor Stores, Wade Street, Halifax.

1907 Practically Brand New Quadrant Carriages, 6-7 h.p. twin engines, two speeds, free engine, coach built, well sprung, everything in tip-top condition; £38.—Motorist, 86, Weststone Crescent, Dalston, London.

EXCELSIOR Tricar, 3½ h.p. M.M.C. Anglian 1 two-speed, free engine, pedal operated clutch and front brakes, Longuemare, Nilghior, Palmer back, Dunlop spare. Brooks 100, 25-30 m.p.h.; £17 10s. cash.—James, 35, Crommorton Street, E.C.

h.p. Rexette, two-speed, water-cooled, Continental steel studded back, Dunlop antyres, two accumulators, wheel steering, large luggage carrier, lately thoroughly overhauled; 33 guineas (lowest).—Gunner, 736, Holloway Road, London.

REXETTE, 6 h.p. latest model and improvements, beautifully sprung chassis, open frame, two speeds, water-cooled, wheel steering, car tyres, luggage carrier, spares, etc., handsome finish; £34 10s., cost £110; trial.—E., 30, Northway Road, Camberwell.

15, or offer.—Wolf tricar, 3½ h.p. Whitley engine, aluminium forecarriage, bucket driving seat, two speeds, chain transmission, clutch drive, non-skid back, handle starting, running order, horn, two spare valves.—St. Mund Motor Works, Abington Square, Southampton.

1 h.p. Centaur Tricar, coach-built body, upholstered green, free engine, two speeds, chain drive, all three tyres brand new, non-skid to back, three brakes, foot-boards, engine as good as new, just overhauled, everything in splendid condition; £32.—New Brook Street, Coventry.

h.p. Riley Tricar, 1908 model, Napier green finish, 700 by 75 Michelin non-skid on back wheel, 3in. Clincher fronts, horn, electric back lamp, with spare accumulator and switch, two pair lamps, headlight, apron to front seat, special toolbox, etc.; £60.—1,177, The Motor Cycle Offices, Coventry.

h.p. Riley Tricar, 1908 model, Riley red finish, 700 by 80 Dunlop fronts, large non-skid on back, leather extensions to all wheels, luggage carrier over back wheel, horn, with flexible, small acetylene headlights, with separate generator, electric lamp, spares, etc., run about 700 miles, splendid running order; £75.—1,176, The Motor Cycle Offices, Coventry.

1 h.p. Minerva Engine, Chater-Lea low built frame, extra strong, footboards, carriage upholstered, leather apron, Stanley 2, 26 Palmers, spare cover and tube, spares, sundry spares and tools, guaranteed everything perfect; £17 10s.; registered, very nice.—Brown, 5, Southend Parade, Footscray Road, Eltham, Kent. Also Montgomery sidecar, £4, compensating, good condition; also h.p. Quadrant, latest pattern, bargain, 10s., splendid order; must sell.

SIDECARS AND FORECARS.

LIBERTY Sidecar, new condition, 2½ Clincher; £4.—56, Riverview Grove, Chislehurst.

FORECAR, strong, side stays, 26 by 2½; seen any time; £5 5s.—Ellis, 1, Oxford Road, Burn.

SEVERAL Sidecars for sale, rigid and fixed.—Jennings, 268, Hornsey Road, Holloway.

DECAR, 26in. Palmer, good condition; bargain, £4.—1a, Frideswide Place, British Town.

LIBERTY Sidecar; £4 10s., re-enamelled, exchange cycle; no rubbish.—Peirce & Lthby, Ilkeston.

MONTGOMERY Flexible Sidecar, adjustable, upholstery as new; £4 10s.—E.V., Charlotte Street, Fitzroy Square, W.

RIGID Sidecar, excellent condition, upholstered green, left side, 24in. wheel, horn; £4 10s.—51, Norman Street, Leicester.

Guinea Montgomery Flexible Sidecar, only used six times, unpunctured; £6.—Hibbert, Asfordby Hill, Melton Mowsey.

WAUCHOPE'S

**9, SHOE LANE, FLEET ST.,
— LONDON, E.C. —**

The following machines are offered for sale. First cheque secures each bargain, subject to being unsold. Machines guaranteed:

9 h.p. Twin-cylinder BAT magneto in tank, free engine clutch 1908 model	£35 0
5 h.p. 1908 VINDEC SPECIAL, magneto, Truffault	32 10
3½ h.p. 1908 TRIUMPH, magneto and spring forks, standard model	32 10
5 h.p. Magneto, VINDEC TOURIST TROPHY, enamelled cream	28 10
3½ h.p. 1908 MINERVA, round tank, handle-bar control	17 10
1½ h.p. MOTOSACOCHE, handle-bar control	18 10
5½ h.p. 1908 N.S.U., twin engine, magneto, new	35 0
3½ h.p. 1908 PHELON & MOORE, two-speed free engine clutch	39 0
3½ h.p. TRIUMPH (new), without handle-bar control, 84 x 86 engine	48 0
5 h.p. VINDEC SPECIAL, two-speed gear, 1908 model, with Mills and Fulford castor wheel sidecar, the combination ..	17 10
2½ h.p. GRIFFON, Zedel engine, magneto in tank, 1908 spring forks	12 10
5½ h.p. TWIN REX, smart looking machine ..	15 15
5 h.p. ROC, Peugeot engine	18 10
2 h.p. PEUGEOT, vertical engine	6 10
2 h.p. WERNER	15 10
4 h.p. C.I.E., magneto	6 10
2½ h.p. J.A.P.	15 0
2½ h.p. HUMBER, chain drive	15 0
2½ Lady's CLEMENT-GARRARD	6 10
2 h.p. Lady's SINGER, magneto	15 0
4 h.p. J.A.P. throughout	10 10
3 h.p. QUADRANT	10 10
2½ h.p. DE DION	10 10
3½ h.p. TRIUMPH, 1908 model, second-hand ..	Offers
3½ h.p. N.S.U.	15 0
5 h.p. TWIN ROC, Peugeot engine	25 0
5 h.p. TWIN REX	15 0
2½ h.p. FAIRY, lightweight, twin engine ...	15 0
2½ h.p. KERRY	12 10
6 h.p. TWIN REX, Antoine engine, Mabon clutch	17 10
5 h.p. VINDEC, magneto, Truffault	27 10
5 h.p. ONOWAY, magneto, two speeds	19 19
3½ h.p. QUADRANT, 1906 model	15 0
2½ h.p. LURQUIN & COUDERT Lightweight, 1908 model, magneto	Offers
3 h.p. ARIEL, latest model	8 10
3½ h.p. PHENIX Cob	30 gns.
2½ h.p. MINERVA, vertical engine, 1907 model ..	15 0
3½ h.p. CENTAUR	15 0
3½ h.p. QUADRANT	28 0

CARS.

10-12 h.p. DECAUVILLE, three speeds and reverse, four-seater	£29 0
4½ h.p. DE DION, two-seater, two speeds ..	19 0

TRICARS.

3½ h.p. TRIUMPH, two-speed gear, water-cooled engine	£15 0
5½ h.p. TWIN REX Tricar, Whittle belt drive ..	15 0
3½ h.p. HUMBER, free engine clutch	15 0
3½ h.p. ROVER, two speeds	17 10
3½ h.p. MINERVA Tricar	22 10
5½ h.p. REXETTE, two-speed gear	Offers
8-10 h.p. REXETTE, twin non-skid back wheel, open frame and wheel steering, coach-built	40 0
5 h.p. STEVENS, two-speed gear, two bucket seats, wheel steering	35 0
5-6 h.p. PHENIX, two-speed gear, wheel steering, coach-built	32 10
3 h.p. M.M.C. Tricar	10 10
3½ h.p. QUINTON Engine, two-speed gear, open frame wheel steering, bucket seat to the back, quite new	19 10
6 h.p. QUADRANT Tricar, two-speed gear, open frame and wheel steering	28 0

WAUCHOPE'S,
**9, SHOE LANE, FLEET STREET,
LONDON, E.C.**

Telegrams: "Opificer, London."
Telephone 5777 Holborn.

SIDECARS AND FORECARS.

CLARENDON Forecar, good condition, brakes both wheels, £3 10s.; also 1908 Osborne four-speed pulley, £3 5s.—89, Stoke Road, Gosport.

SIDECAR, Montgomery's latest, brand new, used but twice; half price, 6 guineas.—Rowland Moody, Nightingale Road, Shirley Road, Southampton.

SIDECAR, fit any frame, perfect condition, 26in., Palmer motor tyre; £4 7s. 6d., no offers.—Markham, 91, James Road, Liverpool Road, London, N.

4½ h.p. Coach-built Forecar, Excelsior, w.c., free engine, splendid order, tyres and accumulator nearly new; £21, or near offer.—Stanhope, 124, Lee Road, S.E.

MONTGOMERY, flexible, 26in. wheel, only done 200 miles, tyre unscratched, cane body, spare tube; £5, lowest; seen by appointment.—28, Eaton Mews South, S.W.

FORECAR Attachment, good condition, 24 Clinchers, as new, hand brakes, comfortable, £5; also Osborne four-speed pulley, hardly used, £3 10s., or £3 the lot.—Carr, 15, Park Hill, Croydon.

STAMFORD HILL.—Famous rigid sidecars, instant delivery, none better, fit your machine, £4 18s. 6d.; sound second-hand sidecar, £3 5s.; Mills-Fulford, £4; forecar, side stays, hand brakes, £4 10s., wing guards.—128, High Road, Tottenham.

TRAILERS.

TRAILER, wicker; cost £7 10s.; little used, 25s.—Stevenson, Knighton Rise, Leicestershire.

VERY Fine Trailer, cane body, good tyres; 28s. 6d.—Halifax Motor Exchange, Westgate, Halifax.

TRAILER and Sidecar, combined, in splendid condition; £3 15s.; photo, particulars.—Parker, House Agent, Hastings.

QUADCARS.

PHENIX Quad, 6 h.p. twin Fafnir, lamps, spares, two tyres, new; £30.—4, Carlyle Mansions, Chelsea.

3½ h.p. Eadie Quadcar, De Dion engine, two speed, fast, reliable, spare wheel, converting tricycle, spares; £21.—Glendene, Station Road, Leyton.

CARS FOR SALE.

PALMER.—5½ h.p. Humberette, two-seater, two speeds, reverse; great bargain, £29.

PALMER.—5½ h.p. Baby Peugeot, two-seater, two speeds, reverse, fast, reliable; £29.

PALMER.—9 h.p. Tonneau Car, three speeds, reverse, light, reliable, perfect; £35.

PALMER.—9 h.p. Sizaire et Naudin, two bucket seats, semi-racing type; £75.

PALMER.—10-12 h.p. Tony Huber, tonneau, two-cylinder, nearly new, been carefully overhauled; £55.

PALMER.—24 h.p. Hunt and Lloyd, side entrance, four-cylinder, long chassis, Cape hood; £95.

PALMER.—16-20 h.p. De Dietrich, tonneau, four-cylinder, four speeds, magneto, very fast; £110.

PALMER.—15-20 h.p. Flying Darracq, tonneau, four-cylinder, hood, screen, as new; £125.

PALMER.—16-22 h.p. Gladiator, side entrance, 1906 car, four-cylinder, Krebs, disc clutch; £140.—L. N. Palmer, 190, Mellison Road, Tooting. Telephone, 208 Streatham.

DE DION 6 h.p. Genuine Licensed Car, perfect order; £67 10s.—Robert Julian, Peterborough.

BABY Peugeot, 5½ h.p., recently overhauled, fast and reliable; £38.—26, Offerton Lane, Stockport.

15-20 h.p. Darracq, side entrance, Cape hood, folding screen, very fast, and in excellent condition; a bargain, £110.—17, Hilderton Road, South Bermondsey, S.E.

DE DION, two-seater, three speeds, reverse, full set acetylene lamps, splendid condition; £60, accept motor cycle and sidecar, twin, magneto, part exchange.—Heathfield, The Avenue, Hitchin.

CARS FOR SALE.

10-12 h.p. Humber, four-cylinder, late 1907, long chassis, hood, perfect order; £185.—Below.

18-24 h.p. Belsize, four-cylinder, side entrance, screen, hood, five lamps, Stepney, splendid condition; £145.—Below.

14-16 h.p. Daimler, four-cylinder, tonneau, gate change, fast, silent, bargain; £75.—Below.

24 h.p. Mutel, four-cylinder, tonneau, pressed steel, perfect order, bargain; £80.—Below.

14 h.p. Humber, four-cylinder, side entrance, good order; £60, exchange.—Below.

10-12 h.p. Peugeot, tonneau, honeycomb, two ignitions, hood, fine order; £80.—Below.

61 h.p. Wolseley, two-seater, three speeds, very smart, reliable; £50.—Eclipse Eng. and Motor Co., 255, Earlsfield Road, Wandsworth. Phone, 1,135, Putney.

10 h.p. Wolseley, four-seater, equal wheels, grand order, two-cylinder; offers part exchange.—Motorist, 21, Balfour Road, Ilford.

6-8 h.p. Two-seater, three speeds, reverse artillery (equal), new condition, bucket seats; offers; part exchange.—Owner, 21, Balfour Road, Ilford.

STAMFORD HILL.—5 h.p. Pieper small two seated car, w.c., two speeds and reverse, fine running order, very good condition, nice little lot; £19.

STAMFORD HILL.—10-12 h.p. twin Pick two-seater, new 4½ Colliers on back two speeds and reverse, in excellent condition and perfect running order; £25, great bargain.

STAMFORD HILL.—10-12 h.p. twin Pick four-seater tonneau, three speeds and reverse, 760-90 equal artillery wheels, all in splendid condition and excellent running order, fast and powerful; £40; photos, further particulars, and trials with pleasure; exchanges.—128, High Road, Tottenham.

HALIFAX.—10-12 h.p. Brush Car, tonneau body, three speeds and reverse; £55, cycle taken part payment.—Halifax Motor Exchange, Westgate, Halifax.

8-10 h.p. Twin Light Two-seater, 9 h.p. Riley model, three speeds, cardan drive, smart machine; bargain, £35.—East Ham Garage, High Street South, East Ham.

5 h.p. Clement, two-seater, Dunlops, as new, cardan drive, two speeds, good running order, excellent appearance, lamps, spare tubes, etc.; £36.—Hawthornden, Cheltenham.

SPECIAL 9 h.p. Riley Car, of May last, fitted up specially throughout, in perfect condition, with three months' guarantee; cost £205, price £125.—E. W. Walford, 18, Hertford Street, Coventry.

VERY Smart Baby Peugeot, three speeds and reverse, artillery wheels, two spare wheels, tyres, gears, engine, everything absolutely perfect, brass lamps, horn, many spares; any trial, expert examination; 55 guineas, or good tricar, cash adjustment.—Warren, Rotherfield, Sussex.

FOR Sale, 7-9 h.p. Star, twin, two-seater, three speeds and reverse, leather hood, double screen, new gears, two new tyres, spares; £70; take 3½ h.p. bike part.—Moon, Westbourne Villa (East), Darlington.

SMALL Two-seater, 5-6 h.p. Humber, cardan drive, two speeds and reverse, new Cape hood, lamps, etc., in grand order, reliable, smart; trial; bargain, £36.—48, Lonsborough Road, Stoke Newington, N.

DARRACQ, 24 h.p., M.O.V., tonneau, headlights, speedometer, etc.; £85; Humber, 12-14 h.p., four-cylinder, tonneau, lamps, tools, spares, £90, or offer.—Confectioner, 12, Kew Bridge Road, near Kew Bridge, Brentford.

CLIMAX, 14-18 h.p. four-cylinder White-Poppe engine, handsome roomy five-seated side entrance body, hood, screen, lamps, splendid car, new condition; take smaller car and cash.—Dagley, Kempston, Beds.

ROVER, 6 h.p., absolutely perfect, first-class running order, seats three, fast, three speeds, reverse, thoroughly reliable; any trial; genuine bargain, £70, or good motor cycle and cash.—Rover, 86, Colvestone Crescent, Dalston, London.



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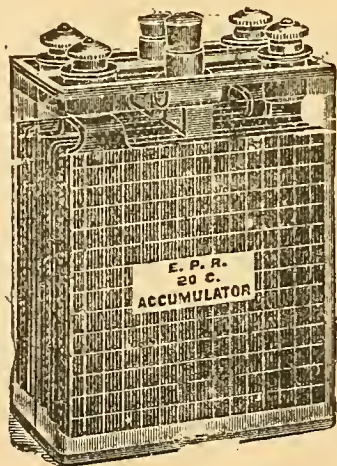
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Our Batteries are especially suitable for Motor Cycles. Special Splash Proof Vents and Non-Corrosive Terminals are always fitted. The cases are exceptionally strong and well made, allowing for rough roads and jolting.

Special unspillable batteries made, all sizes stocked.

REPAIRS.—We make a specialty of treating old and damaged cells. All repairs guaranteed. Send for new list.

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153, FLEET STREET, E.C.

CARS FOR SALE.

10-12 h.p. Lanchester, five-seater, perfect order, just overhauled by makers and made as new, splendid climber, very fast and comfortable; trial and hill test given; £75, or motor cycle and cash.—F.A., 18, Devonshire Road, Bexley Heath.

8 h.p. Rover, two-seater, wire wheels, in splendid condition, excellent hill-climber, and very reliable, two horns and four lamps, spare cover and tubes, full set of tools and spares; trial run with pleasure; £125, or near offer.—Box No. 1,164, The Motor Cycle Offices, Coventry.

ROVER Cars.—You never know what a skid means when you drive a Rover. Now the days of muddy roads are here are you not thinking of the pleasures that would be yours if you owned a car? Write us for the amount we will allow you for your skiddy mount in exchange for a Rover at £135.—Louis Davis and Son, Moseley, Birmingham.

STANTON'S Laurin and Klement two-seater for sale, brand new condition throughout, 6-7 h.p. (develops more), two cylinders, magneto, thermo-siphon, practically new 700 by 80 Dunlops, hood, used only for trial runs, every single detail in guaranteed condition, complete with full kit tools, spare parts, accessories, spare tyre, tube, lamps, etc., most reliable car extant; willing to give 200 miles trial to bona-fide purchaser; £135, or 1908 Triumph motor cycle and cash.—Stanton, 86, Colvestone Crescent, Dalston, London.

HOTELS AND APARTMENTS.

WHEN visiting London stay at Waverley Temperance Hotel, 17, Euston Square. Bed, breakfast, attendance, from 3s.

LONDON.—Comfortable bed, and meat breakfast, from 3s., inclusive.—Linton's, 53, Coram Street, Russell Square, W.O. (near Euston).

APARTMENTS, with accommodation for motor bicycles, billiards, comfortable home; terms moderate.—70, Josephine Avenue, Brixton Hill, London.

INSURANCE.

PLEASE send for full covering Motor Cycle Policy, from 19s. per annum.—Bass, Insurance Broker, Ongar.

INSURANCE Policies for motor cycles are issued by Hugh J. Boswell, insurance broker, Norwich, at exceptionally low rates. Please write for particulars.

TUITION.

MOTOR Car Driving Taught in one month.—Particulars, 1,035, The Motor Cycle Offices, Coventry.

SITUATIONS VACANT.

STANLEY Show.—Assistant required; state experience and wages.—1,174, The Motor Cycle Offices, Coventry.

MOTOR Cyclist wanted, to represent well known firm, and invest £500.—1,173, The Motor Cycle Offices, Coventry.

ACCUMULATORS.

CELLULOID Accumulator Repair Outfits useful for all celluloid repairs; full directions; post free 1s.—Below.

CHARGING Plant always running.—Below.

ACCUMULATORS, London made throughout, and fully guaranteed; the best value at the lowest price; in the following sizes: 6 amp., 4½in. by 1½in. by 5in., price 6s. 6d.; 10 amp., 2½in. by 2½in. by 5in., 8s. 6d.; 15 amp., 4in. by 2in. by 5in., 10s.; 20 amp., 4in. by 2in. by 5½in., 11s. 6d.; 40 amp., 4in. by 4in. by 5½in., 18s. 6d.—Osborne Works, Forest Hill, London, S.E.

13S. 6d., Castle Accumulator, cost 23s. 6d., 25 amp. hours, perfectly new, no us owner.—B., 42, Crondace Road, Fulham.

ACCUMULATOR Repairs by experienced workmen; lists and quotations free.—The Victoria Garage and Electrical Co., Ltd, Coventry.

ACCUMULATORS Repaired promptly, and make; reasonable charges, best work estimates given; full value for your old accumulator in exchange for our new "Mayfair" accumulators; special 15 amp. 10s. 6d.; 20 amp., 15s.; guaranteed one year.—Fellows, 49, Hertford Street, Mayfair.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

WANTED.

WANTED, Powerful Foot Brake, 26 by 2½ tyre; cash.—74, Croydon Road, Beckenham.

TWO-SPEED Gear, for 3½ h.p. chain-driven Humber.—Edgar, Wellington Avenue, Bristol.

ONE or Pair Hubs, with enclosed brakes, for tricar front wheel.—131, Coltman Street, Hull.

WANTED, Motor Cycle, any condition; cheap for cash.—H., 13, Rattray Road, Aston, S.W.

THREE-SPEED and Reverse Gear Box, for tricar.—Particulars to Lee, 80, Rectory Road, Fulham.

WANTED, leather breeches, also leather apron for sidecar.—94, Shrubland Avenue, Dalston.

E DION or pattern w.c. head, suitable for 74 mm. bore.—Wright, 40, Fairfield Street, Liverpool.

CONTOMERY Sidecar, latest model, new condition; only £6 10s.—Rey, 5, Heath Street, Hampstead.

WANTED, a quantity of sidecars, any condition; cheap for cash.—5, Heath Street, Hampstead.

WILL Give 18 carat gold watch and B.S.A. racer for motor bike.—785, High Road, Leytonstone.

WANTED, screw-cutting lathe; will give good motor bike in exchange.—Farrar, Mare Road, Halifax.

WILL give cash and new £16 17s. two-speed Enfield Modele Riche for suitable machine.—S. Barton, Bawtry.

WANTED, a Front Cylinder, for a 5½ h.p. twin Antoine.—Address, Ratchliffe Road, Hadfield, Manchester.

WANTED, lightweight magneto two-speed cycle.—Rev. Swann, Crosby Ravensworth Vicarage, Westmorland.

WIDE Back Hub for tricar, and air-cooled head for 2½ h.p. De Dion.—Spearman, 11 Street, Prittlewell, Southend.

WIN Engine, about 66 by 70, good condition, complete, Peugeot preferred.—The Motor Cycle Offices, Coventry.

WANTED, 2½ h.p. Motor Cycle, Minerva preferred; expert examination.—49, Plymouth Street, Hemel Hempstead.

2 h.p. Minerva, or similar, low frame, wheels, etc., complete, sound; cheap.—171, The Motor Cycle Offices, Coventry.

ABON Clutch wanted, to fit 1908 Triumph.—Send particulars to Macdonald, "Montarf," Dulverton Road, Leicester.

OUR-CYLINDER 4½ h.p. F.N., handle-bar control, magneto, as new.—Timmis, 31, Saints' Road, New Shildon, Durham.

WANTED, forecar, with back stays, well sprung, to fit 24in. wheel N.S.U.; price £4 10s.—Ougden, Askern, Doncaster.

WANTED, 3½ h.p. Triumph, Vindec, N.S.U., or Phelon-Moore; reasonable cash given.—80, Herbert Street, Halifax.

10 h.p. Motor Cycle wanted, for pacing, or engine.—Particulars and lowest prices, Cochrane's, 144, North Street, Belfast.

WANTED, a smart lad, to learn the motor business; premium, wage paid 5s. per wk.—Apply to Rey, 5, Heath Street Motor Works, Hampstead.

WANTED, F.N., four-cylinder, 3½ or 4½ h.p., good condition, must be cheap.—Hillman, 2, Williams Mews, Belsize Park, Hampstead.

WANTED, 1908 8 h.p. Rover, 6 h.p. De Dion four-seater, or 6 h.p. Swift, new condition; cash adjustment, or cash.—Ashby, Westbourne Gardens, Hove.

WANTED, Motor Cycle, 2½-3½ h.p., low built, 26in. wheels, vertical engine; not required; full particulars by letter.—Antom, Fenny Stratford, Bucks.

ORECAR Passenger Attachment, preferably coach-built, must be new condition; also 11in. Whittle belt.—Stewart, 1, Richmond Avenue, Merton Park, S.W.

HALIFAX.—1907 machine and cash for new 1908 single or twin magneto Rex; advances £20 upwards for good machine.—Halifax Motor Exchange, Westgate, Halifax.

TRUE

ECONOMY TYRES.

PALMER CORD (Beaded).	TYRES.	CLINCHER A WON (Beaded).
Size. Cover. Tube.		Size. Cover. Tube.
26 x 2 1 15 8 8/8		26 or 28 x 2 1 2 6 8/9
26 x 2 1 2 4 9 9/9		26 or 28 x 2 1 6 8 9/8
26 x 2 1 2 5 9 14/8		26 or 28 x 2 1 7 9 13/11
28 x 2 1 18 6 8/8		CLINCHER A WON
28 x 2 1 2 8 9 9/9		(Ex. Heavy Beaded).
28 x 2 1 2 10 6 14/6		26 or 28 x 2 1 5 3 8/9



PALMER (Fabric Beaded).	TYRES.	CLINCHER DREADNOUGHT.
26 or 28 x 2 Cover 1 5 6 Tube 8/8		26 x 2 1 17 6 10/8
26 or 28 x 2 1 1 8 9 8/9		24 x 2 1 14 6 9/6

FOOT PUMPS.

Nickel-plated.		Cheaper quality
18in. by 1½in.		FOOT PUMP,
barrel, with		without gauge,
pressure gauge,		18in. by 1½in.
tyre lever handle,		barrel.
with folding foot.		Nickel-plated.
Price 16/..		Price 7/11
		Postage 5d.

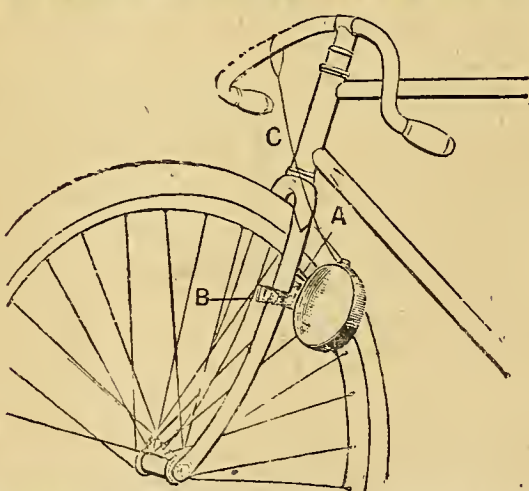


Send a card for our Illustrated MOTOR Clothing and Accessories Catalogue.

JOHN PIGGOTT, Ltd.
117 & 118, CHEAPSIDE, } London, E.C.
1, 2 & 3, MILK ST. BLDGS., }

Have YOU tried the new Road-clearer for bicycles?

TAMBOURONG



Replaces the old-fashioned bell and horn.
The Effect is Startling!

Fixes on front forks. A cord from handle-bar pulls trigger when required in contact with front wheel spokes and sounds like a noisy drum or gong.

Stamped metal gong, 1/6.
LEO. RIPAULT & CO.,
64a, POLAND ST., LONDON, W.

Sole Agents for the genuine Parisian made article.
NOTICE. As we find the parchment model is detrimentally affected by damp weather we have abandoned this pattern in favour of the new stamped metal gong, which is the thing for Motor Cycles, and made specially strong.

WANTED.

WANTED, new or soiled 6 h.p. Jap, Chater, magneto, will give 1907 3½ h.p. Quadrant, perfect, and genuine Schweitzer violin, dated 1814, valued £20.—23, Wilton Road, Handsworth.

MOTOR Cycle wanted, second-hand, 2½ to 3 h.p., Triumph or Quadrant preferred; state price, and year of make; must be in good running order, and open to a trial.—J. London, 49, Bow Lane, London.

WANTED, high-grade motor cycle or car; exchange new high-class furniture, any description, valued wholesale, direct from works.—Furniture Manufacturer, 9, French Place, Shoreditch, London.

WANTED, good 3½ h.p. Motor Cycle, magneto, 1908, in exchange for 18 carat gold keyless English lever watch and diamond ring, three stones, cash adjustment.—Richards, 22, Rosemont Road, Acton, W.

WANTED, first-class motor cycle, or tricar and little cash; exchange for 10-12 h.p. two-cylinder four-seated car, well-known make, in excellent condition; trial given.—Percy Wilson, 51, Park Grove, Leytonstone.

WANTED, 5 or 6 h.p. Singer, Riley, or Humber tricar, exchange two-seated Pelham car, 6 h.p. De Dion engine, three speeds and reverse, little used, perfect condition.—Carlsruhe, Dickenson Road, Crouch Hill, London, N.

WANTED, 1907 or 1908 Vindec, Triumphs, Bats, Phelon-Moore, Minervas, Rexes, Nortons, F.N.'s, Moto-Reves, Rocs, etc., for spot cash, or for exchanges, or, if preferred, we will sell on commission.—Maude's Motor Mart, Powell Street, Halifax. Nat. Tel., 433.

WANTED, Brazing Forge, lathe, 5in. staple vice and tools, suitable motor work, will exchange 2 h.p. Minerva motor cycle, good order, 2 h.p. A.V. engine and coil, carburettor, and fretwork machine.—A. Middleton, c/o Friars Croft, Wymondham, Norfolk.

S. J. FAIR, The Motor Cycle Exchange, Cheltenham Road, Bristol.—Wanted, 25 second-hand motor cycles, any makes, 1½ to 6 h.p., for shipment abroad; motor cycles sold on commission, or purchased outright; cash remitted by return: bankers' references if desired.

WANTED, two motor cycles, about 2½ h.p., if requiring repairs not objected to; also one motor cycle, not less than 4½ h.p., must be in good condition, with two speeds, free engine, and magneto ignition.—Particulars and price to Fred. Heath, 1, North Cray Road, Bexley, Kent.

WANTED, genuine up-to-date motor cycle, 3½ h.p. Triumph (1908) preferred; exchange 12 bore hammerless ejector gun and case, by Powell, Birmingham, has been little used, cost £34, and a little cash for a genuine machine.—Bate, 46, Havelock Road, Handsworth, Birmingham.

MISCELLANEOUS.

ANTOINE and Kelecom Parts in Stock.—Crypto Co., 14, Mortimer Street, London.

OVERCOATS, thick, warm, latest cut; 21s.—Write for patterns, Booth tailor, Longton.

WHIPCORD Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, tailor, Longton, Staffs.

SHEDS for Motor Cycles, 45s.; portable.—Stevens, 82a, Leighton Road, Kentish Town, London.

LONG Motor Handle-bars, 21in., heavy gauge, well plated, any size; 5s. 6d.—Farrar.

LOOP Frame, for vertical engine, with front forks and handle-bar; 32s. 6d.—Farrar.

GENUINE Camel Rubber and Canvas Belt—ing, best on the market; send cash for length on approval; 3in. 9d., 3½in. 1s., 4in. 1s. 3d., 1in. 1s. 9d. foot.—Farrar.

GET My Price List of accessories; pounds saved.—Farrar, Square Road, Halifax.

TWIN-CYLINDER Air-cooled Motor Cycle Engine Castings; 30s.—Sladen, Hill Side, Exmouth.

NEW Kent Tricar Gear, three speeds, complete, in hands of makers; price £6.—Cloake, Rose in Valley Hotel, Chatham.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

ENGINES Re-bushed throughout from £1.—Tufnell and Co.

CYLINDERS Re-bored from 5s.—Tufnell and Co.

PISTONS Supplied new from 7s. 6d.—Tufnell and Co.

RINGS from 9d.—Tufnell and Co.

CONNECTING Rods from 7s. 6d.—Tufnell and Co.

INLET Valves from 1s. 6d.—Tufnell and Co.

EXHAUST Valves from 2s. 6d.—Tufnell and Co.

PULLEYS for any motor.—Tufnell and Co.

TRIUMPH, Brown, Fafnir, 4s. 9d.—Tufnell and Co.

REX, Antoine, Kelecom, 5s. 9d.—Tufnell and Co.

DE DION, M.M.C., 6s. 9d.—Tufnell and Co.

ABOVE 4½ in. Diameter, extra 9d.—Tufnell and Co.

AXLES, cranks, spindles, handle-bars, seat-pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed.—Tufnell and Co., 527, High Road, Leytonstone.

RUSEL Valves, cast iron heads, any engine; 3s. 6d., postage 3d.—Broadhurst, 13, Stafford Street, Leicester.

OWNERS of heavy powered machines.—the D—all adjustable belt fastener will satisfy as no other shall.—Below.

D—ALL Adjustable Fasteners, the best yet produced; direct pull, frictionless, with two lengthening links, post free, 1s. 10d.—Dall, Ladybank, Fife.

ONE Pair Genuine Simplex Spring Fork Attachments, plated (brand new); 9s.—Scott, 4, Cambridge Place Plumstead.

WHIPCORD Motor Cycling Breeches, 8s. 6d., post free; patterns free.—Meredith's, Wearwell, Northwich.

ADVANCE Adjustable Pulley, used by all the leading riders.

ADVANCE Adjustable Pulley, winner of T.T. Race.

ADVANCE Adjustable Pulley, many thousands now in use.

ADVANCE Adjustable Pulley; testimonials arrive-daily.

ADVANCE Adjustable Pulley will increase your power.

ENGINES, Engines, Engines.—3 h.p., 6 h.p., and 9 h.p., air or water-cooled; send for particulars.—Address below.

HERE At Last!—An ideal and adjustable belt fastener; price 2s. 6d.—Address below.

ADVANCE Generator Brackets, as recommended by "Ixion"; price 2s. 6d.—Advance Motor Mfg. Co., Ltd., Northampton.

POWELL and Hanmer Lamp, Rex trembler coil, new, ½ in. Stanley belt; £1 lot.—Motor, 12, David Street, Stratford, E.

CHANNEL Steel Car Chassis, 7ft. by 3ft., wire wheels, complete, less engine and gear box; £10, or motor cycle.—Below.

WATAWATA Belt, 8ft. by ½ in., new, with fastener; 12s. 6d.—Below.

AIR-COOLED Vertical Engine, 76 by 76 mm., new condition; £1 10s.—S. Green, 145, Manor Road, Brockley, S.E.

EVERYTHING made in Tanks and Radiators except a fortune.—Write for prices, A. Phillips, 112, Lynton Road, Bermondsey.

KERRY Engine, 3½ h.p., four-speed pulley, plain coil, 26 by 2 studed cover, front and back Chater-Lea hubs, sundries; Phoenix forecar, Palmer tyres, £8 10s.—Bonanza, Fordingbridge.

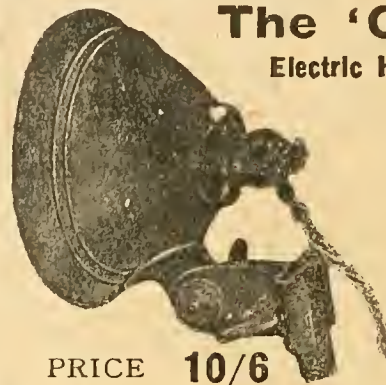
SPRING Forks (Rex), complete, perfect, 18s.; also two Fuller non-trembler coils, brand new, 7s. 6d. each.—Hendrie, 9, Merchiston Grove, Edinburgh.

MOTOR Cycle Frame, 7 h.p. engine, twin, carburetter (Longuemare), valves, tank, levers.—Full particulars and cash price, Carleton Cafe, Morecambe.

HALF a MO

The 'GLARE'

Electric Headlight



Consumes only 4 volts. ½ amp.

Weights only 8 ozs.

Throws a beam 100 ft. ahead.

PRICE 10/6



THE ORIGINAL VARIABLE SPEED PULLEY, £1.



ACCUMULATOR and Box for Glare, £1



ADJUSTABLE HANDLE BAR LAMP BRACKET, 4s. 6d. Postage 3d. extra

A few of our Specialities. Write for particulars.

MAGNETO CUT OUTS, 1/9 each. Thousands in use.

J. W. GREENWOOD, Ltd.

PORTLAND PLACE WORKS, HALIFAX.

London Offices and Showrooms: Agents—Messrs. BURR, 166, Clerkenwell Road, London.

STANLEY SHOW.

TRIUMPH MOTORS.

MYERS, BRADFORD,

who will be pleased to meet his old customers and explain the many new merits of the '09 Triumphs and will be glad of an appointment.

ADVERTISERS — Please note that Friday is the latest day we can receive advertisement copy for the following week's issue.

MISCELLANEOUS.

MAUDE'S.—Genuine Stanley-Dermarlin belts, 8ft. 6in., guaranteed genuine; 11s. 6d. each.

MAUDE'S.—Brown and Barlow carburetter with handle-bar control; only brand new goods.

MAUDE'S.—Amac carburetters, latest tern, 29s., or your present one and secures; any model.

MAUDE'S.—Mabon clutch, fits Mine good condition; 32s. 6d.

MAUDE'S.—Longuemare spray, carburetter, 10s.; Watawata ½ in. belt, brand new, 1s. 7d. per foot; any length.

MAUDE'S.—Albion free engine pulley, brand new; 30s.

MAUDE'S.—Cicoy non-trembler coils, 2 by 3½ in. by 3½ in.; note the low price 11d.; post paid.

MAUDE'S.—Long handle-bars, best painting, finest quality, heavy gauge; 5s. per pair.

MAUDE'S.—Large leather toolbags, splendid quality; note low price, 3s. with outside pocket, 5s. 3d.

MAUDE'S.—The latest variable pulley standard sizes in stock. Try one approval; only 12s. 6d.

MAUDE'S.—Treble twist horns, the finest ever made; only 6s. 6d.; double twist, 4s. 6d.

MAUDE'S.—Latest pattern headlight guaranteed; price 14s. 11d.; approval.

MAUDE'S, the Fair Factors, Powell Street, Halifax. Tyre catalogue post free.

HANDLE-BAR Control, with cables, new 5s. 6d.; back Bowden brake, 5s.; ½ in. new belting. 6s.—7, Blair Grove, Southampton.

BELT Rim Brakes, flexible cable, hand-applied, easily fitted, stop anything, 6d., usual price 15s.—Slack's Garage, Southampton.

AUTOGENOUS Welding.—Send that bro-casting to the Alvaston Motors, Derby to be welded by patent process; metal united.

AUTOGENOUS Welding.—Costly casting saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, a thousand other things.

AUTOGENOUS Welding.—Wonderful results. Broken flanges, lugs, brackets, etc., all amenable to our process; send for to-day: quotations on sight.

AUTOGENOUS Welding.—Alvaston Motors, Derby. Telephone, 1, Alvaston.

26 by 2½ New Front Motor Cycle Wheel, 20s.; three 750 by 80 Continental tubes, brand new, 12s. each; approval. Glendene, Station Road, Leyton.

N.A.B. Spring Seat-pillar, 3½ h.p. Rex exhaust valve (complete), 5½ in. Rex pulley, 12in. by 4in. exhaust box; £1 the lot. Smith, St. George's Square, Droitwich.

CARBURETTER, Longuemare-Minerva, 1 h.p., little used, 15s., with lever. Ukantes stand, D section, never used, 4s.—E.V., 20, Charlotte Street, Fitzroy Square, W.

ENLARGEMENTS (bromide) from amateur negatives; 8 by 6 9d., 10 by 8 10d., 12 10 11d., 15 by 12 1s. 1d.; from prints 6d. each; satisfaction guaranteed.—Great Wellesley, Whyteleafe.

SIDECAR, rigid pattern, good condition, £3 10s.; trailer, Mills-Fulford, new, £4; Mabon free engine clutch, fits Triumph, as new, £2 10s.—Durham Motors, South Ealing, W.

PAIR Palmer Covers, beaded, 26 by 24, 1s. Lucas Acetyphote lamp, with number plate, 7s. 6d.; motor horn, complete, 2s. 6d. F.N. throttle for 3½ h.p. Vindec, 2s.—The Burghfield Common, Mortimer, Berks.

5,000 Government Gauntlet Glove, all buckskin leather, 2s. pair; 500 leather belts, 1s. and 1s. 3d. each; leather leggings, 2s. 6d. and 3s. 6d. pair; Bedford cord riding breeches, 4s. 6d. and 5s. 6d.; Government all-wool military socks, 10d. pair; police capes, 4s. 6d. and 5s. each.—Anscomb, Government Contractors, 14, London Road, London, S.E.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS.

CLINCHER Motor Inner Tubes, 26 by 24, 5s. 6d.; Revolution motor cycle stands, 9d.; bargains.—12, Bull Ring, Birmingham.

MODFREY and Applebee.—See our winter bargains in "Motor Cycles for Sale" column.

MODFREY and Applebee.—Pulleys. Advance adjustable pulley, brand new, fit S.U., 10s. 6d.; J.A.P. pulleys, 4s.; Rex pulleys, 6s.

MODFREY and Applebee.—Tyres and belts. Good allowances made for your old ones, on all well known makes.

MODFREY and Applebee.—Rex machines converted to Bosch magneto for 8 guineas, single or twin.

MODFREY and Applebee.—Come and see the new A.G. sidecar, easily detachable, any machine; 6 guineas; the only high-class sidecar at a reasonable price.—165a, Be Street, Walthamstow. Phone, 464, Walthamstow.

RIPWELL Motor Cycle Brakes, to fit any make machine, delivered from stock; price 15s. 6d.; any spare parts supplied.—Sole manufacturer, W. Cocks, The Durham Motor Works, opposite station, South Ealing, W.

CLINCHER Covers, rubber studs, 26in. by 24in., 10s. and 15s.; ribbed extra heavy, hardly soiled, 20s.; brass searchlight lamp, complete, new, 20s.; 8ft. Watawata, 3in., new, 15s.—Graham, 34, Oxford Road, Manchester.

ALVASTON Bargains.—Genuine De Dion two-seated car, complete, with all new Michelin tyres, not scratched, minus engine and gear box; accept £8; tyres alone cost £12; delivery free on rail at machinery rate, if desired.

ALVASTON Bargains.—7 h.p. nearly new oil engine, Crossley, with all fittings. Ready for work; seen running any time; £32 for immediate sale, worth double; written guarantee perfect.

ALVASTON Bargains.—Another, 4 h.p. Godiva oil engine, in grand working order, all fittings; £18 10s., cost double.

ALVASTON Bargains.—Gianoli four-cylinder magneto, brand new, high tension. Magnificent instrument, fully guaranteed; cost £14, clearance price £6 10s.

ALVASTON Bargains.—Pair genuine Dietz side lamps, plated, perfect; accept 12s. a pair.—Alvaston Motors, Derby.

LONG Handle-bars, 4s.; swan-neck saddle-pillars, 2s. 6d.; No. 6 frames, 60s.; all your own requirements; wheels, tanks, etc., to suit; repairs; lowest quotations free. Green, 14, Avondale Road, Peckham, S.E. Works, McDermott Road.

NEW Advance Pulley, fit N.S.U., 12s.; new Premier searchlight, 24s.; N.S.U. saddle, 5s.; large padded Rideasy, 15s.; footboards and fittings, 5s.; Lycett toolbag, 1s.; large variety spares, cheap; stamp for exchange.—Higgen, grocer, Paisley.

1 h.p. Engine, with contact breaker and pulley, 35s.; Longuemare E., 10s.; short low frame, with tank, handles, pedal gear, 21s.; trembler coil, 12s. 6d.; plain, 10s.; tank, 3s.; stand-carrier, 4s.; 23in. cover, 10s.; Cetolite lamp, 8s. 6d.; 3in. Dermatine light, 6s.—Darke, draper, Sutton.

READERS having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium; 3d. per word, minimum 9d.—Address, "Photography and Focus" Offices, 20, Tudor Street, London, E.C.

THREE Tricar Wheels and front axle, £3 3s.; Quadrant loop frame, 25s.; front wheel and tyre, Dunlop, 23in. by 21in., 10s.; round brass tank, with oil pump, complete, 10s.; Clement carburetter, 6s.—Harris, 8, Princes' Street, Swindon.

PULLEYS for any motor.—De Dion, M.M.C., 6s. 6d.; Antoine, N.S.U., Kelecom, Roc, N., 5s. 5d.; Peugeot, Brown, 5s. 6d.; Triumph, Fafnir, Sarolea, Minerva, 4s. 9d.; plated, guaranteed, carriage paid.—J. Perns, High Road, Leyton, London.

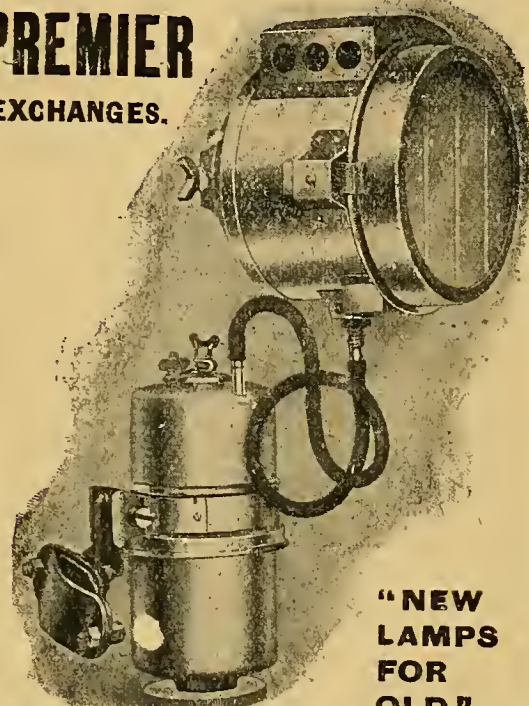
STRONG Quad Frame, with live axle and differential, £2; 2½ h.p. genuine De Dion engine, w.c. cylinder head, and two-speed car, £2 10s.; tanks, surface carburetter, valves, etc., £1; coil, 6s.; Chapman back-drawing belt rim brake, 5s.—Bone, Ivandudno.

W. & R. J. LONDON

For a **PENNY**
worth of petrol you can
TRAVEL 14 MILES
if your machine is fitted with
White's Economiser
(Prov. Pat.)
(reckoning petrol at 1 1/2 per gall.)
Mr C. E. KETTLE (3½ Triumph) averaged
198 MILES TO THE GALLON in Manchester
M.C.C. Consumption Test, using the "White's
Economiser." (See "The Motor Cycle," Oct.
28th, page 848).
Try one for yourself—only **4/-** each, and
don't forget that with it **INSTANT STARTING**
IS ENSURED AT ALL TIMES, THROUGH-
OUT THE COLD WEATHER. (State make
of Carburetter when ordering.)
Protect your Belt and Spare Tube by using the
"ELECTARY" Combined Case at **6/6**.
STAND 193, GALLERY,
STANLEY SHOW.
W. & R. JACOBS,
39c, King William St.,
LONDON, E.C.

W. & R. J. LONDON

PREMIER EXCHANGES.



**"NEW
LAMPS
FOR
OLD."**

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BOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fuller's.

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BOOTH.—Silent silencers, for engines to 5 h.p., very efficient, no back pressure; 3s. 3d.

BOOTH.—Frames, £1 5s.; wheels, 9s. 6d. pair; plain coils, 2s. 11d.; trembler coils, 5s. 6d.

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BOOTH.—Camel rubber belting, tremendous stock; 3in., 9d.; 3in., 1s.; 3in., 1s. 2d.; 1in., 1s. 5d.; samples free

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GENUINE Minerva Frame, brand new, vertical, enamelled black, with front forks and tank, 50s.; Sphinx spring seat-pillar, 3s. 6d.—7, Dyers Hall Road, Leytonstone.

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KORONA Motor Belt, 8ft. 6in. long, 3in. wide, never been used, 6s. 6d.; Michelin tyres, new, 26 by 24, never used, accept 18s.; also tube, new, 6s. 6d.—Springfield House, Churchgate, Stockport.

BUCKET Seat, 10s.; spring forks, 6s.; one pair B.E. Silvertown tyres, 15s.; two belt rims, 2s. each; twin Kerry carburetter, 12s.; and Mabon clutch, 3in., wants completing, 12s. 6d.—111, Lilford Road, Camberwell.

CASH or Instalments.—New and second-hand engines, 2½ to 8 h.p., air or w.c., exchanged for old of less power; specialite—De Dion, M.M.C., Excelsior repairs and renewals; 2½ h.p. made to give 3½ h.p.; 11 years' motor experience.—The Record Motor Co., Coventry.

MATCHLESS Footrest Brake, No. 2, 15s.; Gillett-Lehmann controller for twin Rex, 20s.; Vim rear brake, 4s. 9d.; motor cycle frame, wheels, and tank, for inclined engine, 30s.; new accumulator, 7s. 6d.; motor cycle stand, 4s. 3d.; car radiator, 36s.; piano player and tunes, 25s.—Halifax Motor Exchange, Westgate, Halifax.

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PULCO (original) Lens-mirror Searchlight, with special large burner, 17s. 6d., cost 24s., new August; generator, 7s. 6d., cost 16s. 8d.; cigarette case, new, 3s., cost 6s.—1, 169, The Motor Cycle Offices, Coventry.

NEW Michelin Cover, 28 by 2½, 16s. 6d.; Nil-mielor trembler coil, perfect, 8s. 6d.; 10 a.h. accumulator, 5s.; Acetyphote, 5s.; pair Chater-Lea rims, 28 by 2, beaded, 2s. 6d.—27, Cambridge Road, Barking.

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NEW 3 h.p. Motor Cycle, low, £8 10s.; twin Carpentier coil, working order, 9s.; Chater-Lea front forks and wheel, 8s.; Werner coil, 4s.; 60 amp. Dinin accumulator and box, 6s.; 28 by 2 front wheel, 3s. 6d.; four good 26 by 2½ tubes, 2s. 6d. each; bench drilling machine, 15s.—Lisles, 15, St. Mary Road, Walthamstow.

IMPORTANT.—Quantity new and second-hand frames, tyres, coils, accumulators, magnetos, belt rims, lamps, accessories of all kinds, also quantity engines and motor cycles, various makes. Will cost ½ d. to state your wants, may save you pounds. We also have a special department for repair and experimental work of all kinds, including repairs to castings and forgings by oxy-acetylene welding. Prompt attention given to all orders, however small. Write for lists and particulars of the above, and also of the Fairy Amac carburetter, and Fairy accessible battery, both good things. When you know your want, you want to know us. It will pay you to.—The Fairy Motor Co., Fairy Works, Westcombe Hill, Blackheath, S.E.

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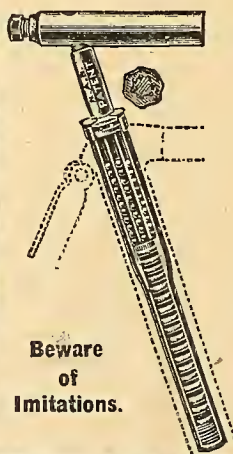
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Through the bicycle bump,
And you're sad—and, what's
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Try the real N.A.B.

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MILLENNIUM Express Stand, 5s. 6d.; p. Lucas Acetyphote lamps, plano-convex lenses, 8s. 6d. each; separate generator lamp, 6s. 6d.; Jack-no-skid, 10s. 6d.; trigger valve lifter and cable, 3s.; thumbslide cable, 1s. 6d.; 8ft. 6in. new ½ in. leather belt, 7s. 6d.; four new mica plugs, 3s. 6d.; 26 by 2½ Clincher tube, 5s. 6d.; R.O.M. contact 18s.; spares for twin Rex; wanted, 800 by cover, tail lamp.—Wills, 130, Walworth Road, London.

MODEL B. Longuemare, 22s.; Model H., 6d.; Model H., automatic, 17s. 6d.; Model E., 4s. 6d.; Brown and Barlow, 10 Antoine, ditto, new, 18s.; another, 7s. 6d.; 10 volt charging dynamo, cost £4 10s.; two-cylinder Peugeot coil, 9s. 6d.; two-cylinder Basse-Michel car coil, 17s.; single Dion, 8s. 6d.; Lloyd's free engine clutch cost £4 4s., new, take 35s.; Components' engine, 3 h.p., £3.—Seen, 39, East Street, B. Street.

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STAMFORD HILL.—Spare accumulators, 5s. 6d.; coach-built tricar seat, 9s. 6d.; four window goggles, 1s.; heavy leather gauntlets, 5s.; leather knickers, 12s. 6d.; leather caps, 2s. 6d.; various; leather motor frieze overcoats, new, 25s., cost 5s. latest B. and B. carburetter, new, 15s.; tricar body, new, upholstered, 22s.; motor carrier, 4s.; beaded rims, new, 26 and 28 2 and 2½, 1s. 9d. each; 40 amp. Peto and Rford accumulators, new, 16s. 6d.; 20 amp. 9s. 6d.; Michelin butted tubes, 2, 2½, 10s. 6d., 11s., 12s.; speedometers, 6s. 6d.; leather D.B. jackets, new, 10s. 6d.; motor cycle tanks, from 6s. 6d. each; splendid belting, from 8d. per foot; carburetter, 3½ h.p. spray, 12s. 6d.; 2 h.p. ditto, 9s. 6d.; twin Kerry, 16s.; Norman two-speed gear, 45s.; Midget plain coils, twins, 10s. 6d.; single, 6s. 6d.; 3½ h.p. Rex engine, £3 1s. latest motor cycle searchlight, new, complete, 25s.; 4in. steel mudguards, 1s. pair; tricar wing mudguards, 6s. 6d. pair; very large 9s. pair; long handle-bars, dipped ends, 7s. 6d.; over-back seat-pillars, belting, 4s.; list just ready, free.—128, H. Road, Tottenham.

TRADE ADVERTISEMENTS.

CLEMENT-GARRARD Genuine Parts.—S. English Agent, Frank Walters, 82, N. Street, Birmingham.

WHY Pay More?—Adjustable pull from 8s.; plain pulleys, from 4s.; pistons, from 7s.; re-bushing, from 12s. 6d. satisfaction guaranteed; list free.—Lee, engineer, 18, Somerset Road, Edmonton.

N.S.U. Two-speed Gear and Free Engine.—we can now fit this gear to Peugeot and Vindec machines for £5 15s.; recommended for sidecar work and winter riding.—Eag and Co., N.S.U. Agency, Acton Telephone 556 Chiswick.

TWENTIETH Century Motor Co., Ltd. Padua Road, Penge, S.E.—Carburetter, new, from 8s.; control levers, new, from 3d.; oil pumps, new, 3s. 3d.; circulating pumps, new, 15s.; distribution wheels, new, 4s. per pair; brass silencers, 2s. and 4s. piston, ring, and pulley castings; approved.

WHO Would have solid value for his cash will at once write p.c. for Ju motor cycle and cycle accessories list, illustrated pages; lowest prices in the trade; all latest novelties in lamps, swivel neck seat pins, long handle-bars, footrests, free engine pulleys, spring forks, belt tyres, covers, etc.—Metropolitan Machine Co., Ltd., M.C. Dept., 75, Bishopsgate Street, Without, London, E.C.



THE MOTOR CYCLE



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ADDRESS—20, TUDOR STREET, LONDON, E.C.

MORE ABOUT TRICARS.

By B. H. DAVIES.

TWO very important letters published in the "Letters to the Editor" pages supply me with the text for a further discourse upon the tricar question. One of these letters, signed "Tri-again" (page 794, October 7th), referred to a rear sprung tricar, and in it the writer states the rear part of his machine was so whippy that on a highly cambered road the twist and swing of the rear frame pulled the whole machine over two or three times, and that although there was no deflation of the rear tyre. On page 895 (issue of October 14th) Dr. Gaskell rather laughs at me for asserting that a tyre burst on a rear sprung tricar necessitates a smash. I would refer him first of all to "Tri-again's" experience; then I would remind him that he has never had a tyre burst on one of these machines. I have had this experience six times in all at varying speeds and under varying circumstances with two tricars of different best makes. Only in one case was I able to come to a standstill in the vertical plane, and that was when the burst occurred at a very low speed on a broad, flat road. On the other occasions the burst has occurred at speeds ranging from twelve to thirty miles an hour, and in each case I have either upset or gone into the ditch, and I venture to say any driver in the kingdom would have been equally helpless. Dr. Gaskell's experience of a tyre commencing to deflate at thirty miles per hour and taking a hundred yards to go flat is perfectly safe, though unpleasant.

The Method of Springing.

Dr. Gaskell next asserts that rear springs are essential to the comfort of the driver and to the life

and reliability of the mechanism. I differ from him, because I know two tricars destitute of rear springing which are quite as comfortable as rear sprung machines, and which save the machinery from vibration quite as efficiently. One of these is the 9 h.p. Advance, which I have often driven this year and last. It has elliptical and Cee springs in front, but its rear frame is the ordinary triangulated fork system standard upon bicycles. The front springing, unaided, proves in practice quite equal to safeguarding the mechanism. The driver sits in a bucket seat carried on two long steel pillars; these pillars rest in barrels containing coiled springs, and I defy anyone driving this machine to distinguish any difference in comfort between this system and the rear elliptical spring system in vogue on such tricars as the 9 h.p. Riley, which I have driven thousands of miles. My other instance is the Zenith tricar, with the frame sprung and hinged amidships. This tricar is even more comfortable than the standard rear springing, though I have only a very limited experience of it. Again, I have had sudden tyre deflations on several rigid rear framed machines, and that at high speeds, and I have always found they are much safer and more easily brought to a standstill in a direct path under these circumstances than the ordinary motor bicycle. Consequently I have no doubt that a tricar may be evolved which shall be absolutely safe when the back tyre collapses at any speed, and which shall not sacrifice efficiency of springing in the very least, but even show a marked improvement in this respect. This means that the front only of the tricar frame and the driver's seat shall be sprung.

More About Tricars.—

Further, I wish to remind Dr. Gaskell that he is asking for a great deal more than any manufacturer can give him at his price. We can hardly hope at present to get three speeds and reverse on a £60 machine, and if we ever get them on an £80 machine we must sacrifice some refinement which is far more necessary. I do not think there is any gear box of this pattern on the market at a penny under £15, while many cost considerably more. Facts prove that with the cheapening of the small car the expensive tricar has lost its future. In fact, when a decent little second-hand car can be easily bought for £80, it is doubtful whether £80 is not more than people will pay for a tricar. I think we may take the Rex Litette as the basis of what we may expect in the tricar line, and, except that it has a belt drive, it answers very closely indeed to the general idea of what a light tricar must be to have any commercial prospect to-day. No one can make or sell motor cycles more cheaply than the Rex Co. In the Litette we have their idea of a 1908 tricar, technically and commercially practicable. It has a 5-6 h.p. thermo-cooled engine, frame sprung in front, rigid behind, with separately insulated driving seat, magneto ignition, and two-speed gear; but with their huge facilities and experience it has to be listed at nearly £80! If we examine it with an eye to cheapening it, we can find

nothing that can possibly be parted with, except conceivably one cylinder and the water-cooling.

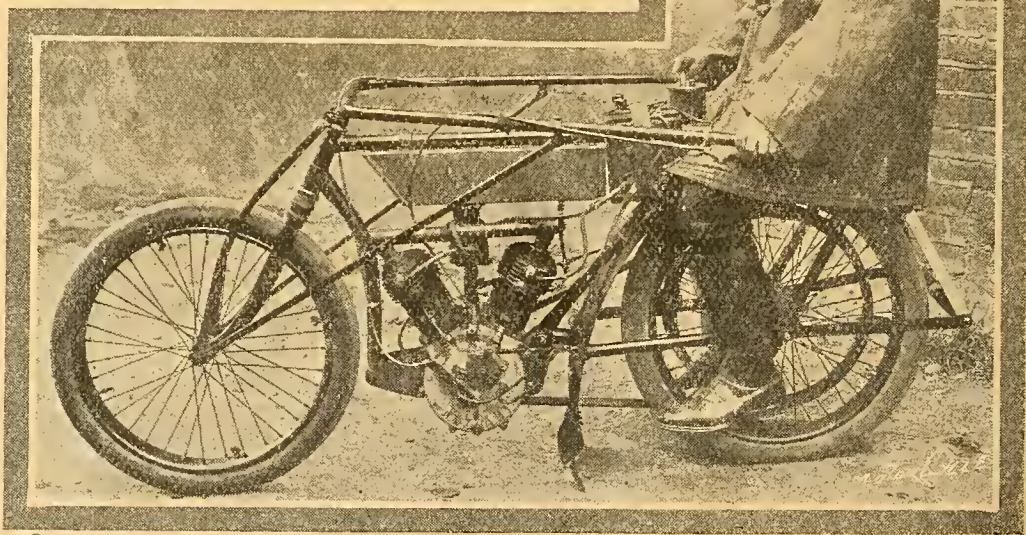
The 1905 Type Redivivus.

When a new two-seated car can be had for a trifle over £100, and a sound second-hand sample at from £60 to £90, it is no use marketing the most magnificent tricar imaginable at a higher price than £90, and it is distinctly possible that any great future demand for tricars will be limited to a still lower figure. We have to make up our minds to accept a simple specification, and any clamour for three speeds and reverse, expensive coach-built bodies, with a multitude of detail refinements on car lines, is a sheer waste of time. But the advent of cheap and good two-seated cars still leaves a gap, and that gap may be filled by such a machine as the Editor referred to on September 2nd, and on which I enlarged on September 23rd. It will really be the 1905 type redivivus. There must be a huge addition of comfort. A huge addition of reliability will be instantly attained by incorporating the features which the intervening years have added to the motor bicycle, especially the magneto. And I hope that next year will see the advent of a little fleet of such machines, on which passenger motor cyclists will enjoy the more sociable aspects of their sport in peace, cheapness, and comfort.

A POWERFUL PACING MACHINE.

ALTHOUGH the pacing motor bicycle illustrated is not of such high power as some of the huge Continental machines, it is quite fast enough for use on English tracks, and can set the pace for the speediest cyclist. The owner, W. Skuse, who is mounted on the machine, is an expert rider, and has trailed Leon Meredith in all his races and records during the past few seasons. The machine follows closely the Continental design of pacing motor cycle, with sweeping handle-bars, and stays connecting with the front axle, the forks being strengthened by substantial girders. The safety fender at the rear is fitted with a roller, a white mark in the centre serving as guide for the pace follower. The controlling levers and lubricating pump are placed within easy reach, while the rearward position of the rider affords the utmost shelter to the pace-following cyclist; in fact, the design of the machine is practically a Continental pacing motor in miniature. The bicycle was constructed by Fossier, the well-known French pacer, and the V engine is by Anzani, who enjoys a high reputation abroad for engines for this class of work, the two Frenchmen, indeed, being once notable speed motor cyclists, especially Anzani. The cylinders are 80 mm. x 90 mm., and a Longuemare carburetter is fitted. Ignition is by coil and accumulator. The wheels are 26in., and the tyres Continental Modèle de Course of 2½in. diameter. The gear

ratio is 3 to 1, while the machine scales 140 lbs. With the exception of a rear tyre bursting and bringing the rider down, since which mishap he has taken the precaution to equip the wheels with stronger tyres, Skuse

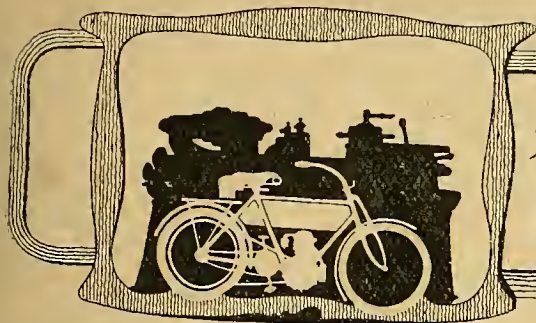


W. Skuse, pacing motor cyclist to Leon Meredith.

has experienced little or no trouble with the machine.

We are in receipt of an interesting booklet published by Hans Renold, Ltd., Manchester, entitled "Renold Driving Chains and Their Use." The book describes

in detail every form of Hans Renold chain made, and to those interested in chain transmission it should prove to be of considerable service.



1909 Improvements.

THE Stanley Show, which opens on Friday next and closes on Saturday week, will be full of interesting motor cycles and accessories. In accordance with previous years, we have prepared plans of the exhibition by courtesy of the Stanley Show secretary, Mr. E. A. Lamb. These plans will be found on pages 896 and 897, and with their aid motor cyclists will be able to find all the motor cycle stands on the floor of the hall and in the galleries.

The various manufacturers of motor cycles and accessories have supplied us with advance particulars of their 1909 improvements, and in some instances we have been able to obtain a private peep at the new models.

This issue of *The Motor Cycle* being published two days before the opening of the exhibition enables us to give our readers a few particulars of novelties to look for on the various stands, but we do not publish the stand numbers in this article, as they are all given on the plans. As the motor cycle approaches nearer and nearer to perfection it is only natural that the improvements on up-to-date makes are more in the nature of detail advancement than drastic alterations of design. Nevertheless, there will be found several entirely new models, some of them being extremely novel, and one or two may even be said to be revolutionary. We cannot conclude these few introductory remarks without heartily welcoming the large and long established firms of Humber, James, and Premier to the ranks of motor cycle makers. The Humber motor cycles were sold in large numbers five or six years ago. As the new models possess several most attractive features, they will doubtless soon regain their share of popularity. The James Cycle Co., we believe, have not made motor cycles since the days of strengthened pedal bicycles fitted with Minerva engine sets. Their model is of a very novel type, but of this further details are given on subsequent pages. The Premier Cycle Co. enter the arena for the first time as motor cycle makers. They have an attractive model fitted with a well-known tried engine, the White and Poppe, and should do good business with it.

THE COMPLETE MACHINES.

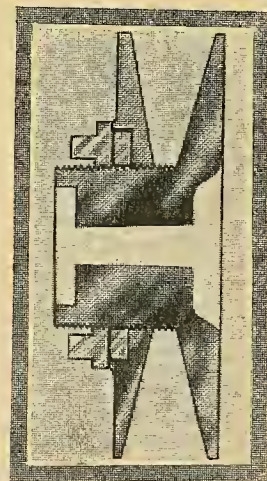
A 7-9 h.p. (85 by 95 mm., two ignitions) Bat combined motor bicycle and sidecar, with three-speed sliding gear, chain drive, and differential, will be shown by the Bat Motor Mfg. Co. All the transmission mechanism is on the sidecar, which, having two wheels, makes up into a complete four-wheeled vehicle. Both front wheels are provided with the Bat spring forks. The sidecar seat is hinged below the footboard, while its rear portion is hung on coil springs. The clutch and driving-shaft are coupled direct to the engine pulley, and a belt rim is also

provided. The bicycle axle, which runs on Hoffmann ball bearings, is of the live type and hollow, and receives the sidecar axle, so that by uncoupling the steering, the sidecar connections, and the rear axle, a single geared motor bicycle is obtained. The whole design is extremely ingenious, and the machine has, moreover, been thoroughly tested on the road. A motor bicycle twin 8 h.p., 85 by 85 mm., mechanically operated valves on the side of the engine, Phelon and Moore gear. The gear is carried on a countershaft, to which the power is transmitted by means of chains, and thence to the rear wheel by belt. A 2½ h.p. 70 by 76 mm. lightweight, with gear-driven magneto. Two twin Tourist Trophy models—one mechanically operated valves of overhead system, 85 by 76 mm., the other automatically operated inlet valves, 76 by 95 mm. Several other twin and single-cylinder models. All machines will be fitted with Bosch magneto ignition, handle-bar control, J.A.P. or Amac carburetters, and Continental tyres (non-skid type). J.A.P. engines will be used in all cases; of these the two new models are the 2½ h.p. automatically operated inlet valves and the 3½-4 h.p., 85 by 85 mm., with side by side mechanically operated valves.

The Brown machines are practically unaltered. The 3½ h.p. and 5 h.p. models will be continued, with the addition of the B. and B. handle-bar controlled carburetter, rubber shod footrests, adjustable pulley, Druid spring forks, and pedal operated belt rim brake.

One firm which will make a 3½ h.p. motor bicycle its standard pattern is Bradbury and Co., Ltd. Whilst retaining the special features in engine and frame construction for which the Bradbury has been noted for five years, the new pattern will have several detail improvements: The main engine-shaft will be fitted with ball bearings; a longer wheelbase and a lower frame will be supplied; an improved tank and silencer, and the Bosch magneto ignition fitted as standard.

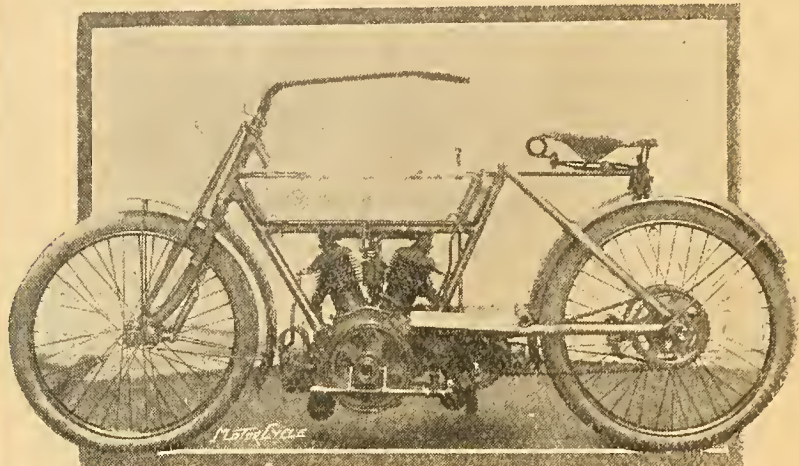
One of the many attractions will be a 6 h.p. twin-cylinder Chater Lea motor bicycle designed primarily for use with a sidecar. Fitted with magneto ignition, chain transmission, a nine-inch leather to metal friction clutch, and a two-speed Chater Lea gear box, it should meet with a ready demand even for solo work among the more experienced. Of good design and manufactured of material of irreproachable quality, it might almost be said that it starts its career with a



Brown adjustable engine pulley, which will be fitted to '09 single and twin-cylinder models.

1909 Improvements.—

ready-made reputation. The Chater Lea Mfg. Co., Ltd., have also improved the Carette. This will have chain transmission, three speeds, back hubs



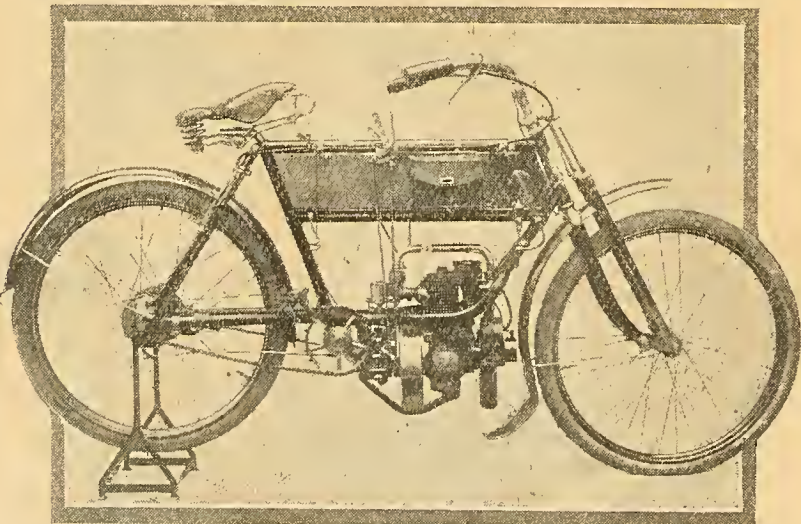
Chater Lea twin-cylinder, two speed, chain-driven bicycle, particularly suited for sidecar work.

stronger, with internal expanding brakes. The sidecar will have the spring suspended wheel recently illustrated in these pages and new easily detachable joints. A new pattern light-weight motor cycle with J.A.P. engine, a new and well-designed pedal operated rim brake, and the spring magneto terminals will also be exhibited.

The Matchless machines, particularly after C. R. Collier's famous record ride at Brooklands on October 8th (70 miles 105 yards in the hour), will be examined with interest. The improvements consist of a newly designed spring fork, Ruthardt or Bosch magnetos as standard, and handle-bar controlled Amac carburetters.

A New Lightweight.

The Corah 2½ h.p. lightweight is a new model, which will in all probability be exhibited on the stand of the Service Co. It will have a Ruthardt high-tension magneto, mounted on the crank case at the rear of the engine, and driven by a train of gears in a dustproof case, also Brown and Barlow's handle-bar controlled carburetter. The frame will be built low, with strong back carrier, and stand built up with the chain stays. Wheelbase, 48in.; height

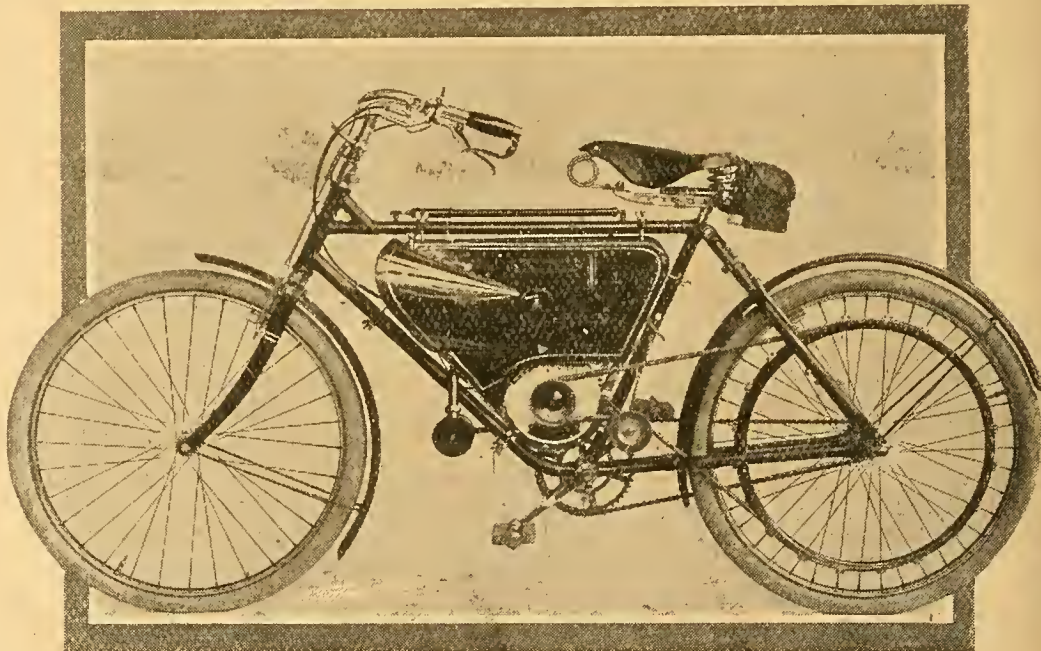


A new lightweight F.N. of 2½ h.p., with two-speed gear and bevel drive.

of top tube from ground, 28in. Number plate attached to rear of carrier. The Druid girder spring forks will be fitted, and 26in. by 2in. Continental tyres. The weight of this machine will be 100 to 110 lbs.

Among others who will show new models are Douglas Bros., who have a new Model B, in which the following improvements have been made: The engine has been lowered 4in. in the frame, and a newly-designed carburetter fitted, with throttle so arranged that the mixture of gas and air is of the same proportion when nearly throttled as when full gas is being used. The control is entirely from handle-bar, by means of throttle, air, and exhaust lifts. The frame is lower, and has a longer wheelbase. Motor cyclists and prospective riders should examine this machine, fitted with neat and efficient stands for the back and front wheels, a light and strong carrier, convenient and adjustable footrests and number plates complete ready for the road. The engine, having proved reliable in all the trials, has not been altered, except that neater silencers have been substituted.

The Motosacoche 1909 improvements will be longer and lower frame magneto model, engine 3in.



The new model single-cylinder Motosacoche, with lower frame and magneto ignition.

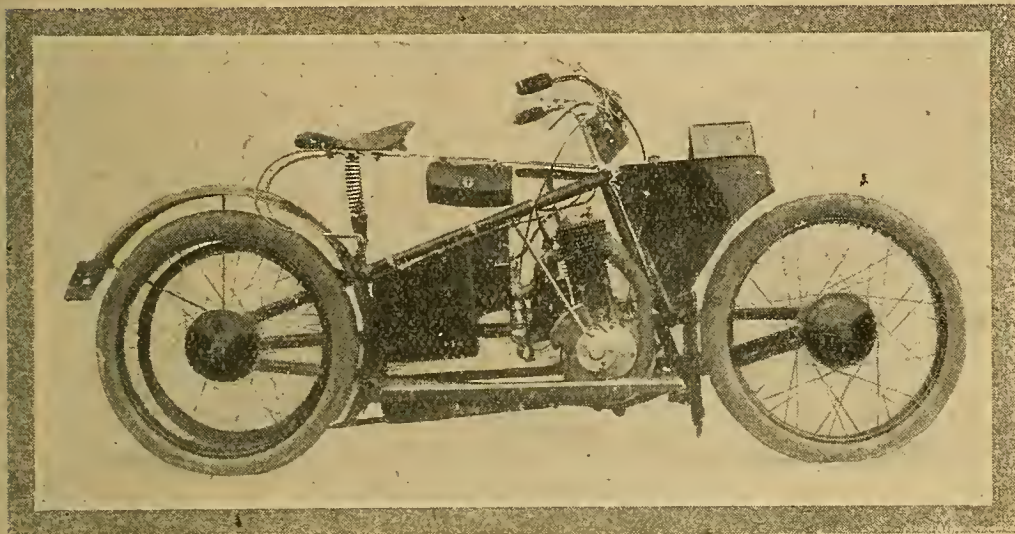
nearer ground. Easy starting is assured by an alteration to the magneto transmission. The tyres will be of the light motor cycle type to all models. The magneto model will be fitted with petrol and oil gauges, three handle-bar levers, throttle, spark, and exhaust lifter. The magneto will be easily detachable, and can be replaced without altering the timing. A working sectional model of the Motosacoche will be on view at the company's stand.

The new introduction at the F.N. stand will be a single-cylinder 2¼ h.p. lightweight model, with special new refinements in the way of a two-speed gear, handle-bar control, pedal brakes, etc. The gear box has sliding gears giving in conjunction with the bevel gear drive ratios of 6 and 10 to 1. The lubrication of the engine is by drip feed, and in addition a force pump is provided to give an extra amount of oil should it be required. With 2¼in. tyres, stand, and carrier, the weight will not exceed 120 lbs. The 5-6 h.p. four-cylinder F.N., which has had such a successful year, will, of course, be on exhibition.

1909 Improvements.—

An Entirely New Design.

The novelty of the show as far as motor bicycles are concerned will be the James, made by the James Cycle Co. The frame of this machine is of special construction, with tubes all on one side of the two wheels. The saddle is suspended on special flat springs, which are attached to the socket tube on the front portion of the frame and to a lug perpendicularly situated below the saddle. The movement of the flat springs is further controlled by coil springs. Short laminated springs are fitted to the front wheel axle. The steering is a patented device, the steering pin being carried in the centre of the hub, the latter revolving over the pin on large diameter ball races. The back wheel hub is

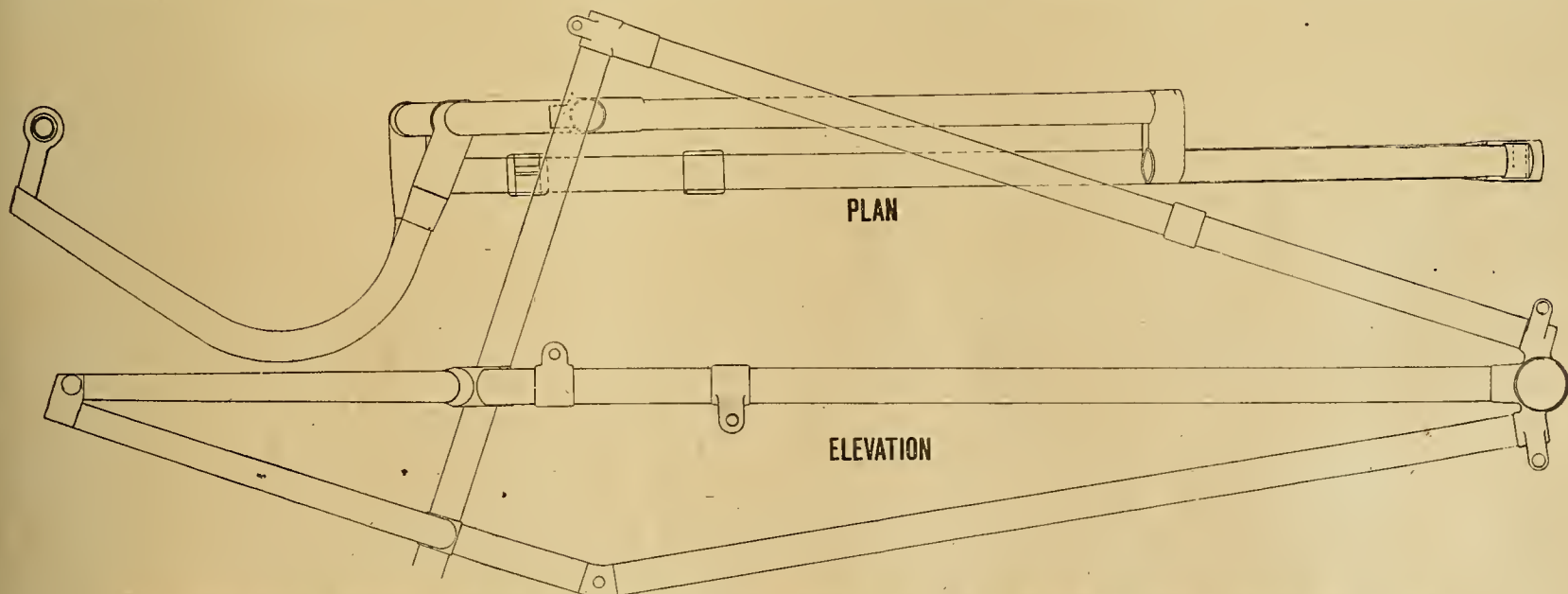


The James Motor Bicycle which will make its debut at the Stanley Show.

similarly constructed, and has a live axle, the belt rim being built up on a separate hub attached to the live axle, and running outside the frame tubes. Both hubs contain internal expanding metal to metal brakes. The engine in the above illustration is not the one which will be fitted to the James motor cycle. The new engine has several special features, among which may be mentioned a control by means of a variable lift of the inlet valve, concentric exhaust and inlet valves, the exhaust being the outer one. This dispenses with one of the usual cam wheels, both inlet and exhaust valves being operated by one cam wheel fitted with a double cam for the exhaust valve and a single central cam for the

inlet valve. Both inlet and exhaust valves are opened by rocking levers, and by a clever arrangement the rocking lever of the inlet valve can be moved further from or nearer to its fulcrum, so causing the inlet valve to lift more or less. The bore of the engine is 86 mm. and the stroke 90 mm. The engine is provided with ball bearings to all the shafts except the gudgeon pin. The ball bearing on the connecting rod big end is particularly large. The one on the timing gearshaft differs from the Hoffmann type, as it has a cup and adjustable cone on the lines of the bearing used on pedal bicycles. The arrangement of the radiating fins is quite a new departure. The fins are cast square and staggered in addition, so that the points of the radiators are exposed more fully to the air and the space provided between the radiators causes a better circulation, as one radiator does not shroud the other. The petrol tank, which is carried in front of the steering head and serves also as a mudguard, has a capacity for 150 miles, whilst the oil tank will hold sufficient lubricating oil for 250 miles. The magneto is situated behind the engine, and driven by a chain enclosed in a case. The engine pulley has a sliding loose flange which provides for a free engine. When fully expanded the belt drops on to a ball bearing. The pulley can, of course, be operated whilst the rider is seated on the machine, so enabling a start to be made without running alongside. The procedure is to start by a handle from the live axle on the back wheel, whilst the machine is jacked up on the neat stand

which will be provided. To start, the pulley flange is closed until a low gear of about 6 to 1 is reached. The engine is then started and the pulley flange expanded until the belt drops on to the free engine pulley bearing. The stand is now raised (this is done automatically, the stand being controlled by a spring), the rider then seats himself, and by closing the flange of the expanding pulley the machine is started. The control of the carburetter and ignition is from the handle-bar. Pedals are used to operate the brakes and the sliding flange on the pulley. In addition to the carburetter handle-bar control, a lever is provided to vary the lift of the inlet valve. This should be an ideal



Plan and elevation of the new James Motor Bicycle frame. It will be noticed that all the frame tubes are situated on one side of the wheels.

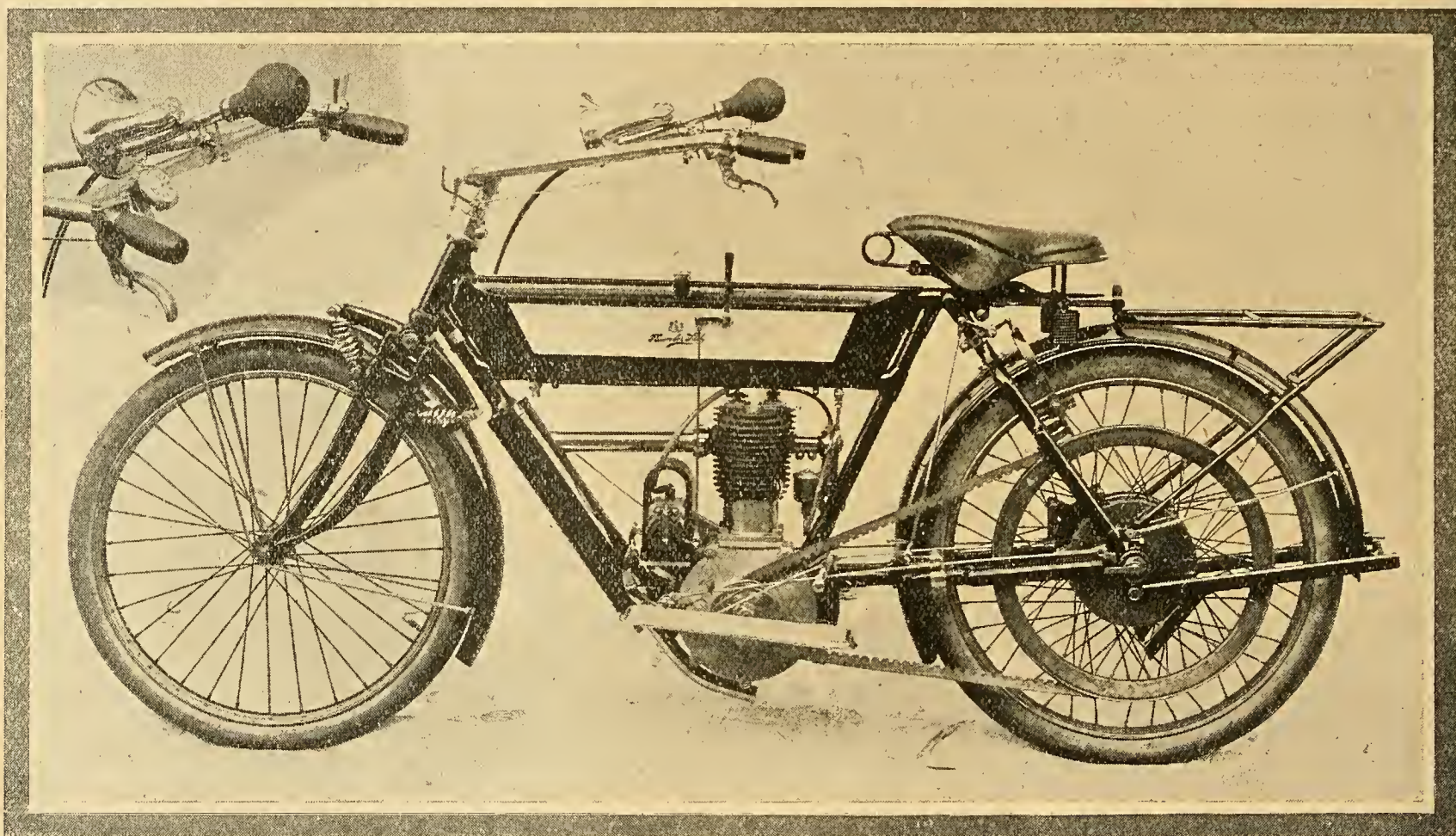
1909 Improvements.—

control. A tubular luggage carrier is fitted over the back wheel with a tool case on the top. The transmission is by rubber and canvas belt. As will be gathered the James machine possesses many novel features, but it is impossible for us to state its capabilities until we have had a practical riding experience of one of the new models, which at the time we inspected the various parts were not ready for use. The model illustrated, however, has been in use for some time, and the manager of the company, Mr. Arter, assures us that he has driven it seven or eight hundred miles with perfect satisfaction.

The New Humber Motor Bicycle.

The $3\frac{1}{2}$ h.p. Humber motor cycle is an entirely new design with low frame ($28\frac{1}{2}$ in. from ground). The engine has a bore of 83 mm. and a stroke of 90 mm., with ball bearings to engine-shaft and big

bearing which runs around the tubular crown. From the crown extend two arms fore and aft, and from the arms coil springs extend to the fork blades. Provision is made for the possibility of a broken spring by a catch on the ball race, which in the event of breakage would only allow the fork blades to swing outwards to a limited extent, when their further progress would be arrested by the catch. The silencer forms part of the front down tube of the frame, and has a capacity ten times that of the combustion chamber, thereby allowing ample space for the expansion of the gases without noise. Owing to the size of the silencer, the Humber motor bicycle should be a very quiet machine. It will be shown with and without a two-speed gear hub. This two-speed gear is operated by pedals on the left footboard; the pedals contract brake bands, which bring the high or low gears into operation as may be required. To obtain a free engine a catch liberates the high gear clutch. The



The $3\frac{1}{2}$ h.p. Humber Motor Bicycle with two-speed gear, handle starting, spring forks, and footboards. The handle-bars have a strut for attaching horn, watch, speedometer, etc., as shown in the inset.

end of connecting rod. Both valves are large in diameter and mechanically operated. The ignition is by Bosch high-tension magneto, gear driven. The carburetter is an Amac, with handle-bar control. The tank is in two parts, hinged at the front and grooved at the top to fit around the top tube; it has a capacity of about one gallon. The pulley has a loose adjustable flange, allowing gear ratios between 4 and 6 to 1 to be used. A tube connects the two ends of the handle-bars, passing from one side to the other; on this tube may be fitted a horn, watch, badge, or other articles. Accessories carried in this manner are conveniently situated for the rider, and when the machine is leaned against anything to support its weight the articles cannot become damaged. The sprung fork has the fork blades pivoted on a ball

hub has a live axle running in ball bearings at the ends of the rear stays. Numerous other special features are embodied in this design, with which we hope to deal in our show report.

A Two-stroke Twin-cylinder.

The standard $3\frac{1}{2}$ h.p. L.M.C. will remain much the same as before except that ball bearings will be fitted to the engine shaft without extra charge, and the position of the pedal will be carried forward to the left front footrest. The trial engine, which has run 20,000 miles, will be on view. An altogether new model is a two-stroke twin-cylinder motor bicycle; this weighs 105 lbs. with stand, and equipped with 2 in. by $1\frac{3}{4}$ in. Clincher motor cycle tyres. The two-stroke engine has cylinders side by side, and,

1909 Improvements.—

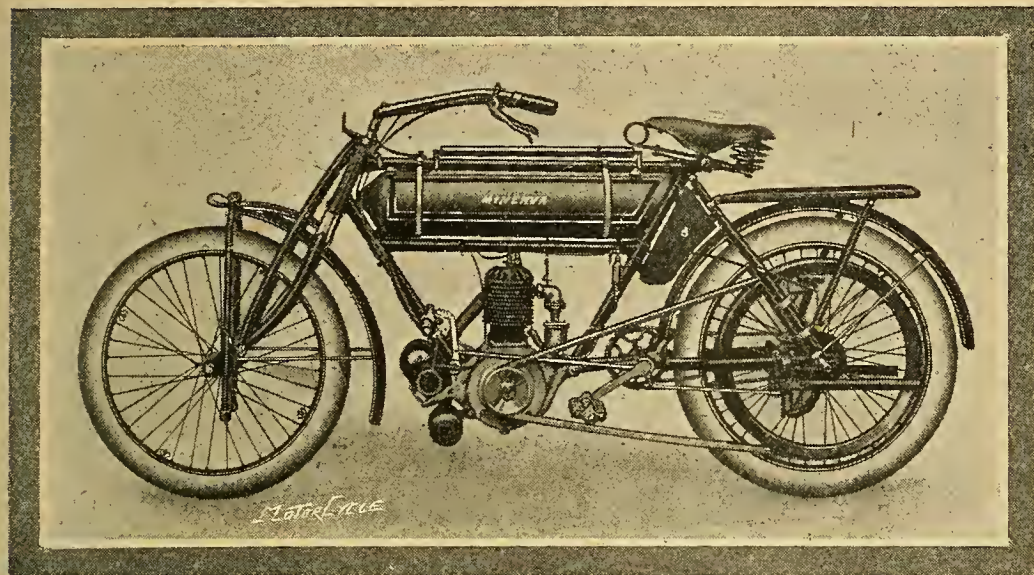
although they are cast without radiators, we are informed no signs of overheating have been apparent, and the machine has carried a ten-stone rider over such well-known hills as Birdlip, Rose, and Mucklow without pedalling. The automatically variable speed pulley, with and without free engine, recently described in these pages, will be shown, and altogether the L.M.C. stand will well repay a visit.

The Midget Bicans will be represented by three models, all fitted with magneto ignition and handle-bar control, and one with a two-speed gear. A patent adjustable pulley without threads or set-screws, and one that does not require the use of any tool to adjust it, will also be found on this stand.

Bosch magneto ignition is to be fitted to all Minerva models, viz., 2¾ and 3½ h.p. singles and 4½ h.p. twins, using the same type of magneto transmission

are provided. The latter is operated by a pedal moved by the heel when the feet are on the rests and by the toe when the feet are on the pedals, and a Norton-Druid spring fork is fitted. The cylinders are now removable without disturbing the crank case. Steel connecting rods are fitted to the engine working on hollow gudgeon and crank pins; this allows the lubricating oil to pass through the centres of the gudgeon and crank pins. The piston rings are constructed in a novel way which we do not remember having seen on any other motor cycle engine. They are of broad section, step cut, and provided with oil and gas retaining trap channels. The piston is similarly turned below the rings with several of these oil retaining channels. They certainly should enable a better compression to be obtained and maintained, and also assist in the lubrication. Other improvements are a registered stand, mainshafts shrunk into flywheels, crank pins squared into flywheels, and handle-bar controlled carburetter.

The 1909 models of the N.S.U. Co. will be more complete, fitted with a stand allowing the back wheel to be withdrawn, luggage carrier, number plates, rear mud-guard hinged to allow easy access to the back tyre, and footrests, with brake pedal easily accessible. The tank is arranged so that the exhaust valve can be easily extracted. Spring forks of the new improved plunger type will be fitted to all types. For 1909 there is a totally new 4 h.p. touring model, 82 by 105 mm., ball bearing engine, fitted so that if anything goes wrong with the ball bearings the journals can be arranged to run on the plain bearings provided. The rear brake will be of the internal expanding type. Handle-bar control, rim. belt, two-speed gear in hub, started by the pedals, main reduction in gear, allowing of only 1½ to 1 ratio between the engine and rear pulleys. A new lightweight model weighing 100 lbs., with twin engine, 52 by 74 mm., mechanically operated valves, and handle-bar control. A 6 h.p. twin, mechanically operated valves, also with change speed hub gear, fitted to a new sidecar, which allows the back wheel of the cycle to be detached easily. The old pattern engine pulley two-speed gear has been



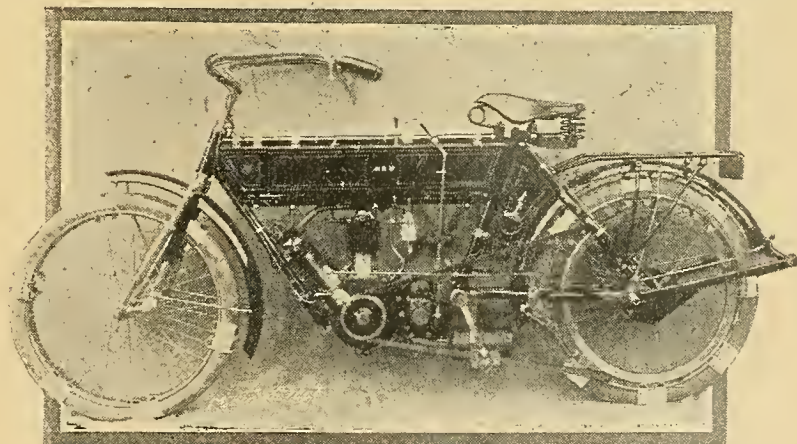
Minerva 3½ h.p. model fitted up complete ready for the road.

as before. The carburetter is a G. and A. with auxiliary air inlet. A larger oil pump is fitted in a more inclined position. Back pedalling brake with larger and wider drum, and band brake operated by a pedal near the foot-rests. The throttle and ignition levers are fitted on the handle-bar, and each machine is provided with latest pattern Price's stand.

Stronger wheels, heavy 2in. tyres, and beaded-edge belt rims will be three features of the 1909 Moto-Rêve. The standard model has girder forks, the spring fork model special Druid spring forks. The frame is slightly lower and longer in the wheelbase. A pedal operated rear brake acts on the belt rim, and the tank has a larger capacity. The cylinders are embedded more deeply in the crank case, and an improved exhaust lifter, giving greater leverage, is provided. To render the engine more cleanly a special oil release valve is fitted on the side of the crank case.

A Novel Piston Ring.

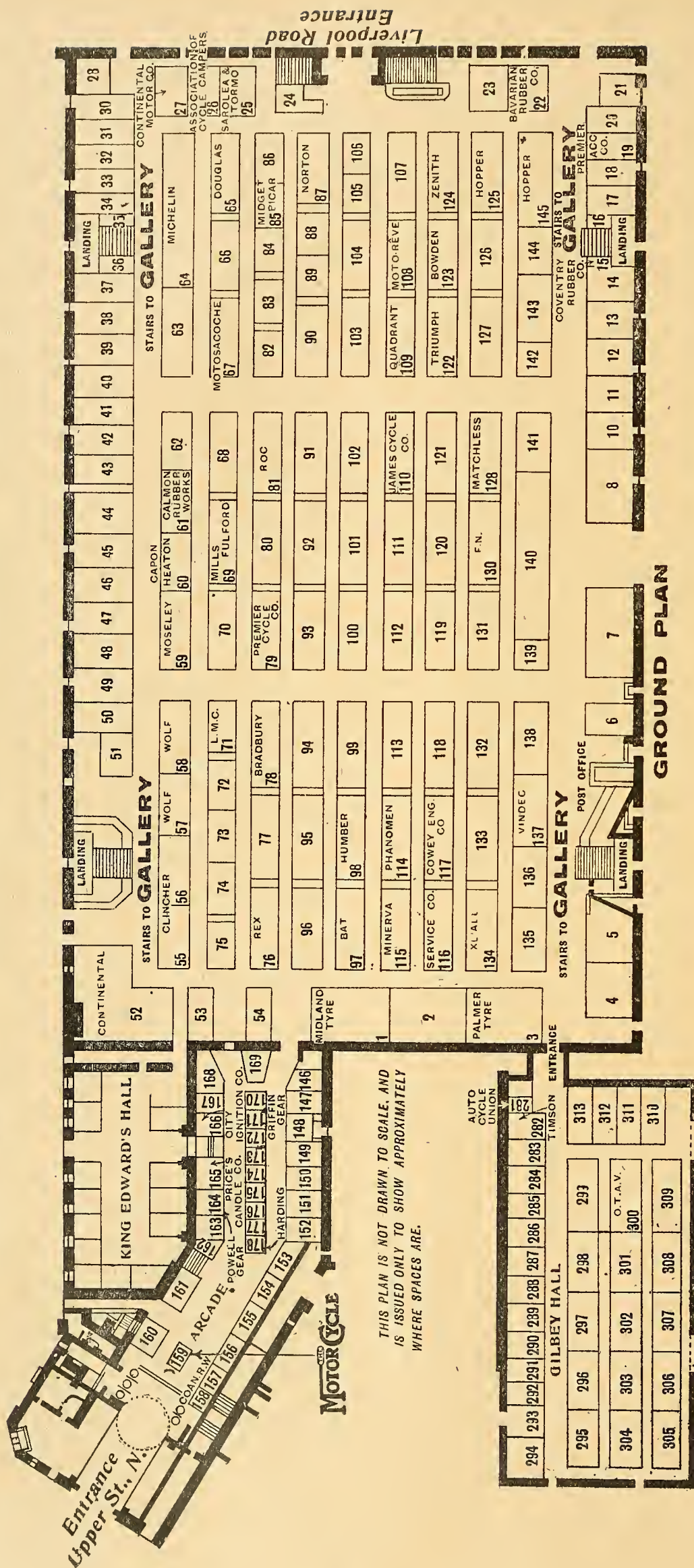
Mr. Norton has decided to confine the Norton models to a 3½ h.p. single-cylinder 82 × 90 mm. and a 5 h.p. twin cylinder 76 × 80 mm. Both these models are fitted with ball bearings to the mainshaft—in fact, they have been so fitted all the year, but only the twin cylinder was exhibited at the last show with what is becoming an almost universal feature. The pump is enclosed in the tank, and a special large saddle, registered design of stand, and belt rim brake



A Twin N.S.U. with mechanically-operated valves. The tyres are fitted with N.S.U. anti-skidding bands.

improved, and these improvements can easily be embodied in earlier models. There will also be a new 8 h.p. twin racer, cylinders 80 by 100 mm.

(Continued on page 898.)



THIS PLAN IS NOT DRAWN TO SCALE, AND IS ISSUED ONLY TO SHOW APPROXIMATELY WHERE SPACES ARE.

STAND.		STAND.		STAND.							
Auto Cycle Union	...	281,	Gilbey Hall	F.N. Motor Agency	...	130,	Main Hall	Palmer Tyre, Ltd.	...	3,	Main Hall
Association of Cycle Campers	...	26,	Main Hall	Griffin Variable Speed Gear Co.	...	171,	Arcade	Powell, A. D., and Co.	...	164,	Arcade
Bat Motor Manufacturing Co.	...	97,	"	Harding, H. J.	...	178,	"	Premier Cycle Co., Ltd.	...	79,	Main Hall
Bavarian Rubber Co.	...	22,	"	Humber, Ltd.	...	98,	Main Hall	Premier Accumulator Co., Ltd.	...	19,	"
Bradbury and Co., Ltd.	...	78,	"	Hopper, F., and Co., Ltd.	...	25 and 145,	"	Phelon and Moore	...	116,	"
Bowden's Patents Syndicate, Ltd.	...	123,	"	James Cycle Co., Ltd.	...	110,	"	Phänomen Motors	...	114,	"
Brown, J. T. (Midget)	...	85,	"	Junior and O.T.A.V. Car Co., Ltd.	...	300,	Gilbey Hall	Price's Patent Candle Co., Ltd.	...	155,	Arcade
Calmon Asbestos and Rubber Works, Ltd.	...	61,	"	Lloyd Motor and Eng. Co. (L.M.C.)	...	71,	Main Hall	Quadrant Motor Co.	...	109,	Main Hall
Capon Heaton and Co., Ltd.	...	60,	"	Michelin Tyre Co., Ltd.	...	64,	"	Rex Motor Mfg. Co., Ltd.	...	76,	"
City Ignition Co.	...	166,	Arcade	Midland Rubber Co., Ltd.	...	1,	"	South British Trading Co., Ltd.	...	137,	"
Collier, H., and Sons, Ltd. (Matchless)	...	128,	Main Hall	Mills and Fulford	...	69,	"	(Vindee)	...	116,	"
Coan, R. W.	...	157-158,	Arcade	Minerva Motors, Ltd.	...	115,	"	Service Co., Ltd.	...	25,	"
Continental Tyre and Rubber Co., Ltd.	...	52,	Main Hall	Montgomery, W., and Co.	...	73,	"	Tormo Mfg. Co., Ltd. (Sarolea)	...	122,	"
Continental Motor Co.	...	27,	"	Moseley and Sons, Ltd.	...	59,	"	Triumph Cycle Co., Ltd.	...	282,	Gilbey Hall
Coventry Rubber Co.	...	15,	"	Moto-Rève Co., Ltd.	...	108,	"	Timson Bros.	...	81,	Main Hall
Cowey Engineering Co.	...	117,	"	<i>The Motor Cycle</i>	...	159,	Arcade	Wall, A. W., Ltd. (Roc)	...	57-58,	"
Douglas Bros.	...	65,	"	North British Rubber Co., Ltd.	...	55-56,	Main Hall	Wearwell Cycle Co., Ltd. (Wolf)	...	134,	"
Dufaax, H. and A. (Motosacoche)	...	67,	"	(Clincher)	...	87,	"	XL'All Specialities	...	124,	"
				Norton Manufacturing Co., Ltd.	...			Zenith Motors, Ltd.	...		



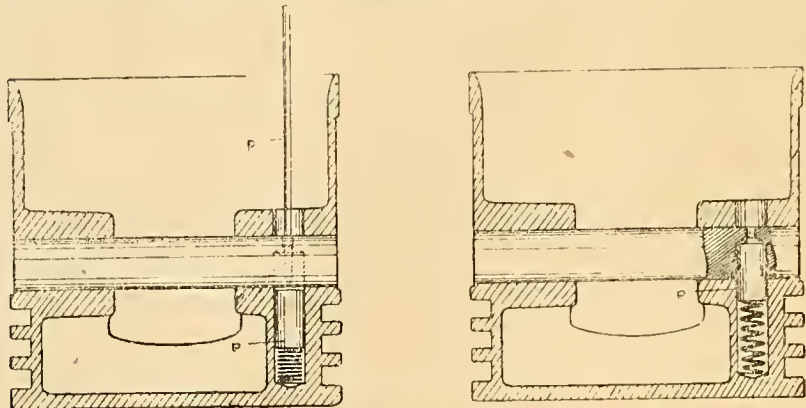
THIS PLAN IS NOT DRAWN TO SCALE, AND IS ISSUED ONLY TO SHOW APPROXIMATELY WHERE SPACES ARE.

STAND.	STAND.	STAND.	STAND.		
Aston Motor Accessories Co. (A.M.A.C.)	270	Hanover Rubber Co.	259	Peter Union Tyre Co.	229-230
Bates, W. and A., Ltd.	205	Hobday Bros.	187	Peugeot Frères	244
Baedecker, Eugen	224	Jacobs, W. and R.	193	Price and Co.	201
Brown Bros., Ltd.	265	Leicester Rubber Co.	249	Rich's Detachable Air Tube Co.	255
Brooks, J. B., and Co., Ltd.	230	Lohmann and Co.	184	Self-sealing Rubber Co.	225
Chater Lea, Ltd.	228	Lucas, Joseph, Ltd.	233	Stuart Lock-joint Tube Co.	243
Components, Ltd. (Ariel)	232	Lycett's, Ltd.	185	Templeton Bros.	226
County Chemical Co.	266	Merkham Trading Co.	254	Terry, H., and Sons	206
Coventry Rubber Co.	263	Moebius and Sons	186	Union Rubber and Chemical Co., Ltd.	234-235
East London Rubber Co. (Kerry)	211-212	N.S.U. Motor Co., Ltd.	262-263	Victoria Motor and Cycle Co.	273
Great Eastern Rubber Co.	208	Neale Bros., Ltd.	252		

For FULLY ILLUSTRATED DESCRIPTION OF THE EXHIBITS, see Next Week's Issue.

1909 Improvements.—

The Phänomen exhibit will consist of a 4 h.p. single-cylinder machine with two-speed Nala gear, a 4 h.p. two-speed twin, a 6 h.p. two-speed twin with sidecar, and a 6 h.p. twin with two-speed gear, enamelled throughout in grey, even the pedals being of this colour. These machines can be started by the pedals in free engine position. The B. and B. car-



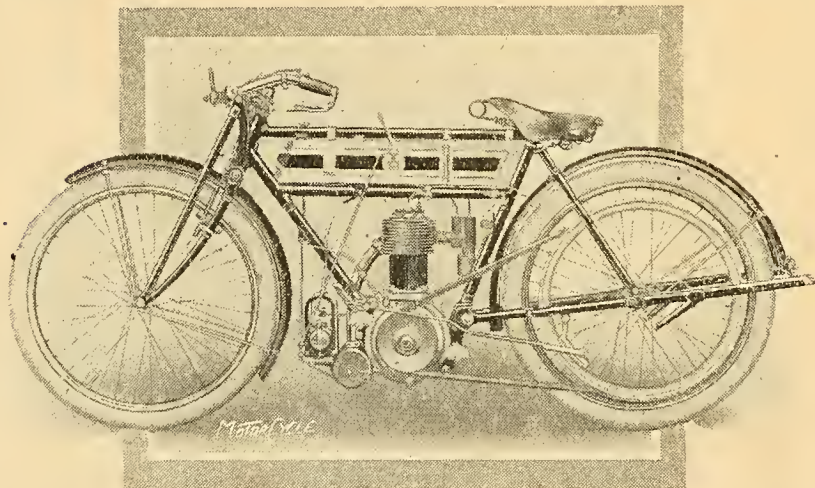
The Phänomen gudgeon pin fixing—*a* is the plug holding the pin in position; *d* a spoke for raising the plug to remove the pin.

burette, with handle-bar control, can be fitted without extra charge if desired.

The 1909 Quadrant engine was fully described and illustrated in the issue of November 4th. We understand there will be numerous improvements in the bicycle frame and other parts, which will be referred to in next week's full description of the exhibits.

Triumph Improvements.

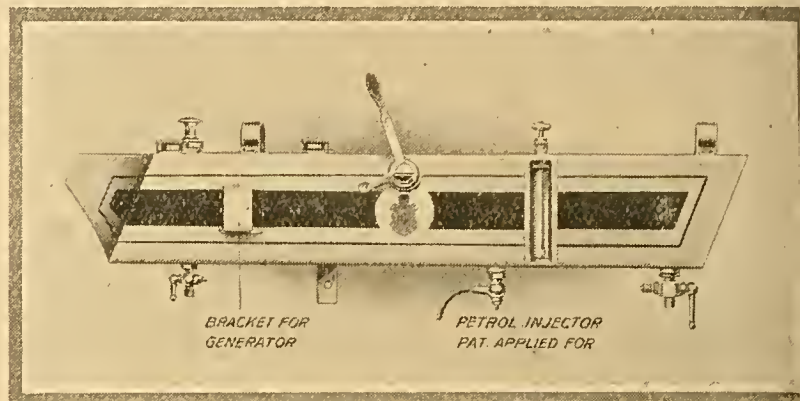
Many important detail improvements have been made in the 1909 Triumph model, especially in the engine, by which more power is obtained and longer and more uniform wear of the cylinder is ensured. A slightly lower frame has been introduced, with other important improvements, which will appeal to and be appreciated by motor cyclists. No pedalling gear or carrier is being fitted to the T.T. models, and, in addition, the machine itself is lighter than the ordinary touring model, and is fitted with Dunlop wired-on tyres and racing handle-bars. The specifica-



The 1909 Tourist Trophy Triumph. A similar model was used by Capt. Sir R. K. Arbuthnot, Bart., R.N., and J. Marshall in the recent Isle of Man Race.

tion is the same as the ordinary touring model with the exceptions above mentioned, and that the engine has specially selected parts and a slightly higher compression. Among the chief improvements which have been made in the touring model are: A registered design of piston and a slightly lower frame; a new pattern Brooks saddle, which gives the rider a still

lower position; a new pattern front hub made absolutely waterproof; stronger cranks and stronger handle-bar; an improved lamp bracket and improved oil and petrol cans; increased power in the foot brake; stronger back springs to the front forks; heavier spokes

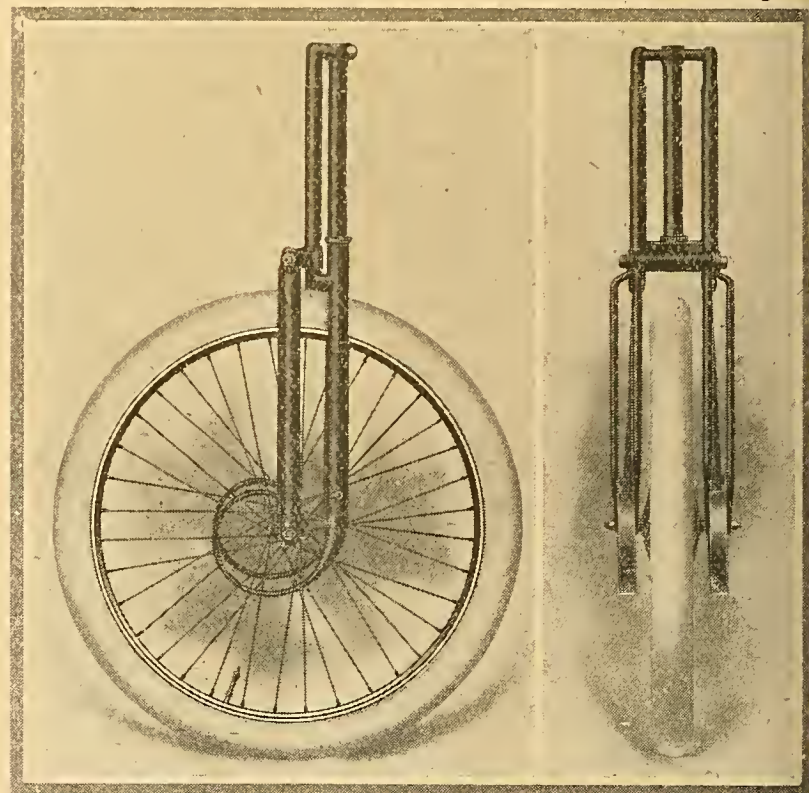


Triumph petrol and lubricating oil tank. Note the generator bracket, also the petrol injector, which is "on" in the position shown, and "off" when pointing rearwards.

in the back wheel; an improved tank with a special tap to inject petrol through the compression tap (patent applied for); and a generator clip fixed to the tank in a convenient position.

A New Spring Fork.

Very few alterations will be made to the Roce machines for 1909. The duplex frame and tank will be retained. The engines will be 4 h.p., 83 by 90 mm.



Front and side view of the new pattern Roce spring fork.

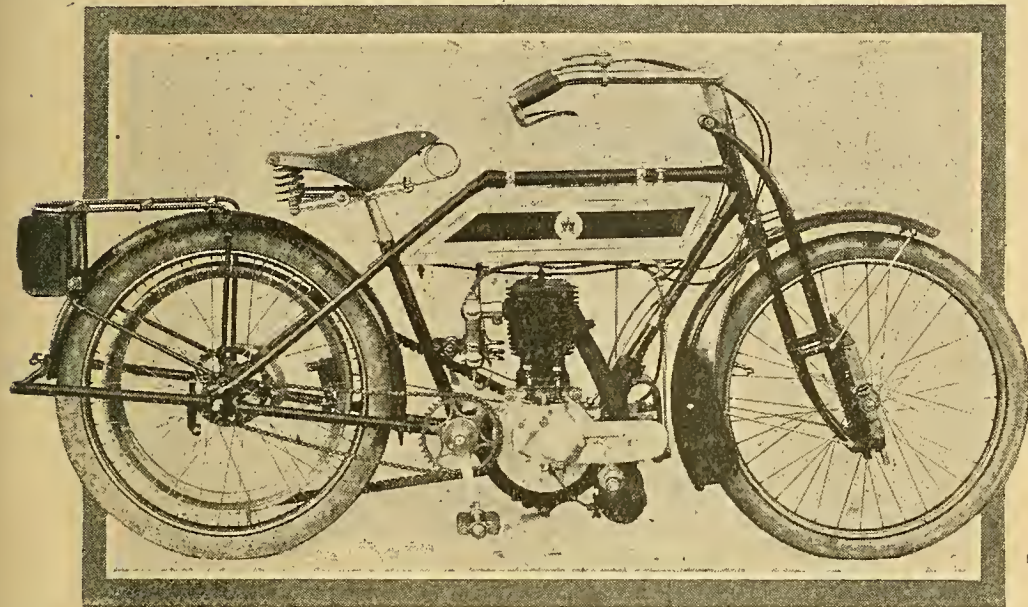
and 5-6 h.p., twin-cylinder, 75 by 80 mm., with ball bearings to the big end of main shaft and one shaft of the timing gear, viz., the one that drives the magneto. The principal improvement is a new pattern spring fork on C springs (see illustration). The Roce gear remains unchanged with the exception of the bands which operate the brake drums. These bands instead of being lined with one piece of metal, will be fitted with gun-metal discs riveted at intervals along a steel band. These discs are fitted to enable the brake band to clear itself of mud and dust, and to prevent

1909 Improvements.—

chattering of the brake band, which was a complaint received by the makers from some purchasers during this year.

The New Rex Models.

The exhibit of the Rex Motor Mfg. Co. will be full of interest to motor cyclists this year, as probably no firm has made more improvements to their models for 1909 than the Rex Co. The lightweight model has been dropped, and there will be four distinct models of motor bicycles—the $3\frac{1}{2}$ h.p. single-cylinder 1909 Rex, the 5 h.p. 1909 twin-cylinder Rex (both these



1909 $3\frac{1}{2}$ h.p. Rex standard model with handle-bar controlled carburetter. The carrier supports also form the mudguard stays.

machines will be fitted with pedalling gear), the $3\frac{1}{2}$ h.p. single-cylinder de Luxe with two-speed gear, and the 5 h.p. twin-cylinder de Luxe with two-speed gear. In passenger machines a $3\frac{1}{2}$ h.p. Triette air-cooled engine, two-speed gear as described and illustrated in the last issue, and a similar model with a twin-cylinder air-cooled engine. The principal improvements are a new spring fork, a steel engine cradle with an extension forming the magneto platform. The back fork ends allow for easy detachment of the rear wheel. On the handle-bar are fitted inverted levers for exhaust lifter and rear brake, and on the de Luxe two-speed models a dummy belt rim is fitted to the wheel so that the pedal brake can act upon it in a similar manner to that of the ordinary models. The lubricating pump is inside the tank, and on the $3\frac{1}{2}$ h.p. models a pipe from the waste petrol tap is arranged to come over the compression tap to facilitate starting. The engine is considerably improved, the cylinder has exceptionally large radiators. The piston has a domed top with two rings, one at the top and one at the bottom, and a gudgeon pin with gradual taper which wedges it in the lugs on the piston. One cam works two rocking arms operating the valve tappets, and the chain for driving the magneto is entirely encased in an aluminium cover forming part of the crank chamber casting. All 1909 machines will be supplied complete with carrier, stand, and tool kit. The carrier is a very neat construction of round tubing on which the tool case is supported. It acts also as the rear mudguard stays. The stand is pivoted on the chain stays, and the rear wheel can be taken out without disturbing the stand

attachments. The method of operating the change speed gear on the de Luxe models has been fitted with an improved locking device, although the method of operation remains the same, viz., when the high gear is in use the low speed is automatically released.

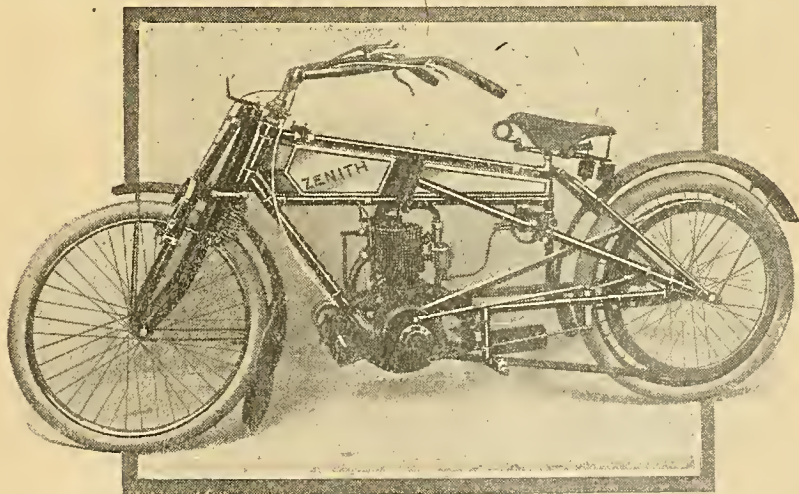
Several well-known makes of motor cycles will be found on the Service Co.'s stand, notably the Phelon and Moore, L.M.C., Triumph, Zenette with Gradua gear, Phänomen with variable gear, four-cylinder F.N., Rex, and latest Castor wheel sidecar. A new valve-lifter will also be exhibited, suitable for any motor cycle engine.

The frame of the Phelon and Moore will be lower, bringing the top of saddle to within 3 in. of the ground. The ball head and forks have been considerably strengthened. The combustion head has been redesigned, giving a clean sweep for the exhaust gases. Improvements in fixing now enable the engine to be swung down and the cylinder and combustion head removed in less than twenty minutes. To ensure easy starting with the handle, this latter is now engaged on to the low gear instead of the engine-shaft. A new handle-bar operated throttle will be fitted, and the tank has been made larger, and fitted with oil and petrol gauges and needle valve. The toolbag will be fitted in an angle of the frame, and the starting handle clipped on outside the toolbag.

A new lightweight two-stroke motor cycle, with a bore and stroke of 45 by 90 mm., may be seen on the stand of the Victoria Trading Co. The engine has a spray carburetter, automatic gravity feed lubrication, and Ruthardt magneto. A lady's model will be exhibited; also a complete set for fitting to a pedal bicycle.

1909 Vindec Models.

The 1909 addition to the Vindec models is the F7, with 7 h.p. twin Vindec-Peugeot engine, 80 by 98, 6 in. adjustable pulley, 20 in. frame, and Truffault suspension. The $3\frac{1}{2}$ and 5 h.p. Vindec models are retained. All machines have handle-bar control, B. and B. carburetter, and Davison's petrol gauges to the tanks. Brooks's padded top saddles to Models H and F. All inlet valves have special adjustable screw caps and lock-nuts, so that any amount of valve opening may be used and wear taken up by adjustment.



The $3\frac{1}{2}$ h.p. Zenith fitted with Gradua gear controlled by the hand wheel shown beside the tank.

1909 Improvements.—

The latest introduction of Zenith Motors, Ltd., was described in *The Motor Cycle* of October 28th. This is the Zenith motor bicycle with rigid frame and Gradua gear. Other models exhibited will be two $3\frac{1}{2}$ h.p. Zenettes with spring frames and Gradua gears, a Zenette bicar, and a skeleton frame of the Zenette, showing the action of the springs. The gear will also be shown working, driven by an electric motor. The gear has been improved by the addition of a ratchet arrangement, which totally prevents the gear from being altered by vibration. Magneto ignition and handle-bar control will be fitted as a standard to all machines, and petrol and oil gauges will be fitted to all models. The Stanley Show will be the first occasion on which the Gradua gear will be exhibited to the public.

PASSENGER MACHINES.

The latest Millford novelty is a spring wheel sidecar of new and interesting design. The wheel is fitted to run on the ordinary type of ball bearings, but the spindle is supported at each end by universal attachments, that are in turn held in their normal position by two strong compression springs. These springs allow the wheel to have free vertical play and cause it to remain perpendicular, no matter how unequal the road surfaces may be. Thus road shocks are entirely absorbed by the springs, and side-slip reduced to a minimum. We are informed this invention was designed in their own works, and is fully protected. Other models will, of course, include the patented Castor wheel sidecar, which has proved a favourite with motor cyclists during the past three years.

Among the passenger attachments on exhibition of interest to motor cyclists will be the Bramson self-propelled rear car for either one or two passengers. This takes the form of a trailer, but instead of the motor bicycle being balanced and steered in the ordinary way when a trailer is attached with a flexible coupling, the Bramson self-propelled rear car attachment becomes one piece with the bicycle, and the combination stands upright both when in motion and when standing still. It is said that the riding and steering of the machine is exactly the same as a tricycle.

The well-tried Montgomery flexible sidecar will be shown on Stand 73 in the Main Hall. In addition two new models will make their first appearance under the name of Regent sidecars. One is a trailing wheel and the other a spring wheel rigidly attached sidecar.

That interesting little four-wheeled runabout the O.T.A.V. will be on exhibition at the Stanley Show. No alterations or improvements have been made in the design since it was last described in our pages, but those motor cyclists who contemplate the purchase of a machine of this class should not fail to examine it, particularly as the method of transmission and general details of the machine so closely follow motor cycle lines.

SOME OF THE ACCESSORY EXHIBITS.

An improved triple band brake, Eclair push-on inflator connections, and a new accumulator in which the positive plates can be renewed when the accumulator is exhausted will form the principal portion of Mr. H. J. Harding's exhibit. The push-on inflator connections are not so well appreciated by motor

cyclists as they ought to be, as they will fit any type of valve, and save the trouble of carrying different connections when air tubes with more than one type of valve are in use.

Peugeot single-cylinder and twin-cylinder engines will, as usual, be exhibited by the sole agent, Mr. J. Taylor. The 5 h.p. twin-cylinder model will be retained as a standard pattern for 1909, fitted with either a Longuemare or Amac carburetter. There are some improvements in detail which will be referred to in our report of the exhibition.

Among the interesting articles to be shown by the East London Rubber Co. may be mentioned a new automatic air inlet valve and the adjustable pulley which was recently illustrated in these pages.

A very large number of motor cycles will be fitted with Amac carburetters, and in addition the Aston Motor Accessories Co., Ltd., will, of course, exhibit them separately on their own stand. The I.C. type is the standard pattern, but on all Rex machines the I.D. pattern will be found. This only differs in regard to the levers on the handle-bar. The internal arrangement on both types is the same as described by "Ixion" a few weeks ago under the heading of "The Ideal Carburetter."

A multitudinous array of interesting accessories, such as springs, hardened and tempered folding spanners, screwdrivers, and a new automatic lock nut, will be found on the stand of Messrs. Herbert Terry and Sons.

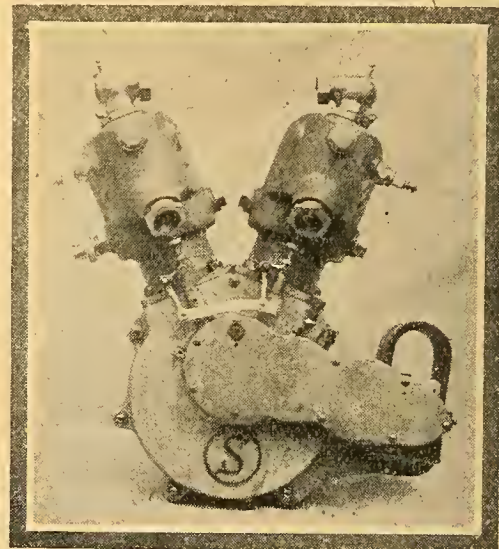
Every show visitor should make it his business to call and see the Cowey speed indicator working at the stand of the Cowey Eng. Co., Ltd. This indicator has been specially made to stand the wear and vibration of motor cycles and give perfectly steady readings.

The ingenious Gripple joints, described in our recent article on "Motor Cycle Accessories," as well as numerous other accessories, will be found on the stand of the Merkhams Trading Co., Ltd.

J. B. Brooks and Co., Ltd., will, as usual, display all their well-known specialities, principal among which are their anti-vibratory saddles and seats, touring equipments, belts, bags, and a new patent adjustable locking spanner, which is guaranteed not to injure the edges of nuts.

A new model Sarolea engine is to be shown this year by the Tormo Mfg. Co. in addition to single and twin-cylinder air-cooled engines of the same name. The new engine is a V-type twin, water cooled, particularly suitable for passenger motor cycles.

Price's Patent Candle Co.'s exhibit of motor lubricants promises this year to be a regular centre of interest. During the past season their Motorine A motor cycle lubricant has scored a success in practically every event of importance in the motor cycle world.



Sarolea twin-cylinder water-cooled engine, with automatic inlet valves and gear-driven magneto.

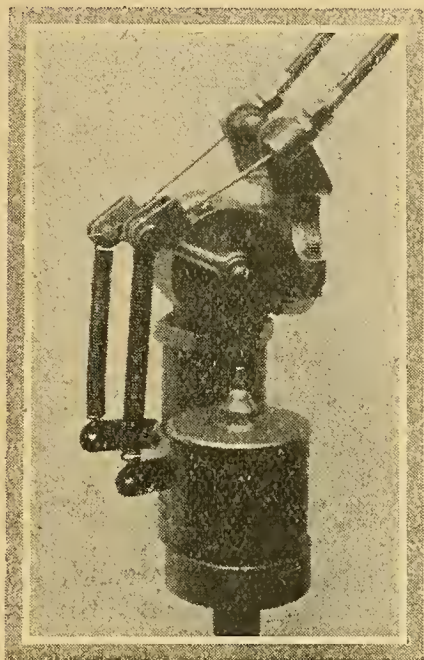
1909 Improvements.—

In addition to engine lubricants, they will be showing hub, chain, and bearing lubricants.

Templeton Bros. will have a full range of Tee Bee specialities, including variable gears, stands, spring forks, and a Tee Bee motor cycle.

Electary accessories, which we recently dealt with in our special accessory article, can be examined on the stand of W. and R. Jacobs.

Sundry improvements have been introduced into the various fitments made by E. M. Bowden's Patent Syndicate, Ltd. Hundreds of motor cyclists possess machines which are not fitted with a handle-bar controlled carburetter, and, bearing this in mind, the Bowden's Syndicate has introduced a complete system of handle-bar control which can be attached to almost any existing carburetter and operated by the new pattern duplex handle-bar levers.



Bowden wire control from handle-bar, for attaching to existing carburetters.

J.A.P. engines will be found, fitted to several well-known makes of machines. There are three new models for 1909, two with mechanically operated valves on the side of the cylinder instead of overhead valves. They are an 8 h.p. twin-cylinder 85 by 85 mm. and a 4 h.p. single-cylinder 85 by 85 mm. The original 2½ h.p. lightweight engine has been entirely redesigned. The bore and stroke are 70 by 76 mm., and the automatic inlet valve is retained. The spindles, which were previously fitted to the flywheels by means of bosses and screws, will be fastened with cone, key, and nut in accordance with usual J.A.P. practice. The timing gear has been altered and entirely encased.

The Hella lamps, of which Messrs. Steiner and Co. claim to be the originators, will be exhibited by the above named firm, whilst the Continental Motor Co. will make a special display of the R.O.M. synchronised contact breakers and a new tyre with non-skidding tread, which is a combination of square rubber bars and steel studs, the rubber bar standing ⅛ in. above the tread and the steel stud ⅜ in. below it. Also a rubber cover with tread consisting of staggered rubber squares.

A motor cycle with a change speed gear fitted will be the exhibit of H. C. Griffin, whose gear is called the Griffin-Simplex combined variable pulley and two-speed gear. This gear is said to be readily applicable to any motor bicycle or tricar, belt or chain driven, without structural alterations, and will give any gear from 3½ to 6 to 1 on the top gear, with a thirty to fifty per cent. reduction for the low gear.

Aluminium castings of every description and samples of repairs to aluminium castings will be shown by R. W. Coan. Also Coan's patent aluminium steering

wheel for tricars with hollow rim and spokes, which can be heated by circulating hot water from the radiators through the wheel and back to the tank by a return pipe.

In addition to the above mentioned, there will be numerous exhibits of accessories. Reference to our plan guide to the show will enable readers to find any of these exhibits, as the stands are all numbered on the plan, and underneath each plan is a lettered inscription with the name of the firm corresponding to the stand number.

TYRES.

The majority of the well-known tyre companies will exhibit motor cycle tyres in all patterns. Improvements in tyres are always being made, but with few exceptions these detail improvements are confined to the manufacturing processes which tend toward ameliorating the conditions under which motor cycle are used. This has been particularly noticeable since the last Stanley Show, as the early part of 1908 saw the introduction of rubber studded covers which have proved so popular.

Motor cycle covers, both wired on and beaded edge in three different weights, also air tubes, will be shown by W. and A. Bates, Ltd.

Steel studded covers with the studs embedded in the rubber similar to the method used in the manufacture of motor car tyres will be a feature of the Continental Tyre and Rubber Co.'s exhibit, in addition to their standard and Modèle de Course patterns.

A new type of lock joint detachable tube will make its bow to the public at the Stanley Show. It is made by the Stuart Lock-joint Tube Co. The joint is really a butted one, but the ends of the air tube overlap considerably, so that there is less possibility of a burst taking place. Our illustration makes it fairly clear how this lock joint is made, and it will easily be seen that the harder the air tube is inflated the firmer the joint is held. When deflated it is an easy matter to change a punctured tube on the road. For motor cycles three qualities are made.



The lock joint of the new Stuart Detachable Air Tube.

The latest motor cycle tyres made by David Moseley and Sons have a special toughened rubber tread in addition to an extra ply of canvas. The non-skidding tread is made up of moulded arrow head shaped excrescences, with two ridges one each side passing right round the circumference.

The Michelin Tyre Co., Ltd., will include the following among their exhibits: Butt-ended and ordinary tubes, wired on and beaded motor cycle covers, valves, valve parts, and repair outfits.

In addition to the self-sealing air tubes for motor cycle tyres, the Self-sealing Rubber Co., Ltd., will exhibit patent detachable jointed air tubes with open and closed ends, tyre repair outfits, bands, non-slipping treads, etc.

Another firm exhibiting rubber studded non-skid treads is the Leicester Rubber Co., who have named their specialities John Bull. In addition to rubber studded covers, butt-ended and ordinary air tubes will be on view.

1909 Improvements.—

A brave display of cups, trophies, medals, and other prizes secured by users of Palmer motor cycle tyres will be a feature of the stand of the Palmer Tyre, Ltd. Two types of Palmer tyres are made, one with an extra strong fabric and the other with the airless cord fabric.

The Hanover Rubber Co. will show the Shamrock Excelsior tyres, and the Shamrock Gloria rubber and canvas belts. The latter have now been supplemented by a $1\frac{1}{8}$ in. size, specially designed for passenger motor cycles and high powered bicycles.

The North British Rubber Co. will exhibit the new Clincher rubber studded tyres in addition to their A1, Dreadnought, and ordinary pattern treads. The Dreadnought is also being made as a rubber studded non-skid, but instead of the studs being separated and

staggered at intervals over the cover, they are in three parallel lines joined together with rubber ridges of the same height as the studs.

The steel-studded non-skid cover will be fully represented by the Peter Union Tyre Co., Ltd., as well as motor cycle tyres of the plain rubber tread and basket pattern types; also puncture proof bands.

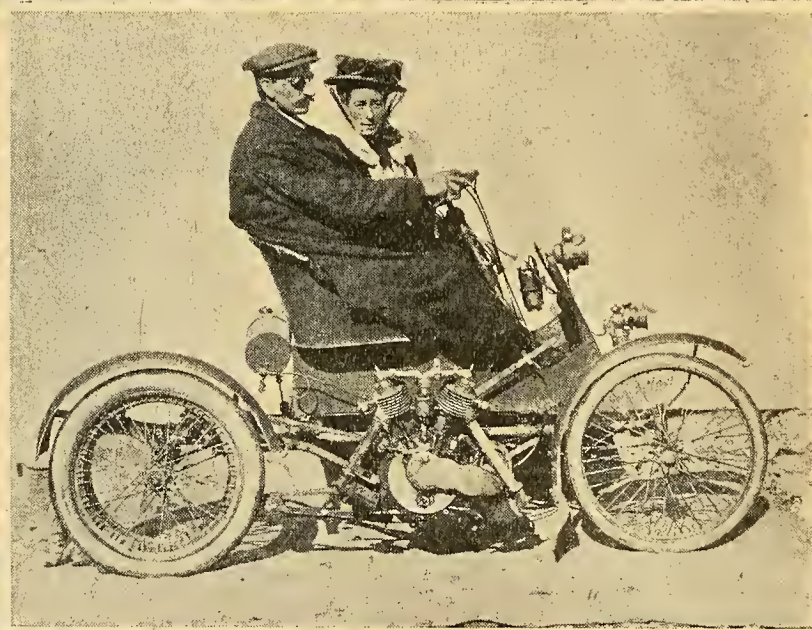
The Auto Cycle Union will have an office in the Gilbey Hall as last year. Motor cyclists who contemplate membership should certainly call and interview Mr. F. Straight, or one of the officials who will be in daily attendance. Members can have letters addressed to them c/o the A.C.U., Stand No. 281.

Readers who take an interest in camping should make a point of visiting the stand of the Association of Cycle Campers, where every requisite for light and portable camping will be shown, such as loaded motor cycles.

A NOVEL PASSENGER MACHINE.

PARTICULARS of a machine somewhat on the lines of the old rotary tricycle have reached us from Walker and Co., Lutterworth, this type of vehicle being one which a number of experienced motorists consider has possibilities for the future. The advantages of the type are its sociability, small number of working parts, and simplicity. Having but three wheels, it can be registered as a motor cycle, and the extra licensing fees for a car avoided. To all intents and purposes, it is a motor bicycle with rigid

fitted to the engine shaft, which combines free engine and change-speed gear, a jockey pulley taking up the slack on the low gears. The variable pulley can be regulated to give a $3\frac{1}{2}$ to 1 gear for level road work, and on reaching a hill it will automatically lower the gear according to the steepness of the hill. The present arrangement for starting the engine is to back the machine on to a leg which supports the rear wheel from the ground, a starting handle is fixed to the back axle, and the engine can be rotated at a



Two views of an experimental three-wheeled passenger machine which is an evolution of the detachable rigid sidecar and motor bicycle. It is described in the accompanying article.

sidecar attachment, but the outside wheel is placed further forward than in the case of the sidecar, and the driver's and passenger's seats are combined. For steering, the front and side wheels are coupled together similar to a car, and we are told the handling is very similar. If the steering wheel is released, the machine will run on in a direct line.

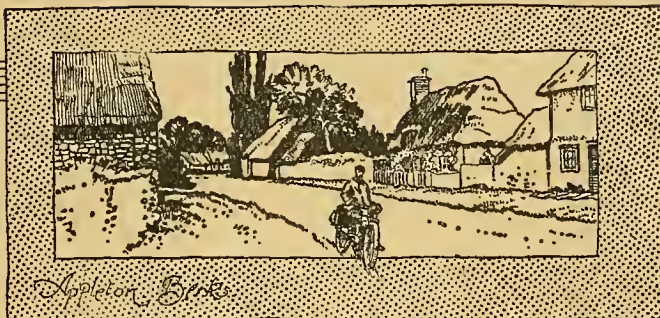
The runabout shown is driven by a 6 h.p. twin-cylinder air-cooled engine fitted with magneto ignition, and we are assured that no overheating has been experienced, no doubt owing to the exposed position of the engine. The drive is similar to a motor bicycle, by Whittle rim belt, and an expanding pulley is

good speed when the valve-lifter is raised. After the engine is started, the pulley is made free, the machine pushed off the leg, and the pulley flanges contracted by means of a pedal, so picking up the drive. The control levers are on the steering wheel. The back tyre is a 3 in. light car tyre, the other two 2 in. motor cycle tyres.

We understand that the "rotary" illustrated has been tested for about 5,000 miles, and the total cost of running has been less than $\frac{1}{2}$ d. a mile. The machine and pulley are protected and the design registered. The machine illustrated is the first one made, which accounts for its somewhat odd appearance.

CURRENT
CHAT

Sydney R. Jones



SPECIAL FEATURES

1909 Improvements (Illustrated).

The Olympia Motor Exhibition.

TIME TO LIGHT LAMPS.—Nov. 18th, 5.7 p.m.; Nov. 21st, 5.3 p.m.; Nov. 25th, 4.59 p.m.

Next Week's Issue.

Next week's issue will contain a fully illustrated description of the motor cycles and accessories exhibited at the Stanley Show.

The Next Paper before the A.C.U.

It has been suggested that a paper should be read before the A.C.U. members next month on "Some Lessons of the Motor Cycle Tourist Trophy Race."

Children and the Rules of the Road.

Steps are being taken by the Motor Union to induce education authorities to give children some instruction in the rules and courtesies of the road.

Clubs Associated with the R.A.C.

The number of car clubs directly associated with the Royal Automobile Club is 21, and the number of motor cycle clubs associated through the Auto Cycle Union 36.

Growth of the M.U.

On October 31st the total number of individual members of the Motor Union stood at 6,075, as against 4,568 on the same date last year, an increase of 1,507. Including the affiliated clubs, the Union has a total membership of over 15,000.

Martin's Mile Record.

It has been pointed out to us that Harry Martin did not accomplish a mile a minute speed at the speed trials in Phoenix Park, Dublin, in 1903, as stated a fortnight ago, but Martin says that he did so at Castlewella in the Gordon-Bennett speed trials of the same year. His time for a mile with flying start was 59 $\frac{3}{4}$ s.

German Volunteer Motor Cyclists.

As the outcome of negotiations between the German War Office and the German Motor Cyclists' Association the latter has expressed its willingness to form a volunteer motor cycling corps. In connection with this corps the Association will organise a number of courier runs for training purposes, to be held under the supervision and with the co-operation of the military authorities.

Motor Cycles Badly Wanted.

Here are a few of the articles offered by various advertisers in *The Motor Cycle* last week in exchange for motor cycles: A talking cockatoo, gun, gold watch, diamond ring, drawing and bedroom suite, piano, furniture, lathe, gramophone, dynamo, musical box, violin, lantern, brazing forge, fretwork machine, pedal bicycles, a tandem, and a motor car. An idea of the esteem in which a motor cycle is held can be gathered from the above exchange offers.

New Tyres at the Stanley.

A number of new tyres will make their first appearance at the Stanley Show, in most cases the designers being experienced motor cyclists.

The Stanley Show.

Sir Albert K. Rollit will open the thirty-second annual Stanley Show at the Agricultural Hall, Islington, N., on Friday, the 20th inst. The exhibition is open daily from 11 a.m. to 10 p.m., and finally closes on Saturday, the 28th inst. Admission 1s.

New Model Motor Cycles.

A number of entirely new models are to make their *début* at the exhibition, including—

Humber two-speed and single geared machines.

Premier 3 $\frac{1}{2}$ h.p. single-cylinder machine.

James machine with detachable wheels.

L.M.C. lightweight with two-stroke twin-cylinder engine.

F.N. two-speed shaft-driven lightweight.

Victoria Trading Co.'s two-stroke ladies' and gentlemen's machines.

Alldays new model motor cycle.

Corah new model motor cycles.

Chater-Lea two-speed chain-driven twin-cylinder machine.

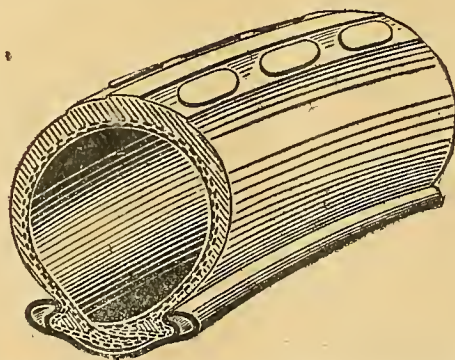
Bat combined motor bicycle and sidecar.

Vindec 7.9 h.p. twin-cylinder machine.

N.S.U. single-cylinder machine with change-speed gear in back hub, and a twin-cylinder lightweight with M.O.I.V. and geared down engine pulley.

Brooklands Meetings in 1909.

Though the full programme for next year's racing at Brooklands has not yet been settled, it has been decided to repeat the three popular two day meetings on the Easter, Whitsun, and August Bank Holidays, and the Saturdays which precede them.



A new pattern Dunlop non-skidding cover, which will be found fitted to several motor cycles at the Stanley Show. The Dunlop Tyre Co. (Ltd.) itself is not exhibiting at the Agricultural Hall.

Expenditure on Highways.

By the courtesy of the Roads Improvement Association, we are in a position to publish the following interesting figures relating to Expenditure on Highways in Great Britain and Ireland for the year 1905-6. Total mileage of roads 228,458, expenditure £18,464,379, number of highway authorities 2,491. The total mileage of roads does not include roads in Ireland, as there are no figures available as to length of roads maintained by county and urban districts.

A Well-merited Conviction.

For throwing a bottle full of beer at the occupants of a passing motor car, Richard Wake, a pensioner of Watersfield, has been sentenced at the Peterworth Police Court to six weeks' hard labour. The prosecution was undertaken at the instance of the Automobile Association.

"The Autocar" Lectures.

Only four lectures now remain to be given in each of the provincial centres viz., Birmingham, Leeds, Manchester and Newcastle-on-Tyne. Readers who desire to be acquainted with the mechanism of a car and its working should apply for a ticket (price 10s. 6d.) to the Lecture Secretary, 20, Tudor Street, E.C. The next lecture, the fifth of the series, will be on "Carburation, Cooling, and Lubrication."

New Motor Cycle Company.

Motor cyclists will be interested to know that in future the well-known Vindec motor cycles will be handled by a new company, the management of which will be in the capable hands of Mr. W. H. Wells. Mr. Wells has been manager of the motor cycle department of the South British Trading Co. for six years, and the demand for Vindec motor cycles having exceeded the supply, Mr. Wells has decided to found a company specially to look after the interests of Vindec Special machines.

The Roads Improvement Association.

The Roads Improvement Association, 1, Albemarle Street, Piccadilly, W., has received from the Royal Automobile Club a cheque for £75 as the Club's contribution to the funds of the Association for 1908. The thanks of the Association have been conveyed to the Club for its support. Membership of the Association is open to all persons or organisations interested in securing good roads. Individual subscription is 5s. per annum, or £1 ls. for five years. Provincial automobile clubs, the C.T.C. and N.C.U., are among the supporters of the Association.

The Olympia Motor Exhibition.

THOUGH essentially a show for those interested in the larger type of motor vehicles, no motor cyclist should fail to visit Olympia. Important firms, dealing in accessories and clothing, such as Gamage, Dunhill, Markt, U.M.I., the Bosch Magneto Co., Peto and Dufford, Simms Mfg. Co., etc., have stands here, on which many items may be seen which will appeal to our readers. While nearly all the firms just mentioned will not be represented at the coming Stanley Show. The latter must be regarded as an exhibition of complete motor bicycles, while the former one is especially important as regards accessories, clothing, electrical fittings, and tyres. The new motor cycle tyres shown by Kempshalls, the Sirdar Rubber Co., and the von Rubber Co. are well worthy of inspection.

ANGLO-AMERICAN OIL Co., LTD. (Stand 180).—The Anglo-American Oil Co. handle the almost universally used Pratt's motor spirit. The ordinary petrol is now known as Pratt's perfection spirit and the heavy type as Pratt's Taxibus spirit.

AUTOLOC SYNDICATE, LTD. (Stand 203).—It is interesting to note that the Aster Engineering Co., of Wembley, have taken over the business connected with the Autoloc Syndicate. Our readers will remember that Autoloc levers cannot have their position altered through vibration, although noatchet is provided. An especially neat clip is to be seen on this stand, carrying two levers, presumably for the throttle and air control. This is known as the "double handle-bar control," and is a specially neat method.

THE AVON INDIARUBBER Co., LTD. (Stand 285).—This firm is showing ribbed motor cycle tyres. The ribs are of good depth, and should be of assistance against skidding. As regards quality, these tyres have a good reputation.

BENEFINK AND Co., LTD. (Stand 182).—A fuse for use with non-trembler coil, designed so that if the driver forgets to switch off, the fuse prevents damage to the accumulator. A spare length of wire is supplied, so that a new fuse wire can be inserted in a few seconds. The Bullard speedometer is also shown.

THE BOSCH MAGNETO Co., LTD. (Stand 300).—A most interesting display of Bosch magnetos is to be found on this stand. No less than six different types are shown. The working of the magneto is so well known that we need not go into it in detail, but it is interesting to note that all models are now fitted with the new contact-breaker, using steel cams for breaking the circuit, instead of the fibre ring. A new model shown on this stand is a magneto for cylinders of 90°, which, however, is more suitable for engines of large horse-power. Two large photographs to be seen on the stand show the enterprise of the Bosch Co. in fitting up machines not specially designed for magneto ignition. These two photographs represent Minerva motor bicycles of 4 h.p., on the engines of which Bosch magnetos have been neatly and effectively fitted. Other points of interest which probably many of our readers have not seen previously are boxes containing spare parts for all motor cycle devices, containing spare contact-breaker, insulator ring, brush, etc.

BRANSOM, KENT, AND Co., LTD. (Stand 202).—Some interesting motor cycle lamps. A new pattern, oval in shape, and with a hood projecting vertically over the front, is worthy of attention. The hood referred to projects the light on to the number plate. A lens mirror lamp, and one self-contained, which should be highly suitable for light motor cycles.

BRITISH PETROLEUM Co. (Stand 232).—The well-known vendors of Shell motor spirit are showing all types of motor spirit. They exhibit as well samples of lubricants.

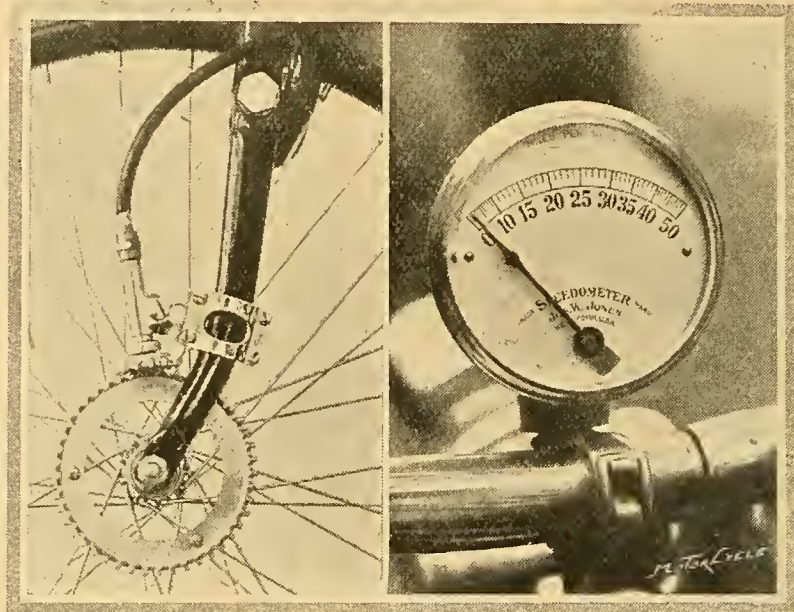
BROWN AND BARLOW (Stand 218).—The latest form of handle-bar controlled carburetter for motor cycles, a good example of which is shown in section, thus clearly demonstrating how it works. This carburetter has been recently described in our pages.

THE COWEY ENGINEERING Co. (Stand 188).—The Cowey speedometer is shown fitted to a motor bicycle wheel. By turning this wheel the behaviour of the device may be seen under working conditions. We understand that this instrument has met with great favour during the year. It is gear-driven through a flexible shaft, and the dial is carried on the handle-bar.

ALFRED DUNHILL, LTD. (Stand 197).—Motor cycle clothing and waterproof overalls; a good lens mirror headlight, a motor cycle oil lamp, and an acetylene lamp with a separate generator.

HARVEY FROST AND Co. (Stand 209).—The chief item of interest on this stand which will appeal to motor cyclists is the Baby vulcaniser, an exceedingly handy little device for doing all kinds of repairs to motor cycle tyres.

FULLER AND SON (Stand 289).—A new trembler coil made in the well-known Midget size, which takes up a very small amount of room in the tank. The trembler is arranged on different lines, and an extra screw is provided for altering the tension of the blade, by means of which a certain amount of economy is effected. Messrs. Fuller and Son also make a motor cycle magneto, but it is not shown. Fuller's accumulators are also exhibited, while their charging batteries are useful to many who have not access to a charging plant. The Fuller electric headlight is very small, but as it contains an Osram bulb it gives a good light. It is provided with a condenser lens.



The Jones handle-bar speedometer shown at Olympia by Markt & Co. The gear drive from the front wheel is shown in the left-hand illustration.

A. W. GAMAGE, LTD. (Stand 199).—No stand at Olympia will offer greater attractions to motor cyclists than that of A. W. Gamage, whose range of motor accessories is extremely extensive. Almost every type of motor tool is well displayed, but among those we were shown was a small hammer, the head of which consists of copper tube filled with lead, which is, of course, meant to hit articles which would be damaged by an ordinary steel hammer. The minute Osmond wrench is shown enclosed in a Russia leather case, so that it can be carried in the pocket without damaging the former. A useful tool to be seen on this stand is a pair of combination pliers, provided with specially hardened steel cutters. These blades, when blunt or worn, can be easily replaced, as they are carried in grooves. Another item of great interest to motor cyclists is the Bullard speedometer, a well-made speed indicating instrument which registers up to fifty miles an hour. As regards clothing, Messrs. A. W. Gamage have taken great pains to cater for motor cyclists. Waterproof suits are supplied—with trousers—which amply protect the body and legs. Another suit has the leg coverings separate, and the waterproof material wraps completely round the calves and is then fastened with a strap.

GROSE, LTD. (Stand 265).—One of the first steel-studded non-skids to be commercially successful was the Grose. In actual practice we have found these bands to be most satisfactory, both as regards wearing qualities and as non-skids. A new model for this year is a band provided with a cushion between that portion to which the studs are attached and the tyre itself, so that no unfair strain is put upon the latter.

E. J. HARDY (Stand 243).—The Instanta belt fastener, for use with adjustable pulleys, consists of two portions attached

The Olympia Motor Exhibition.—

to the belt, each provided with a socket for a steel coupling with balls at either end like a dumb-bell. On the latest pattern Longuemare carburetter the air inlet, instead of working horizontally, now works vertically.

HEDLEY, HUNT, AND Co., LTD. (Stand 193).—The Rat ratchet spanner, a useful tool with ratchet attachment to fit two sizes of nuts; Beltine, a dressing for leather belts; and sundry tools.

THE KEMPSTALL TYRE Co. (EUROPE), LTD. (Stand 272).—A new 26in. by 2½in. motor cycle cover is shown here for the first time. The Kempshall tyre has a square tread with circular indentations, containing large round rubber studs, placed at intervals, while ribs run vertically towards the rim, also at equal intervals, which serve to strengthen the walls of the tyre. The covers contain a large amount of rubber, and on account of the studs possess valuable non-skidding qualities. The insulating qualities of the tyre should be excellent, as, owing to the strength of the walls, it need only be pumped up to a very low pressure.

LAKE AND ELLIOT (Stand 247).—Many useful motor cycle tools and accessories.

LAYSTALL MOTOR ENGINEERING Co., LTD. (Stand 171).—Some very interesting examples of this firm's excellent work are to be seen here. Motor cyclists who want repairs will do well to inspect this firm's exhibit. They also make a speciality of making nickel steel exhaust valves, pistons, and cutting gears.

MARKT AND Co. (Stand 211).—The new Jones speedometer for motor cycles (see previous page) registers from zero to fifty miles an hour, and is sold at a moderate figure. For a slightly extra fee, it can be supplied fitted with a mileage recorder. We were also shown a handsome four-twist horn, which gives a very deep and melodious note.

MOEBIUS AND SON (Stand 212) are showing samples of their well known oils and greases. The same firm also make a point of selling calcium carbide.

PEARSON'S (Stand 210).—This firm is showing motor cycle accumulators and coils, and also a new form of magneto, which has not yet come before the motor cycling public. This is the Hirst. It is small in size, neatly constructed, and gives an excellent spark at slow speeds.

PETO AND RADFORD, LTD. (Stand 234).—One of the chief novelties on this stand is a new plug which is very substantially constructed. The central core consists of nickel steel, and is of ample dimensions. The insulating portion is porcelain, and these plugs may be seen being assembled on the stand. A point is also made of a good non-trembler coil for motor bicycles provided with an ample condenser, so that the platinum points are not quickly burned.

PRESTED MINERS' GAS INDICATING ELECTRIC LAMP Co. (Stand 167).—Messrs. Prested's well-known coils and accumulators are to be seen on this stand.

PRICE'S PATENT CANDLE Co. (Stand 237).—On this stand are to be seen samples of this company's well known lubricants. It will be remembered that Price's oil was used with great success in nearly all the important motor cycle competitions held last year, and was used by the winner in the Tourist Trophy. The judges' report of the End-to-end Trial may be had on application to the company.

R. AND J. PULLMAN (Stand 252).—Leather steel-studded non-skid bands, which have recently found great favour with users of motor bicycles.

G. T. RICHES AND Co. (Stand 238).—Here is to be seen the latest pattern Clair silencer for motor cycles, which consists of a series of perforated cups fitting one inside the other. It effectively silences the most noisy machine. Another interesting little accessory is the Maxfield snap terminal. By means of a spring it is quickly attached to the plug, while it also comprises a shorting device, so that either of the two cylinders of a twin can be cut out so that the other may be tested. Another neat accessory is the Orne handy blow lamp, most suitable for doing small repairs on the road, and is sold at a very moderate figure. A speciality is also made, as most of our readers are aware, of the Rich detachable air tube.

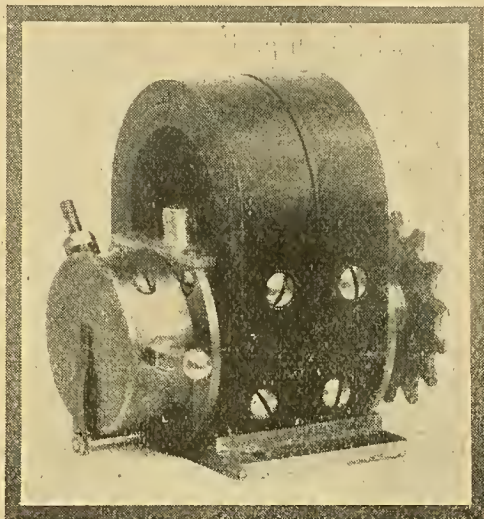
ROSS, COURTNEY, AND Co., LTD. (Stand 192).—Motor cycle oil pumps, the well-known Ross and Courtney electrical

terminals, and various examples of small brass work, such as compression taps, accumulators, screw terminals, etc.

SIEMENS BROS. AND Co., LTD. (Stand 174).—The Obach dry cell, which we understand is giving great satisfaction at the present time. Two batteries are recommended to be carried, so that one can switch over from one to the other occasionally, so giving the one that has been working a rest. With dry batteries Messrs. Siemens recommend a special economical coil suitable for this purpose which they exhibit. Other specialities are high and low tension cables, which are very strongly constructed.

THE SIMMS MANUFACTURING Co., LTD. (Stand 294).—A new British-made motor cycle magneto is shown on this stand.

One of the chief points about it is its extreme lightness, weighing, as it does, only 5½ lbs., yet it gives a very hot spark, and is capable of firing machines up to 4 h.p. A magneto of the same size can also be purchased for V twin - cylinder machines. This magneto is beautifully made, and exceedingly well finished, and is the only magneto of its size provided with ball bearings. The contact breaker has been made slightly different in detail from previous models, and the condenser is carried



The new pattern Simms British-made magneto for motor cycles.

at the end of the armature. The Simms Mfg. Co. have also introduced a new motor cycle plug, specially designed, of course, for magneto work. The insulation is Steatite, and the plug is substantially made throughout. It is made as short as possible so as to give ample clearance in the case of the tank coming low down.

THE SIRDAR RUBBER Co. (Stand 254).—This company are making a speciality of motor cycle covers. Samples which were shown to us at Olympia created a most favourable impression. Provided with an ample tread and strong walls, they appeared to be really suitable for hard work. Three types are made—those with ribbed treads, a heavier type with transverse grooves, and a steel-studded cover. Of the latter two tyres are shown which have covered 2,000 miles, and have been returned for retreading; their condition is excellent, and not a stud is missing.

THE UNITED MOTOR INDUSTRIES (Stand 196) is always one which is well worthy of a visit. One of the items which is especially of interest to our readers is the "Three Spires" tyre, which has been lately described in our pages. It is a Coventry production, and Mr. G. E. Roberts, the Midland representative of the U.M.I., speaks well of its behaviour after having put it to very severe tests. Other items of interest are the Bousfield silencer and the Frank lamp and generator, the Leicester switch, and a mirror. The L.M. plug has now been re-designed. It is strongly constructed and non-sooting, and is specially adapted for use with a magneto.

C. A. VANDERVELL AND Co. (Stand 250).—For the first time Ruthardt motor cycle magnetos are shown to the public. These models are chiefly famous for their light weight. Messrs. Vandervell and Co. have always been famous for their coils, and it is interesting to remind our readers that C. R. Collier's record was accomplished on a machine fitted with these accessories. The non-trembler coil is one which is guaranteed to 1,000 miles without pitting of the platinum points. It is made in two shapes, square or round. The new C.A.V. plug is guaranteed for two years. The insulation consists of treble baked porcelain, dark blue in colour. The electrodes are substantially made of nickel.

Phoenix Motors, Ltd., Blundell Street, Caledonian Road, King's Cross N., are not exhibiting at the Stanley Show, but will have models of their Trimco on exhibition in their showrooms at the above address, which is easily reached from the Agricultural Hall.



North Islington Conservative and Unionist M.C.

The result of the above named club's hill-climb at Red-bourn is as follows: 1, Mr. H. Compton, 6 h.p. Chater-Lea Carrette; 2, Mr. W. Price, 5 h.p. twin Peugeot; 3, Mr. T. Campbell, $3\frac{1}{2}$ h.p. 1908 Triumph.

Richmond and District M.C.C.

Members are reminded that the annual dinner of the above club will be held at the Trocadero Restaurant at 7.30 p.m. on November 20th. Dr. W. M. Paul, vice-president, has kindly consented to take the chair on this occasion. Members will meet at the Motor Show at Olympia at 4 o'clock, when a visit of inspection will be made of the exhibits.

Motor Cycling Club.

The annual show run of the M.C.C. on the 22nd inst. is to Abercorn Arms, Stanmore. This place can be reached if the weather and roads are unfit for riding either by train from Euston, Willesden Green, Cricklewood, etc., to Edgware, whence it is a pleasant walk to Stanmore. Lunch is at 1.30. All motor cyclists visiting London for the show are cordially invited to join the M.C.C. in the run.

North-west London M.C.C.

The committee has arranged the winter programme as follows: 5th December, annual dinner; 2nd January, whist drive; 6th February, smoking concert; 27th February, whist drive (probable). It is also proposed to hold a dance in March. A billiard handicap has also been arranged. Will the members wishing to enter kindly send in their names at once to Mr. T. G. Blundell, jun., 30, Ferncroft Avenue, Hampstead? The closing run was held in conjunction with the Western District M.C. Although the roads were in a very bad state quite a large number of members sat down to dinner at the Bull, Gerrard's Cross.

Barnoldswick M.C.

The first annual dinner of the above club was held on Tuesday evening of last week, in the Seven Stars Hotel, the headquarters of the club. Mr. B. Holden presided. There were twenty-one members present. After dinner speeches were freely indulged in, and the following toasts were given: "The Barnoldswick Motor Club," "The King," "Army and Navy," "Officers of the Club," "The Host and Hostess." Subsequently the members adjourned to the concert room, where a capital programme was gone through. The report of the club was read and approved, and showed, after defraying expenses of the hill-climbs and trial, etc., during the year, there is a good surplus balance.

Cambridge University M.C.C.

In our report of the above club's private race meeting at Brooklands on the 11th inst., we gave the results of a scratch race for single-cylinder machines to decide a handicap. The handicap resulted as follows: 1st, H. Ashworth ($2\frac{3}{4}$ h.p. Minerva); 2nd, S. A. Yorke ($3\frac{1}{2}$ h.p. Bat); 3rd, N. H. Joy ($2\frac{3}{4}$ h.p. Minerva). Only half a machine's length separated the first and second riders.

In the handicap race for twin-cylinders not exceeding 76 mm. bore, R. O. Heyn (5 h.p. Rex) was the winner; G. Seth Smith (5 h.p. N.S.U.) 2nd; and F. A. Perkins ($3\frac{1}{2}$ h.p. Peugeot) 3rd.

The placing in the open race for twins not exceeding 76 mm. bore was: 1st, E. D. Dickson (5 h.p. Vindec); 2nd, E. H. Lees (5 h.p. King-Peugeot); 3rd, R. O. Heyn (5 h.p. Rex). Speed, $52\frac{1}{2}$ m.p.h.

In the open race for any motor cycle, E. H. Lees (5 h.p. King-Peugeot) was 1st, his speed equalling 52 m.p.h.; E. D. Dickson (5 h.p. Vindec) was 2nd; and W. B. R. Moorhouse (9 h.p. Jap) 3rd.

The race for twin-cylinder machines exceeding 76 mm. bore resulted as follows: 1st, B. Milburn (9 h.p. Bat); 2nd, W. B. R. Moorhouse (9 h.p. Jap); 3rd, F. M. F. Pilkington (7.9 h.p. Peugeot). The winner's speed was equal to $52\frac{1}{2}$ m.p.h.

Worcestershire M.C.C.

At a general meeting on the 14th inst. it was decided to arrange a winter programme on the following lines. Members to meet (weather permitting) at Bryants' Garage, Bromsgrove, on Saturday afternoons at three o'clock, Sunday mornings at eleven o'clock, and Sunday afternoons at three o'clock for short impromptu runs. It is hoped to be able to arrange a few interesting lectures later. Another important decision was to arrange a new class of membership at a 5s. subscription to admit associate members, and also motor cyclists who require the A.C.U. affiliation benefits, but do not desire to take part in the social events of the club. Further particulars of this scheme can be had on application to the secretary, H. C. Pickering, St. Brélade, Kings Norton.

Essex M.C.

The final of the inter-club contest with the West Essex Automobile Club has still to run, and it is suggested that this should take place on Sunday, the 29th inst. Further particulars will be announced.

The date of the annual dinner has been fixed for the 23rd January, to take place at the Great Eastern Hotel, Liverpool Street.

The following lectures have been arranged on the provisional dates stated, and members are asked to keep these evenings free: "Motor Cycles and Accessories," by Mr. H. G. Cove, on December 12th; "Magnetos," by Mr. H. M. Wyatt, on January 7th; "The Present Day Motor Cycle," by Mr. A. E. Lowe, on February 25th.

Birmingham M.C.C.

The Birmingham Motor Cycle Club commenced its annual autumn reliability trials on Saturday, the 7th inst. The following members entered the run: J. Troman ($3\frac{1}{2}$ h.p. Triumph), S. C. Perryman (5 h.p. Norton), J. L. Norton ($3\frac{1}{2}$ h.p. Norton), R. W. Duke ($3\frac{1}{2}$ h.p. Triumph), F. Brown ($3\frac{1}{2}$ h.p. Triumph), E. W. Winckle ($1\frac{1}{2}$ h.p. Clément), and E. C. F. Evans (5 h.p. Rex and sidecar). It will be remembered that the competition takes the form of a non-stop reliability run in conjunction with the usual Saturday afternoon runs, the last competitor to remain in to be the winner. The following competitors were run out on the first run: Evans, lamp trouble; Brown, filled lamp up at Stratford in contravention of the rules.

The second round of this club's reliability trials took place on Saturday last. Five members had qualified for this by making non-stop runs on the previous Saturday, but owing to the bad weather only four turned out—Messrs. Duke, Norton, Perryman, and Winckle. In spite of the condition of the roads, which were in places very bad, all made non-stop runs, and are therefore eligible for the next round, which will be on the 28th inst.

FUTURE EVENTS.

- Nov. 13-21—OLYMPIA AUTOMOBILE EXHIBITION.
 „ 18—Motor Union Annual Dinner at the Hotel Great Central, London.
 „ 20-28—THIRTY-SECOND ANNUAL STANLEY SHOW, at the Agricultural Hall, Islington.
 „ 22—Motor Cycling Club Annual Show Run.
 „ 23—General Committee Meeting of the A.C.U.
 „ 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.
 Dec. 12—Motor Cycling Club Annual Dinner.
 „ 16—Motor Union General Committee Meeting.
 Jan. 16-23—Motor Cycle Show at Madison Square Garden, New York.



Sidecar Attachments.

One or two correspondents inform me there is a type of rigid sidecar on the market fitted with special clips which enable the sidecar to be attached or detached in a couple of minutes. The main clips are designed to be permanent fixtures on the cycle frame after the right position has been discovered, but a set of subsidiary clips are included in the design which enable the sidecar to be taken off and replaced by removing three bolts.

Keep the Belt Clean.

Now that the bulk of our riding has to be done over muddy roads, it becomes of the first importance to attend to leather belts after every run, otherwise the pulley will soon be so badly worn as to set up chronic belt slip, and this is especially true of lightweights with small engine pulleys. Needless to say, it is neither leather nor rubber that wears the pulley groove from a straight-sided 28° to a round shouldered 60° or so. It is the grinding action of minute fragments of flint and grit flung on to the belt from the road and whirled round the pulleys at high speeds. The patent belt-cleaning shoe recently reviewed is a smart notion for the purpose, but, in any case, the belt must be regularly cleansed.

Electrical Condensers.

Will someone inform me why some makers of induction coils and magnetos are so careless about the efficiency of their condensers? For instance, in 1905 I owned a magneto on which the platina lasted upwards of 8,000 miles without pitting; in 1906 I bought a magneto of the same make, which devoured a pair of platina every 500 miles. The ordinary coil pits its platina badly within 1,000 miles; but once I made friends with a coil maker, and as a special favour he made me a coil (one of my dearest treasures to-day) which will not pit platina in 5,000 miles. Again I see that C. R. Collier in his recent hour record used a special coil, possessing a highly efficient condenser, and as a result, although his engine made upwards of 150,000 revolutions in that crowded hour, it evidently scarcely marked its platinum points at all, for it only slowed to a degree of about six per cent. It is therefore clearly possible to manufacture absolutely efficient condensers. If there are practical difficulties in the way of turning out every coil and every magneto with a perfect condenser, will some manufacturer kindly market a special guaranteed coil at a special price? At present the situation is that many condensers are thoroughly inefficient, and more than one ingenious firm has actually begun to market a separate condenser designed to correct the vagaries of existing coils.

Extra Light $3\frac{1}{2}$ h.p. Machines.

A correspondent writes asking advice about the best $3\frac{1}{2}$ h.p. single-cylinder engine for fitting to an extra light frame and wheels, a specification which he has

Occasional Comments

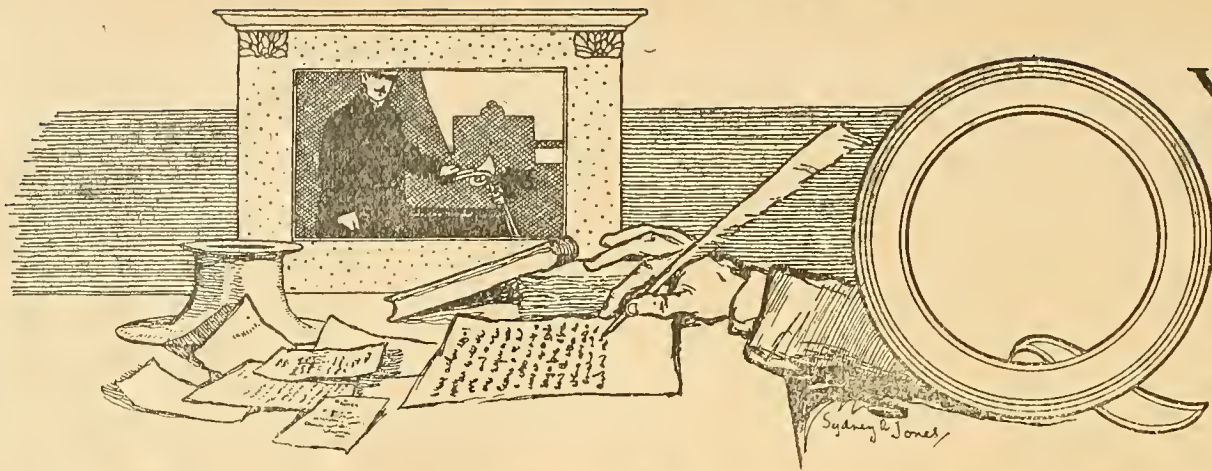
By Ixion

worked out himself, with the notion that the standard $3\frac{1}{2}$ h.p. machines are considerably heavier than they need be. I am willing to bet my correspondent a pair of tyres that his completed machine comes out heavier than a standard $3\frac{1}{2}$ h.p. motor cycle of well-known make. Some of our readers apparently fail to understand the immense forethought and ingenuity which the industry has lavished on the production of efficient light touring roadsters; quite as much trouble has been expended upon them as upon the famous makes of featherweight push bicycle. Weight has been pared off with rigid accuracy wherever an ounce could be saved without



E. H. Lees (5 h.p. Peugeot), winner of three lap scratch race at the Cambridge University M.C.C., Brooklands meeting.

sacrifice of roadworthiness. I question whether it is possible to compose out of any assemblage of parts and fittings a $3\frac{1}{2}$ h.p. roadster lighter than some of the standard makes. If any assembler professes to attain this object he can only do it by dispensing with fittings essential to an efficient roadster or by going short of the safety margin in point of strength. In addition, I must remind my correspondent that if he can by hook or crook evolve a lighter roadster with an engine of equal dimensions and flexibility than he could purchase from a well-known maker's stock, the machine would fetch less in proportion to a first-grade standard make when he wants to sell it. Of course, the great advantage of assembling a motor cycle from parts is that individual requirements can be more carefully followed.



QUESTIONS & REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E. C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

Fitting a Non-skid Cover.

Q.

I have a $3\frac{1}{2}$ h.p. Raleighette tricar, weight $2\frac{1}{2}$ cwt., and can climb almost anything. The back tyre is 28 by 2, and I am changing it for a 28 by $2\frac{1}{2}$.

Which tyre would you recommend, a rubber-studded or steel-studded one, and would either slow car much?—G.W.H.

All things considered, a 28 by $2\frac{1}{2}$ in. rubber-studded cover will suit you better than a steel-studded one, as it will slow the machine less and will not slip on granite setts or grease. A steel-studded cover, while perfectly satisfactory on greasy roads, has a tendency to slip on dry stone setts.

Respecting a Light Forecar.

Q.

(1.) What would be the best horse-power for forecar work? (2.) Would a $3\frac{1}{2}$ h.p. Brown (new) overheat with forecar? (3.) Which ignition would be

the better for forecar work, magneto or accumulator?—F.E.

(1.) It all depends upon the combined weight of the passengers and the district in which the machine is to be used. (2.) If the hills are not steep, and the high gear is fairly low, say $5\frac{1}{4}$ to 1, it is possible to manage all right with a single-cylinder $3\frac{1}{2}$ h.p. engine and two-speed gear. If the hills are steep, and it is your intention to use the machine during the winter months on heavy roads and against headwinds, we should recommend a twin-cylinder engine of about 5 h.p. If the engine is in perfect order and well lubricated there is no reason whatever why it should overheat. (3.) Magneto ignition if price is not a consideration.

Unequal Firing in Two Cylinders.

Q.

I have a Rex twin-cylinder motor cycle and cannot get it to fire evenly, the front cylinder always firing the fastest.

I put the advance lever two-thirds on, and it makes the front cylinder fire at the top of stroke and the back half-way down. I have worked the contact points all ways and altered other things.—S.S.

Is your machine fitted with magneto ignition or battery and coil? If the former you have perhaps got one of the old pattern Bosch magnetos. The latest pattern has the terminals one on each

side of the end plate on the driving side at equal distances. That is to say, on your machine one contact would point forward towards the front mudguard and one contact backward towards the back mudguard in an exactly horizontal position. Apart from the timing of the spark, remember that to get even running in both cylinders the compression must be equal, inlet and exhaust valve springs same tension, and valves the same opening in each cylinder.

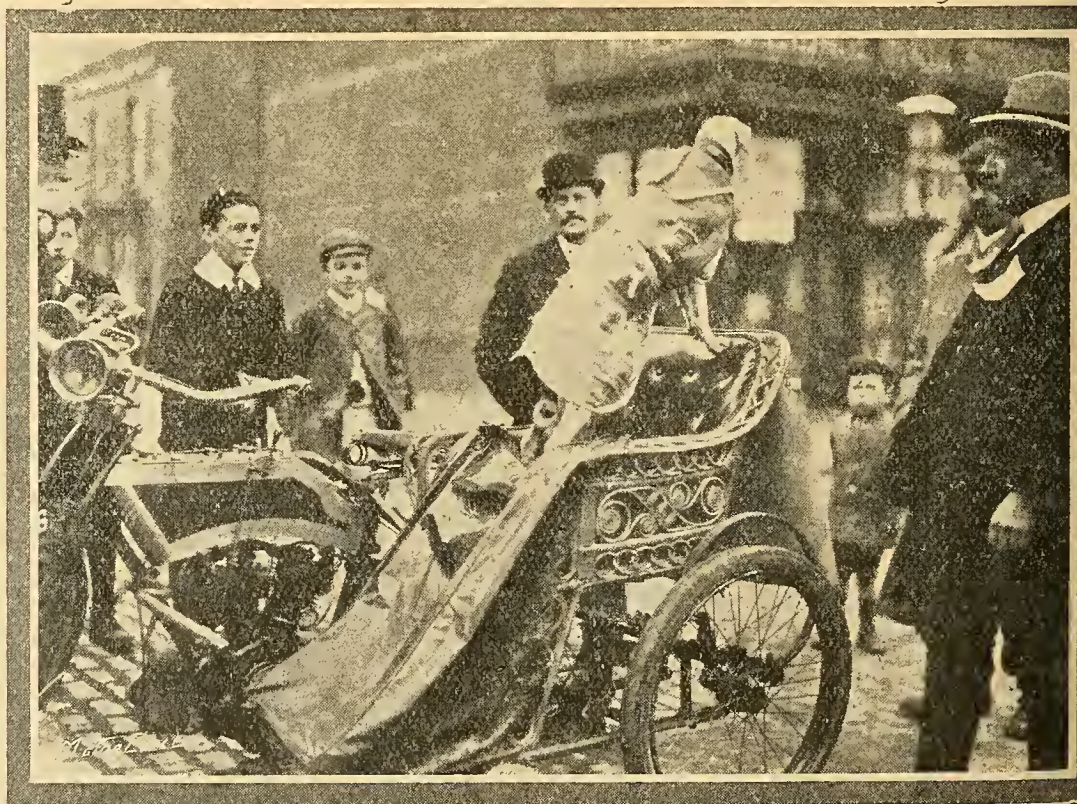
The Weight and Size of Flywheels.

Q.

(1.) Does a motor cycle with a given size single cylinder engine take a hill with a given gradient better if built with large flywheels than the same given engine built with small flywheels, both geared for reasonable touring work? (2.) I note on most racing motor cycles that weight is reduced wherever possible, but seldom do we see the heavy flywheels reduced in weight, or is it that they are drilled? (3.) Would it be correct to think an engine fitted with heavy

flywheels would produce more power than one with small ones?—W.F.W.

(1.) The question of the size and weight of flywheels is a matter dependent upon the ratio of compression and other points in the design of the engine. Speaking broadly, large flywheels assist in hill-climbing, provided they are not so large and heavy that the weight to be carried is in excess of the benefit derived from the momentum gained from the flywheels. Other things being equal, a low-geared machine with high speed engine does not require such large flywheels as one geared higher and fitted with a slower running engine. (2.) Weight cannot be removed from the flywheels in a racing machine without reducing the efficiency of the engine provided the flywheels are first of all designed of a suitable weight and size for that engine. The flywheels are never drilled unless the moving part are not correctly balanced, then sometimes they are drilled to reduce the weight in one portion of the diameter. (3.) No, because the flywheels might be too heavy.



All classes of motors were engaged in connection with the election of city councillors at Liverpool. Assisting one candidate was a Rex motor bicycle and sidecar and a dog with "Vote for Jackson" on its coat.



LETTERS TO THE EDITOR



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Dome Top Pistons.

[3669.]—I read "Ixion's" very interesting comment on "Domed Pistons" in the issue of October 28th, but I fail to see how the domed piston can be called a new idea. Many years ago I bought an engine that was fitted with a domed piston. The makers were the Norfolk Engineering Company.

For the benefit of your readers I have made the experiment of trying a domed piston and a flat piston, and I can truly say that a domed piston is just as likely to collect deposits as a flat one. I found at the end of 1,000 miles equally as much carbon deposit on the domed piston as on the flat one. I rode the machine myself—in fact, it has never left my hands. I rode under similar circumstances and used the same brand of oil, viz., Price's; also same quantity per 1,000. My machine is a 1908 model, and a very good make. Whatever the chemical analysis of deposit may be, the cause of it adhering to the piston top is obviously oil.

A READER.

Are You in the Trade?

[3670.]—Now that the Stanley Show is near at hand, it would doubtless be most satisfactory for every motor cyclist to receive a courteous and explanatory reply to any questions he may ask of representatives of exhibitors, instead of, as in most cases, being met with that familiar phrase, "Are you in the trade?"

Motor cyclists in most cases, I believe, attend the show to select the best in their opinion (as far as means will allow) for future requirements, and gather what information they can regarding the general mechanism, which not only helps them to arrive at a decision, but keeps them enthusiastic.

I have found our foreign competitors obliging in every way, and any suggestion is not only appreciated, but looked for. They evidently adopt this policy to improve their position in the English market with success, while many of our own manufacturers scorn the very idea.

Let our exhibitors place competent representatives in charge of their productions, with instructions not only to reply to trade enquiries, but cater for the much belittled motor cyclist.

W.E.G.

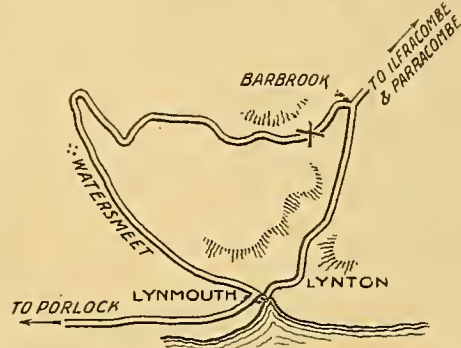
Hill-climbing.

[3671.]—In reply to Mr. Hart-Davies [letter No. 3637], I regret he should think I doubt his performance, as such is not the case. It is the hill I doubt. To clear up any misunderstanding I might state Beggar's Roost and Barbrook are two distinct hills at least a mile apart. Beggar's Roost is the first hill on the road from Watersmeet to Lynton by the road over the hills, and Barbrook is on a turning on the left of the Lynton to Parracombe Road, about a mile or so from Lynton. The gradient of Beggar's Roost is 1 in 5.3 at the steepest point, and Barbrook about 1 in 3.7, as near as I could measure it. I have found measuring gradients of less than 1 in 4 there is always risk of error, in consequence of roughness of surface. Even Mr. Lafone, who Mr. Hart-Davies gives as his authority, is not correct in that Beggar's Roost is at least a mile from the Barnstable to Lynton Road, and could not be included excepting by a detour of some miles. I sincerely hope Mr. Hart-Davies will not think I doubt his word, but my only desire is to correct such errors as must be obvious to anyone possessed of a good map of the district.

HAROLD KARSLAKE.

[With the object of clearing up this question, we forwarded a copy of Mr. Karslake's letter to Mr. Hart-Davies, whose reply with a sketch map we are publishing simultaneously in the next column.—Ed.]

[3672.]—It is quite possible that Mr. Karslake and I are confounding two hills. The one which I have referred to as Beggar's Roost is situated a mile out from Lynmouth, on the left of the road to Ilfracombe. This is the hill which Mr. Karslake refers to as Barbrook Mill Hill. I understood from the local people that this hill was called Beggar's Roost, but I am quite willing to be guided by Mr. Karslake's knowledge in the matter. The schoolmaster at Barbrook assured us that the hill was called Beggar's Roost, and sometimes Riddaway Hill or Barbrook Mill Hill. Mr. Karslake's letter in this issue describes the hill and its situation very clearly, and I need only add that the hill I climbed was the one with the steepest gradient.



X marks the hill climbed by Mr. Hart-Davies.

IVAN B. HART-DAVIES.

[We have examined a contour of the hill which Mr. Hart-Davies climbed, prepared by a surveyor, and find the steepest gradient is 1 in 3.6.—Ed.]

Tandem Motor Bicycles.

[3673.]—I am glad to see that a correspondent has been giving his very favourable experiences with a tandem motor bicycle, and having solely used this type of machine for six years, over a distance of 16,000 miles, thoroughly agree with him, but should like to point out that, although the tandem is much less liable to side-slip than a single, I think most motor cyclists will agree that no single track machine can be absolutely proof against it.

The remedy is, avoid towns; and used as a country machine the tandem is a combination difficult to beat, either for comfort, speed, hill-climbing, or economy. For a specification, personally, I am tired of lugging a heavy machine about, although my machine is considerably lighter than some of the 250 lbs. bicycles. I suggest a light twin, about $3\frac{1}{2}$ h.p. (one that will run smoothly at high speed), either geared low, or, if you can get such a thing, a really light two-speed gear, modern type, very low frame, spring forks (these are an improvement, but even without them a tandem will beat a single hollow for easy running). Pedals are a great convenience, but if used much on a long ride one is apt to get saddle sore. Above all, aim at making a light machine. Two inch tyres will be quite sufficient.

J. L. PITCHER.

A Problem to be Solved.

[3674.]—In answer to letter No. 3648. I do not agree with Mr. Ovington in regard to his solution of the problem of the abnormal condition of F.N.

He seems to think that it is caused by the speed of the engine reaching the point when there is no leakage of gases past the piston or valves, so that the engine gets every benefit of explosion, and that this causes abnormal speed. This does not coincide with other letters in other issues of your valued paper *re* greater speed on slightly lifting the exhaust valve, and my theory is quite different from the above solution.

Now when the engine is running at a moderately high speed, the inlet valves are sucked open with a bang, and recoil on to their seatings at the end of the suction stroke

with several bounces or vibrations, sometimes called chattering. If this is bad it causes blowing back into the carburetter, which is detrimental to fast running. The chattering can be distinctly heard in some engines when going at a fast speed, but in the abnormal condition one cannot hear it, nor does it occur, as the engine has picked up enough speed for the engine revolutions to synchronise with the vibrations of the inlets, which all work together as if they were mechanically operated. This, I think, is the reason of the abnormal results.

Now the question of slightly lifting the exhaust valve lifter to give greater speed when running fast is a well-known fact, and the reason for same is that it stops the chattering of the valve on its seat. If chattering occurs, it allows the piston to suck some exhaust gases back at the same time that it sucks gas through the inlet valve. Slight raising of the lifter stops this, and the engine runs faster in consequence.

RYDER.

Improving the Twin Engine.

[3675].—"M.O.I.V.'s" remarks on "Twin Engine Improvements" are very true, and it was on the question of bearings and their size that some of us advocated forged crankshafts and outside flywheels, so that a really long adjustable big-end bearing could be used. I think a better plan of arranging these on one shaft in a twin engine is to have the plain connecting rod taking a bearing on the outside of the bush of the forked rod, and this can be done by using a bronze bush on the latter and a case-hardened steel one on the former. This obviates having to use two separate bushes in the forked rod. I would also suggest half compression on all large twin engines, so that the engine will fire at a walking pace; not many engines will do this.

I think, like "M.O.I.V.," that mechanically-operated inlet valves on twin and four-cylinder engines are a *sine qua non*, but I do not share his opinion with regard to the use of automatic valves on single-cylinder engines. The J.A.P. people still use them, and get wonderful results with them, and as for cars, I see the 8 h.p. De Dion engine with automatic inlet valve is being retained for 1909. For single-cylinder, high-speed engines I believe the automatic valve the better, as it opens in response to the pressure existing in the cylinder, and not like the mechanical valve, at a moment when the pressure may be above atmospheric, thus causing a rush of exhaust gas into the carburetter, which has to be drawn back with the fresh charge; at high speeds this effect must be fairly considerable.

Naturally, at low engine speeds the mechanical valve has the pull, but motor cycle engines are not slow-running engines.

With reference to Mr. Earle Ovington's letter, it is, I believe, a fact that was discovered many years ago that a bad compression is more noticeable at low speeds than at high, and that an engine with good compression (not high compression) will plug away uphill better than one with bad. It stands to reason that this will be so. G. D. MONICE.

The Handicapping of Motor Cycle Races.

[3676].—It was not my intention to go further into the above subject, but I think the letter of "Five Horse-power" in last week's issue calls for answer, inasmuch as the statements therein are anything but facts. Who the gentleman is, I can only surmise, as I note he does not care about signing his name. In the first place, he states that "the 5 h.p. was not 5, but $3\frac{1}{2}$ h.p." It would be interesting to know why it was entered as 5 h.p., and why the makers call it a 5-6 h.p., if it is only $3\frac{1}{2}$ h.p. I presume that your correspondent takes into consideration, when working out the h.p. of four cylinders, the fact that there are four working strokes in the four cycles—a most important factor. He also states that "the 5 h.p. was double the weight of mine, and that the rider was three stones heavier than myself." If this is so, then he weighed thirteen stones, and his machine weighed 300 lbs.!

As regards my machine being a converted racer, I fail to see what this has to do with it, as long as it conforms with the rules and its weight is stated on the entry form. I consider 150 lbs. a very reasonable weight for a $2\frac{3}{4}$ h.p. machine—in fact, too heavy. As regards his remarks about my performances at Canning Town, I can only say I think they are bad taste, especially as he writes under a *nom de plume*, and I should like to point out that my letter was not in reference to my own personal ability, but upon the

present system of handicapping motor cycle races. If his statement "that my name very rarely appeared in the winning list" has any truth in it, one wonders all the more why I, riding a $2\frac{3}{4}$ h.p. machine, am put on level terms with a 5 h.p. at the Stadium, and when riding a $4\frac{1}{2}$ h.p. give the same machine nearly a mile start in five at Brooklands.

W. W. GENN.

Magneto Manufacture.

[3677].—We read with interest among your "Letters to the Editor" the one concerning magneto manufacture, and we think a little explanation is needed in this case.

Mr. Jackson is evidently not aware of the difficulties surrounding the manufacture of an all-British magneto, and while we will not go so far as to say that there is not such a thing, we do emphatically state that the difficulties in producing an all-British magneto are colossal.

1. First of all there is but a limited demand for magnetos.
2. The Bosch Magneto Co. is in a position to fill that demand.

3. The machines we produce are international, inasmuch as the best material in every detail is obtained from various parts of the world, but it is true the whole of the work and assembling is done at Mr. Bosch's works in Stuttgart.

4. The demand being supplied by such a reliable machine as that sold by us makes it unnecessary for motor cycle or motor car manufacturers to experiment with machines of unknown qualities, more especially with the trade in its present state, that is to say without a farthing to waste on unnecessary experiments.

5. Many attempts have been made to manufacture magnetos in England, but they have only been more or less successful on account of lack of enterprise.

It may further be interesting to your readers to know that if necessary we are in a position to supply magnetos of British manufacture; but as this company has insufficient facilities for manufacturing large quantities of machines in this country, they are at the present moment more expensive than the machines of German manufacture, and we would point out that though Englishmen in the main are extremely patriotic, they will not, as a rule, sacrifice money for the upkeep of sentiment.

With regard to the editorial paragraph at the bottom of Mr. Jackson's letter, the writer who has been for more than sixteen years connected with the largest electrical manufacturing concerns, is in a position to assert that the standard of work at present being carried out in our largest electrical works is far too inferior to meet the requirements of magneto manufacture for ignition purposes, and we would in conclusion point out that to produce the machines that are being at present sold by the Bosch Magneto Co. special machines and tools have had to be made, and as these have had to be built in the factory in which they are used they are not available for the use of competitive manufacturers.

For THE BOSCH MAGNETO CO., LTD.,

ARTHUR E. BENNETT.

SUMMARY OF CORRESPONDENCE.

W. Grant writes: "Replying to the letter [3626] of W. Raymond Crawshay, I believe the A.V. magneto plug, marketed by Searle and Co., 33, Glasshouse Street, London, W., would meet his requirements. It would be advisable in ordering to mention that his engine has a high compression."

EXPERIENCES WANTED

P. G. W. (Surrey) would like users' experiences with Elastes tyre filling.

G. Lacy Hillier's new address is 4, Queen Victoria Street, London, E.C.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

The "ROM" Combination Non-skid.

Registered Design.

"ROM"

Stand
27
Stanley
Show.

TYRES.

An All-British Tyre.

Will not slip on the worst grease.
Will not slip on stone setts, wet or dry.
Will not slip on any type of road, wet or dry.

"ROM"

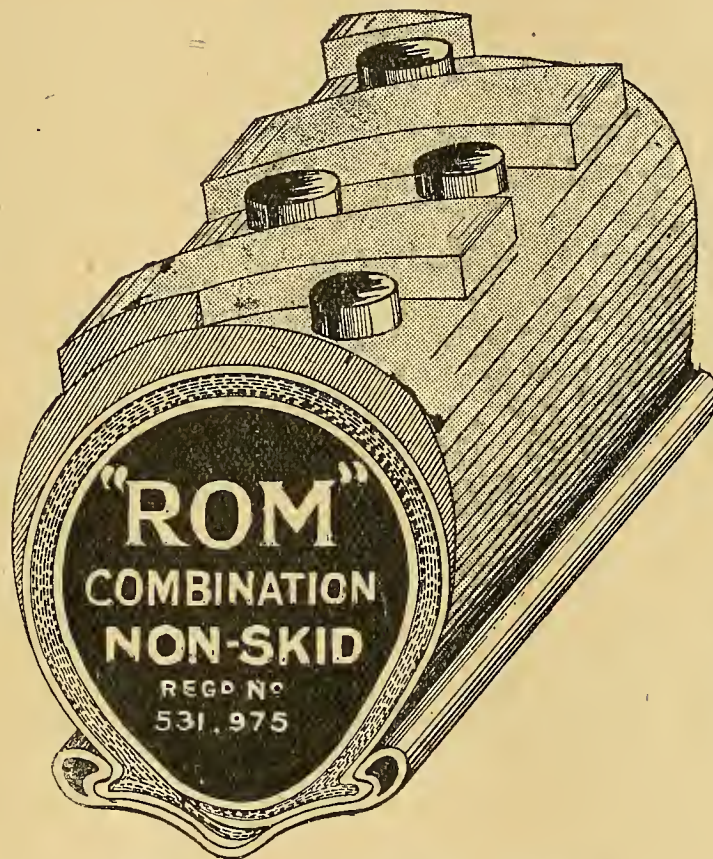
Stand
27
Stanley
Show.

TYRES.

Toughened

Compressed

Tread.



Puncture

Proof.

Long Life.

Steel Studs. Rubber Bars.

The tyre of the future for motor cyclists, as by the combination of steel and rubber a perfect non-skid is obtained on any type of road whether wet or dry. Extreme thickness of tread without excessive weight and without loss of resiliency. The highly compressed tread renders the "R.O.M." tyre absolutely puncture proof and prolongs the life. Note the angle of the Rubber bars. These in themselves form a perfect all-rubber non-skid, apart from the additional anti-skidding properties of the steel studs.

This tyre will be shown for the first time at our

Stand No. 27, Stanley Show,

together with the following motor cycle tyres and tubes—

"ROM" all-rubber **Bar** non-skid.
"ROM" do. **Stud** do.

"ROM" **steel studded** non-skid.
"ROM" corrugated covers, tubes, etc.

Lists sent free on application or can be obtained at our Stand.

CONTINENTAL MOTOR CO., 32, Rosebery Avenue, London, E.C.

Telegrams—"Bromitch, London."

Telephone—1513 Holborn.

In answering this advertisement it is desirable that you mention "The Motor Cycle."

The 1909 P. & M.

The new models of the machines which for four years in succession have been awarded Gold Medals in the 1,000 miles Trials, will be on view on Stand 116 at the Stanley Show, bristling with improvements. Examine them carefully—they are **THE** machines.

Sole London and District Agents,
The Service Co., Ltd.,
292, High Holborn, W.C.

PHELON & MOORE LTD.,
CLECKHEATON, YORKS.

THE Fairy Mark III MODEL

WE MAINTAIN OUR

STAND

“NOT AT THE STANLEY”

BUT

AHEAD OF ALL COMPETITORS.

WRITE FOR PARTICULARS OF
THIS NEW MAGNETO MODEL,
YOU WILL BE INTERESTED.

The Fairy Motor Co.,
Fairy Works,
Westcombe Hill, S.E.

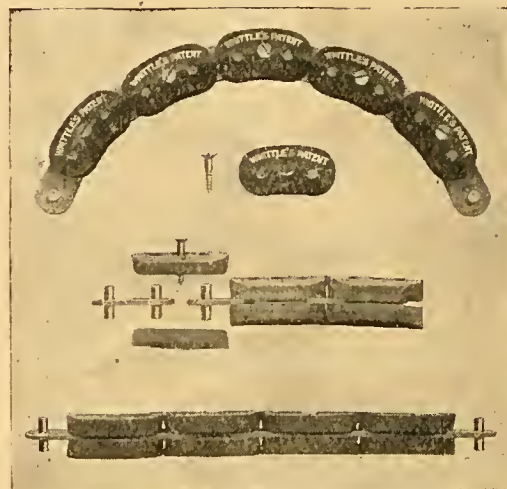
Telephone—
1021 Deptford.

In answering any of these advertisements it is desirable that you mention “The Motor Cycle.”

WHITTLES' (PATENT) LINK-GRIP

Non-slip Endless Leather Belts for
MOTOR CYCLES, FANS, Etc.

No
fastening
link
required.
Shorten-
ing
simple
and easy.
Great
strength.



Less
power
required
Not
affected
by wet.
Will
drive
when
slack.

Trebles the life of the Pulleys.

WHAT MANY OF OUR CUSTOMERS SAY:

“Have had belt in use for over three years.”

“Done upwards of 20,000 miles.”

“The only belt for heavy passenger work.”

“Five times cheaper than any other.”

“The poor man's belt.”

“No sign of slip.”

“The ‘no trouble’ belt.”

“Have not taken belt off pulleys for two years.”

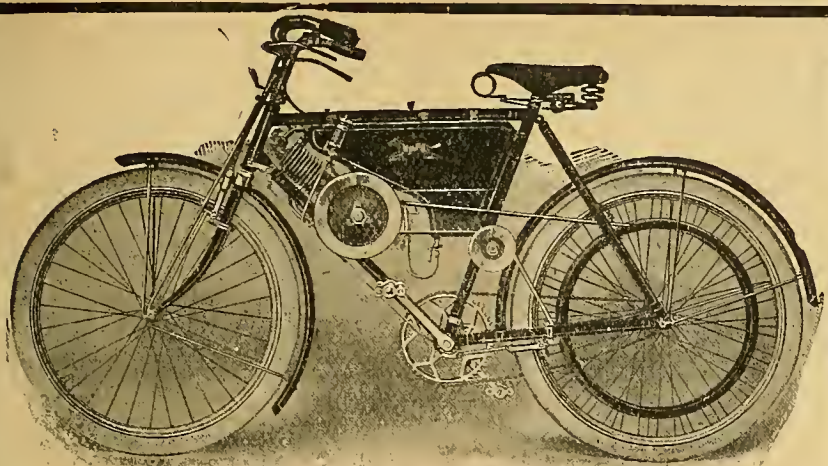
“The best belt on the market.”

Send for new Booklet with full directions and copies of recent testimonials.

Thos. Whittle & Sons, Ltd.,
Rose and Crown St., WARRINGTON.

Telephone 365Y

Telegrams—“Belt” Warrington.



YOU
CAN BE
A MOTOR CYCLIST.

**STAND 58,
STANLEY SHOW,**
FULLY REPRESENTS
THIS MACHINE
AND ITS MANY
VIRTUES.

“Yes, but the price,” you say, with visions of £50 or more to be expended. No, this is just the idea we are anxious to dispel. We have definitely proved that it is possible to build a really efficient motor cycle, capable of high speed and hill climbing, at less than one-third of this price. The “WOLF,” which, although weighing only 60 lbs., is as perfect in every respect as a higher priced machine, and costs what is practically the cost of a high-grade cycle—

THIS
CAPABLE,
CHEAP, AND
COMPACT LITTLE
MOTOR CYCLE IS TO
BE SEEN AT

£19 19 0.

THE “WOLF”

Its value is apparent at sight **FEATHERWEIGHT MOTOR OYCLE.**
—please manage to see it at the Show.

**STAND 58,
STANLEY SHOW.**

Manufactured by
**THE WEARWELL MOTOR
CARRIAGE Co., Ltd.,
WOLVERHAMPTON.**

‘THREE SPIRES’ DON’T SKID.

THE TYRE FOR WINTER RIDING.



Model A Motor Cycle Tyre.

**THE ONLY NON-SKID WITH
A SMOOTH RUBBER TREAD.**

The Non-skid lasts as long as the tread.

TESTIMONIAL.

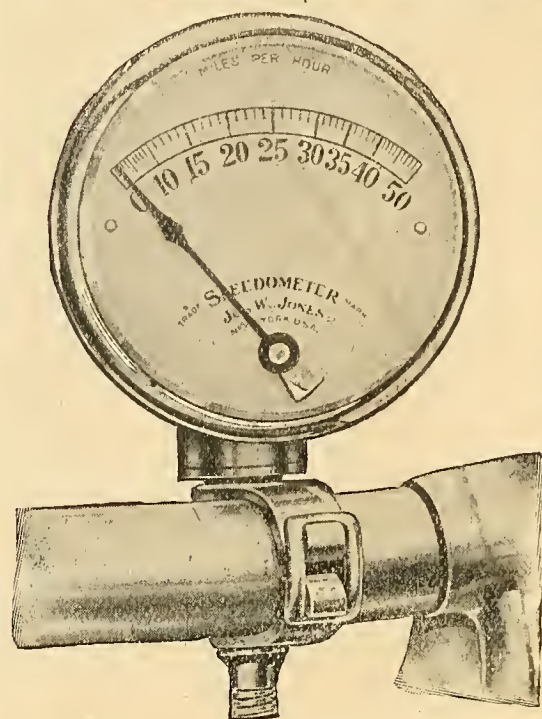
“I am delighted with my covers; the back has run about 1,000 miles, and has scarcely been marked, some hundred miles of which has been with an extra passenger on the carrier. The machine in riding trim weighs 225lbs., myself 12 stone, and passengers from 10 to 12 stone.”

See them at STANLEY SHOW, Stand 268 Gallery & 15 Ground Floor

PRICES AND PARTICULARS FROM
The COVENTRY RUBBER Co., Coventry.

Of Interest to all Motor Cyclists

YOU SHOULD KNOW YOUR SPEED!



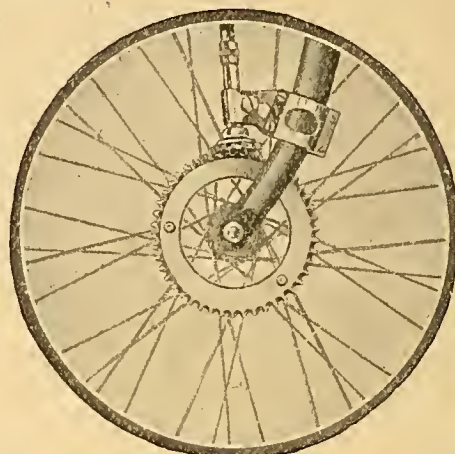
ACCURATELY TOLD BY THE **“JONES”**
SPEEDOMETER (the GOLD MEDAL Indicator)

Specially Constructed for
Motor Cycles.

Illustration shows new
model Handle-bar Indi-
cator. The Instrument fits
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ways in sight.

With Flexible Shaft.

GEAR DRIVEN.



Method of Gear Attachment.

PRICES:

Handle-bar Speedometer	-	-	-	4 gns.
„	„	showing also Mileage		5 gns.
Instruments for Fork Attachment	-			3 gns.

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Sole Importers:

MARKT & CO. (LONDON), LTD.,
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CLYDE MOTOR CYCLES FOR 1909.

Our speciality will be the **CLYDE 4 H.P. SILENT Motor Bicycle**, handle-bar control, and latest refinements.

Illustrated List ready shortly.

We have a few Special Clearance Lines at Extraordinary Prices.

One 4 h.p. Clyde, JAP engine, handle-bar control, shop-soiled	..	£38.
One 6 h.p. Clyde, twin JAP engine, spring forks, etc., shop-soiled	.	£41.
One 2½ h.p. Clyde, Simms engine, spring forks, shop-soiled	..	£19.
One 2½ h.p. Clyde, Simms engine, spring forks, second-hand	..	£12.
One 3 h.p. Quadrant, stand, etc., overhauled, second-hand	..	£9 10s.
One 3½ h.p. Minerva tricar, in excellent order	.. .. .	£12.
One 6½ h.p. Clyde tricar, two cylinders, latest type, shop-soiled	..	£75.

Full particulars of any of above or trials by appointment.

G. H. WAIT & CO., London Rd., Leicester.

STANLEY SHOW,

1908.

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— OF —

Cycles, - -
 Motor Cycles, -
 Motor Vehicles,
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 Machinery, -

WILL BE HELD AT THE

Royal Agricultural Hall, London, N.,

NOVEMBER 20th to 28th.

To be opened by SIR ALBERT K. ROLLIT.

H.M. Band of the Grenadier Guards at 3 and 7.30 p.m.

American Bicycle Polo Team three times daily in the Berner's Hall.

Admission—One Shilling.

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E. A. LAMB,

*Managing Director and Secretary,
 Stanley Show, Limited,*

*19, Southampton Buildings,
 Chancery Lane, W.C.*

In answering this advertisement it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London (20, Tudor Street, E.C.), by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

THE LARGEST DEALERS In New and Second-hand Motor Cycles in the World. EXCHANGE.

APPROVAL DEFERRED PAYMENTS.

Covered by CERTIFICATE of FITNESS. SECOND-HAND & SHOP-SOILED BARGAINS.

SINGLE CYLINDERS.

ROC, 1908, two-speed, magneto, 4 h.p.	£83 0
N.S.U., 1908, magneto, 3½ h.p., shop-soiled, £40 machine	£30 0
N.S.U., 1907, spring forks, Roc two-speed gear	£28 0
REX DE LUXE, 1908, two-speed, 3½ h.p., shop-soiled	£35 0
VINDEC two-speed, 1907, magneto, perfect..	£28 0
F.N., lightweight, magneto, spring forks	£20 0
ROC, 1907, magneto, clutch, spring forks	£19 0
QUADRANT (Birmingham), 3½ h.p., spring forks, Palmer cords, condition good as new	£17 0
WARWICK, 1908, shop-soiled, two-speed, clutch, magneto, spring forks, £50 machine	£31 0
QUADRANT (Birmingham), 3½ h.p., spring forks	£15 0
SINGER, 3 h.p., magneto, belt drive, Mabon clutch, perfect order	£15 0
ASTER, spring forks, Longuemare carburetter, tyres sound, good order	£9 0
WHITLEY, 3 h.p., spray carburetter, girder forks	£6 10
B.S.A, M.M.C. engine, 3½ h.p., Druid forks, Lomax band, grand condition	£11 0
MINERVA, 2 h.p., spray carburetter, M.O.V.	£6 0

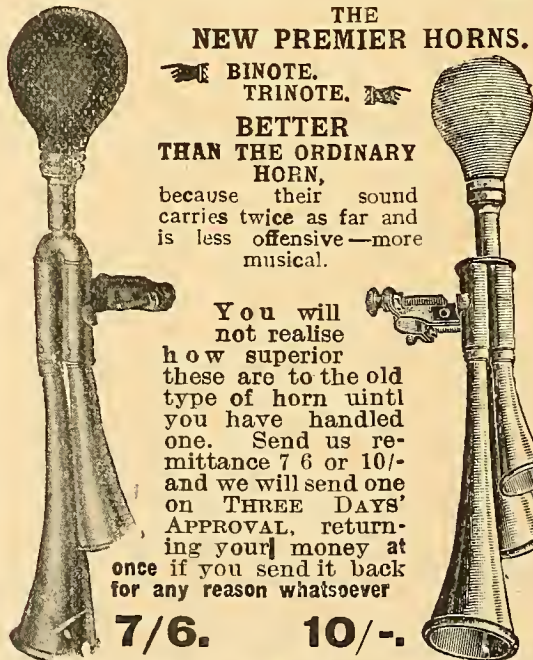
TWINS.

N.S.U., 1908, magneto, 4 h.p., shop-soiled, £50 machine	£39 0
BROWN, 1908, shop-soiled, 5½ h.p., two-speed, Palmer tyres, cost over £67	£45 0
ROC TWIN, 5 h.p., magneto, clutch, show model, done 300 miles, perfect	£30 0
VINDEC, magneto, spring forks	£25 0
ROC, 5 h.p., Peugeot engine, magneto, clutch	£22 0
KERRY, 5 h.p., two-speed	£16 0
REX TOURIST, 5 h.p., magneto, spring forks	£25 0
REX, 5 h.p., spring seat, spring forks	£17 0
WERNER, 4 h.p., spring forks, good order ..	£11 0

MILLS & FULFORD SIDECAR, shop-soiled, Palmer cord 2½ in. tyre	£9 10
RILEY TRICAR, 5 h.p., twin, two-speed, coach-built, lamps, spares, etc., perfect order	£50 0

THE NEW PREMIER HORNS.

BINOTE. TRINOTE. BETTER THAN THE ORDINARY HORN, because their sound carries twice as far and is less offensive—more musical.



You will not realise how superior these are to the old type of horn until you have handled one. Send us remittance 7/6 or 10/- and we will send one on **THREE DAYS' APPROVAL**, returning your money at once if you send it back for any reason whatsoever

7/6. 10/-.

ANTOINE CYLINDERS, PISTONS, and all other SPARE PARTS we can supply promptly. WRITE NOW. SAVE TIME AND MONEY.

WRITE FOR LISTS OF ACCESSORIES.
PREMIER MOTOR CO., LTD.
Aston Road, BIRMINGHAM.
Telephone 4,310. Telegrams: "Primus, B'ham."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20 Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Little and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard this silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post. All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham and Westmoreland.

3½ h.p. Rex, just been thoroughly overhauled; £14.—Baldwin, 5, Amberley Street, Sunderland.

TWIN Magneto Minerva, 4½ h.p., good order; fast; £25, or offer.—Forster, Eamont Bridge, Cumberland.

3 h.p. M.M.C. Motor Cycle, just been overhauled; £12; also 2½ h.p. Minerva. Spence, Durham Road, Spennymoor.

5 h.p. Twin Rex, spring forks, low, long bars, good order; take any hill; £10s.—Storey, Elsdon, Northumberland.

PHELON and Moore, 1908, 3½ h.p., with two-speed gear, first-class order, all accessories, magneto; what offers.—Rae, Thornton Street, West Hartlepool.

3½ h.p. Hobart, 2½ in. Palmer cord tyre, one new, new accumulator, in good condition, two brakes; £20.—J. Wilson, Rose Cottage, Lowick, Northumberland.

N.S.U., 5½ h.p., fast machine, splendid climber, condition guaranteed as new, 2½ tyres, and belt, both new, numerous spares, including new cover; bargain at £22.—No. 1,168, The Motor Cycle Offices, Coventry.

SECTION II.

York and Lancashire.

3 h.p. Vindec, magneto, perfect condition; £18.—63, Kirkstall Road, Leeds.

NEW Zenith Bicar, two speeds; £25.—3 Stanmore Road, Headingley, Leeds.

4½ h.p. Bat, spring frame, new tyres, starling handle, perfect; £16.—Dudley Wadsley Bridge.

2½ h.p. Jap, Chater-Lea frame; £10.—Frederick Clare, 35, Railway Houses, Mosley Common, Boothstown.

1907 Triumph, Dunlop tyres, good bel spares, in good condition; sacrifice 24 guineas.—77, Wigan Lane, Wigan.

£8.—3½ h.p. motor cycle, Clincher tyres, new accumulator, very fast and reliable machine.—1, Freehold Street, Hull.

FOUR-CYLINDER F.N., magneto, spring forks, good order, £14 15s.; 5-6 h.p. Rex four speeds, £14 14s.—Booth's Motories, Halifax.

MOTOR BICYCLES FOR SALE.

31 h.p. Genuine Brown, almost new, splendid running order; £15.—Hardcastle, 15, Radlix Road, Leyton, E.

21 h.p. Clarendon, Continentals, Longuemare, trembler; £7 15s., appointment.—83, Blakes Road, Peckham.

STAMFORD HILL.—2½ h.p. Rex, B. and B. carburetter, excellent machine, in perfect condition, lightweight; £7.

STAMFORD HILL.—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL.—1½ h.p. Quadrant Lightweight, Minerva engine, two brakes, all in very good condition, and perfect order; £5 10s.

STAMFORD HILL.—2½ h.p. Precision engine, lightweight, in good running order, and very good condition; £6 15s.—128, High Road, Tottenham.

21 h.p. Triumph, Jap, low, long handles. Clinchers, Longuemare; £9 10s.—Ellis, 54, Minet Avenue, Harlesden.

£17.—3½ h.p. Minerva, long handles, low frame, perfect condition.—F. Masters, 165, High Street, Wandsworth.

23 h.p. Minerva, handle controls, Dunlops, fine equipment; sacrifice.—24, Aldbourne Road, Shepherd's Bush.

TRIUMPH. as new, magneto, spring forks; reasonable offer near 26 guineas.—1a, Lyall Mews, Eaton Square, S.W.

ROC. 1908, two-speed; cost 48 guineas; good condition; must sell; £28 10s.—S., 110, High Street, Merton, S.W.

23 h.p. Peugeot, Chater-Lea frame, Aldington silencer, good condition; £8 cash.—170, Worple Road, Wimbledon.

PEUGEOT, 3½ h.p., twin, Trnffault forks, splendid condition; £24, no offers.—65, Arcadian Gardens, Bowes Park, N.

VINDEC, 2½ h.p., magneto, reliable machine, good condition, accessories; £15.—9, Mortimer Road, Kensal Rise.

31 h.p. Minerva; what offers? Particulars advertised in *The Motor Cycle*, November 4th.—Hookes, Crawley, Sussex.

£7 10s.—3 h.p. Antoine, 26in. wheels, new tyre and tube, engine as new; bargain.—134, Highgate Road, Kentish Town.

MOTOSACOCHE, 1908, magneto, spring forks, tandem tyres; £22 prompt cash.—P., 12, Stanhope Gardens, Highgate.

VINDEC Twin, magneto, nearly new; exchange for 1908 Triumph, or sell.—8, Barrett Street, Manchester Square, W.

2 h.p. Minerva Motor Cycle, fitted with Chater-Lea sidecar (latest); £11 10s.—B. Gladwin, 7, Gaskell Street, Clapham.

MINERVA, 3½ h.p., November, 1906, climb anything, good condition; £14.—Cox, 196, Revelstoke Road, Wimbledon Park.

21 h.p. Kerry, good going order, spring seat, adjustable pulley; £10, or offer.—78, Mount Pleasant Terrace, Dartford.

21 h.p. Triumph, Jap engine, vertical, two accumulators, in good order; £12.—Greenwood, 36, Chatham Place, Hackney.

£6 15s. bargain.—Minerva, 2½ h.p., fast, powerful, spray, splendid hill climber; trial.—76, Kerbey Street, Poplar.

FOUR-CYLINDER F.N., 4½-5 h.p., 1908 model, magneto, spring forks, thumb slides, spares, almost new; £27 10s.—Below.

BAT, 3½ h.p. genuine De Dion engine, spring frame, like new; cheap, £17 10s.—Below.

BAT, 3½ h.p. M.M.C. engine, De Dion carburetter, excellent condition; bargain, £15 10s., offer.—Below.

WERNER, 1908, 4½ h.p., two-cylinder, spring forks, as new, unscratched; bargain, £17 10s.—Below.

ROVER, 3½ h.p., M.O.V., 1906, belt drive, splendid order; great sacrifice, £11 10s.—Below.

PEBOK, 3½ h.p., 1908, M.O.V., practically new; £12 10s.—Whittle, 41, Skelbrook Street, Earlsfield.

6 h.p. Heavy Twin J.A.P., Palmer cords, Chater No. 6, not done 50 miles; must sell; £38.—Motor, 20, Godson Road, Croydon.

Money Saved is Money Earned

Consider the following before purchasing elsewhere:

50/- DOWN AND 5/- WEEKLY SECURES

REX, 3½ h.p., vertical engine	£8 10
MINERVA, 2 h.p. M.O.V., spray	£8 0
HUMBER, 2½ h.p., splendid condition	£10 0
WERNER, 3½ h.p., twin	£13 0
MINERVA, 3½ h.p., 26in. wheels	£10 0
QUADRANT, 2 h.p., good condition	£7 0
JAP, 2½ h.p.	£8 0
WERNER, 2 h.p.	£9 0
BRADBURY, 2½ h.p., spray, a beauty	£9 0
BRADBURY, 2 h.p., vertical engine	£7 10
EXCELSIOR, 3 h.p., very good tyres	£10 0
SINGER, 2 h.p., magneto	£8 0
REX, 3½ h.p., 1903, 26in. wheels	£13 0
PHENIX, 2½ h.p., good tyres	£8 0
HUMBER, 2 h.p., splendid condition	£8 0

CASH OFFERS WANTED.

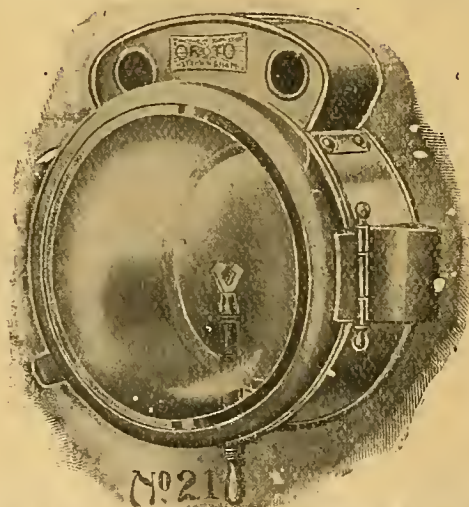
ANTOINE, 5 h.p., twin, 1907 model	£20 0
SAROLEA, 5 h.p., twin, spring forks	£20 0
MABON, 3 h.p., high tension magneto	£14 0
REX, 5 h.p., twin, 1906 model	£18 0
F.N., four-cylinder, magneto	£18 0
CLYDE, 3 h.p., magneto	£10 0
REX, 3½ h.p., 1906, footboards	£15 15
MINERVA 3½ h.p., 26in wheels	£14 10
TRIUMPH, 2 h.p. Minerva engine	£8 10
CLARENDON, 3 h.p., Peter Unions	£9 0
GIVAUDAN, 3 h.p.	£15 0
QUADRANT, 3 h.p., spray	£12 0
SINGER, 2 h.p., open frame, magneto	£6 0
F.N., 2½ h.p., splendid machine	£10 0
ARIEL, 3 h.p., brand new	Offers
ARIEL, 2½ h.p., lightweight, 1908, new mag.	£33 0

TRICARS.

REXETTE, 8-10 h.p., two speeds and reverse; a perfect article	£60 0
MINERVA Pat. 3½ h.p., spray, good tyres	£16 0
REXETTE, 8 h.p., open frame, two speeds, perfect order	£38 0

ACCESSORIES.**THE LATEST IN LAMPS.**

Best quality brass and riveted (not soldered rubbish which is cheaper but useless) separate generator head lamps. The same quality head lamp at anything like the price has never been placed before the public before.



Price 14/11 complete with generator. Knowing the quality of these goods we send on approval willingly.

"ACME" TUBES.
These are a specially heavy quality, made especially for us, to give long life, and are all sent on three days' approval. We only ask you to try one on approval.

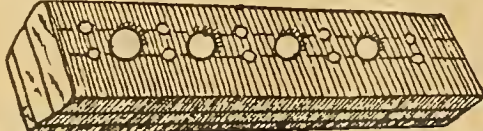
26×2in. .. 5/6	26×2½in. .. 7/6	28×2½in. .. 7/9
26×2½in. .. 6/6	28×2in. .. 6/6	28×2½in. .. 7/-

BUTT-ENDED.

You cannot do better than try one. Money returned

IN FULL if not perfectly satisfactory.

26×2in. .. 7/6	26×2½in. .. 8/3	28×2½in. .. 7/9
26×2½in. .. 7/9	28×2in. .. 7/6	28×2½in. .. 8/3



ALBANY BELTING.—¾in. 7d., 1in. 8d., 1½in. 9d., 1in. 10d. per 100. Approval. Immediate delivery.

MAUDE'S MOTOR MART, Powell St., HALIFAX

The fair factors (behind the Victoria Hall).

National Telephone 433 day, 904 night

MOTOR BICYCLES FOR SALE.

IF You Want good bargains in second-hand or new motor cycles you cannot do better than come to 5, Heath Street Motor Works, Hampstead.

HAMPSTEAD for reliable machines.—2½ h.p. Kerry, good condition, new back tyre, all accessories, spring forks; £8.

HAMPSTEAD.—4½ h.p. F.N., 1908 model, magneto, and spring forks, new condition; £25.

HAMPSTEAD.—3½ h.p. 1908 Triumph, magneto, and spring forks, run 900 miles only; £32; guaranteed.

HAMPSTEAD.—4½ h.p. F.N., 1908 model, good condition, magneto, and spring forks, all accessories; only £27, as new.

HAMPSTEAD.—4½ h.p. F.N., latest model, like new; cost £55 three months back; all accessories; £28.

HAMPSTEAD.—3½ h.p. 1908 handle-bar control Triumph, magneto, and spring forks; only £30.

HAMPSTEAD.—3½ h.p. 1908 Triumph, like new; only £35; with all accessories, guaranteed.

HAMPSTEAD.—Book your orders for 1909 Triumph, or other makes. We allow good price for your old ones; £38 for 1908 Triumph part payment.

HAMPSTEAD.—3½ h.p. 1908 T.T. Triumph, magneto, and spring forks, all accessories; only £34.

HAMPSTEAD.—5-6 h.p. Twin Rex, 1907, new condition, good going order; only £13.

HAMPSTEAD.—Two F.N.'s, 1½ h.p., 1908, lightweight, new condition, magneto, and spring forks; £18 and £20.

WANTED. Motor Cycles, any condition, sidecars or cycles, in part payment for brand new 1908 Rexas; we allow £15 for old machines. £8 for sidecars, and £6 for cycles; write or call.—Motor Works, 5, Heath Street, Hampstead. Tel. 2678 P.O.P.

HAMPSTEAD for new machines, F.N.'s, 5-6 h.p., late models from stock; exchanges entertained; £30 allowed on old ones.

HAMPSTEAD.—5 h.p. Twin Peugeot, Chater-Lea No. 6 frame, splendid condition, like new; £20.

HAMPSTEAD.—3 h.p. Fafnir, good condition, low, with all spares; £10, guaranteed.

HAMPSTEAD.—3½ h.p. Peugeot, Chater-Lea No. 6 frame, good condition; only £14, bargain.

HAMPSTEAD.—1908 Lightweight N.S.U., magneto, only shop-soiled; £18, with all accessories.

HAMPSTEAD.—3½ h.p. N.S.U., late model, magneto, new condition, guaranteed perfect; only £15.

HAMPSTEAD.—Sole agents for Griffons, Triumphs, Vindecs, Minervas, F.N.'s, N.S.U., Browns, Rexas, and Rocs. We allow £10 upwards for your old machines, any condition, in part payment for new models, any make. Write, call, or telephone, 2678, P.O.—Motor Works, 5, Heath Street, Hampstead.

21 h.p. F.N., excellent little machine, fine 24 puller, very reliable, low built; £9.—Motorist, 7, Bodney Road, Hackney, London.

IF You Want Bargains in second-hand motor cycles you can get them at Wauchope's, 9, Shoe Lane, Fleet Street, London.

GENUINE Triumph, splendid condition, complete; bargain, £12 15s., no offers.—6, Gascoyne Road, South Hackney, London.

2 h.p. Minerva, vertical engine, low, long bars, lightweight, perfect order; £8.—Green, Avilion, Southwood Road, New Eltham.

3 h.p. M.M.C. Engine, Longuemare, Watawata belt, with horn, stand, and lamp, splendid condition; £12.—15, Dane Street, Holborn.

1908 Moto-Reve; £28; almost new, not ridden 200 miles, fitted with stand and latest improvements.—Tyler, 85, Morant Road, Colchester.

13 h.p. F.N. Lightweight, 1908, magneto, spring forks, S.D. belt, perfect condition; £25, no offers.—Alcock, Cranmore, Meads, Eastbourne.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE

F.N., 1908, 4½ h.p., splendid condition, property of doctor, stopping winter riding; offers.—F.N. Motor Agency, 106, Great Portland Street, London.

14 h.p. Madison, engine is brand new, Continental front tyre, Michelin back, Nilmelior coil, running order; £8.—14, Warner Place, Hackney Road.

5 h.p. Vindec Runabout, fitted with Anglian two-speed gear, magneto ignition, Chater-Lea attachment; price £28.—Wauchope's, 9, Shoe Lane, E.C.

£12—23 h.p. Jap, Shamrock studded back, Longuemare, fine condition; any trial allowed, or exchange diamond ring.—Wades Arms, Jeremiah Street, Poplar.

2 h.p. Minerva Lightweight, M.O.V., low, vertical, 26 by 2, Longuemare, good running order; nearest to £7 10s.—116, Milton Road, Stoke Newington, N.

23 h.p. Minerva-Swift, two-speed gear and free engine, tyres O.K., one new, splendid running order; £10, or nearest.—Payne, 39, Homefield Road, Chiswick, W.

23 h.p. Jap, vertical, very powerful, fast, hill-climber, Continental tyres and belt, spray; trial; particulars willingly; £8 10s.—114, Rutland Street, Stepney.

LATEST 1908 Twin-cylinder 5 h.p. Belvedere, Chater-Lea, Palmer cords, very low; exchange for lower power and cash.—Jennings, 268, Hornsey Road, Holloway.

BRADBURY, 3 h.p., just overhauled, new cylinder, piston, tyres, etc., accessories, perfect running; seen any time; £11.—Graham, 110, Station Road, Chingford, N.E.

23-3 h.p. Clyde, spring forks, engine just thoroughly overhauled, ready for years of wear; £11 only; no time to ride.—Motor, 7, Bodney Road, Hackney, London.

WEST EALING—3½ h.p. N.S.U., accumulator, new condition, Continentals, Riches, Acetyphote, spares, accessories; £17; offers; guaranteed.—162, Coldershaw Road.

3 h.p. Triumph, magneto, first-class condition, new Palmer back, new detachable tubes, and new Dermatine belt; £20; any trial.—61, Thurlby Road, West Norwood.

31 h.p. Ariel Motor Cycle, B. and B., 26 by 34 2 Dunlop, two accumulators, and round coil, perfect order; £12 10s., or exchange good twin.—E. Leete, 4, Highbury Hill, N.

51 h.p. Twin Rex, in perfect condition, new belt, tyres almost so, long bar, low seat, tandem attachment included; £17; exchange entertained.—Bunting Wealdstone.

TRIUMPH, 1906, magneto, spring fork, fully equipped, splendid condition, spares, tools; £20 cash, no offers, bargain.—Can be seen, 66a, High Street, St. John's Wood, cycle shop.

DOUGLAS, 2½ h.p., twin, 1908, H.T. magneto, specially built, 28in. wheels, fitted J.A.P. automatic lubricator, and Price's stands, in perfect order.—Tyler, Sawbridge-worth.

31 h.p. Kelecom, £12 15s., or offers, 20in. Chater frame, very fast, new belt, all accessories; also upholstered sidecar, fit any machine, £3 5s.—24, Green Street, Bethnal Green.

FAFNIR, 2½ h.p., vertical, lightweight, very reliable; genuine bargain; Palmers, only wants seeing; exchange good cycle, or offers for cash.—1a, Lyall Mews, Eaton Square, S.W.

TRIUMPH, 3 h.p., 1906, magneto, kept in beautiful condition, rubber-studded non-skid, spring seat-pillar, lamp, horn, all tools, etc.; £22 10s.—94, Gloucester Road, Kensington.

TRIUMPH Motor Bicycles for 1909.—Second-hand machines taken in part payment, good prices allowed.—Agents, The Hulbert-Bramley Motor Co., 96, Upper Richmond Road, Putney.

TRIUMPH Motor Bicycles for 1909.—Second-hand machines taken in part exchange, good prices allowed.—Agents, The Hulbert-Bramley Motor Co., 96, Upper Richmond Road, Putney.

3 h.p. Kelecom, M.O.V., low, long, Longuemare, brass cylinder tank, enamelled grey, tyres new Palmers; £13 15s., or exchange good 3½ h.p.—35, St. Stephen's Road, Bow, London.

AS THE

largest dealers in Rex machines we have the following to clear, to make room for 1909 models.

Shop-soiled—UNRIDEN—Guaranteed.

1908 3½ h.p. magneto REX, ball bearing engine; 1st price £39 18s. ..	£27 10
1908 TWIN REX; 1st price £45 13s. ..	29 10
1908 REX, magneto, lightweight; 1st price £26 5s.; our price ..	19 19
5½ h.p. REX DE LUXE, Roc Clutch; twin tyre; our price ..	31 10

SINGLES—Cash Offers Wanted.

1908 3½ h.p. REX, magneto, brand new	offers
1908 3½ h.p. REX, 2-speed, shop-soiled	£31 10
1908 MOTOSACOCHE, splendid condition ..	£19 10
1908 N.S.U. Lightweight, magneto	£19 10
1907 3½ h.p. Magneto REX, black finish	£19 10
4 h.p. Magneto ROC, Roc clutch, very low ..	£21 0
3 h.p. TRIUMPH, magneto	£24 10
3 h.p. TRIUMPH, spring forks	£21 0
3 h.p. RIP, brand new, very low	£16 0
3½ h.p. Magneto REX Racer, a flier	£25 0
3½ h.p. 1906 REX, spring forks, long bars	£15 10
2½ h.p. Magneto REX, 1908, shop-soiled	£19 19
3½ h.p. MINERVA, M.O.V., vertical, spray ..	£18 10

£3 DOWN secures your choice of these machines. Balance 5/- per week

3 h.p. GIVAUDAN, nearly new, very low ..	£18 0
3 h.p. QUADRANT, spray, spring forks ..	£13 0
3 h.p. LLOYD'S, 26×2½in. Palmers	£13 10
4 h.p. ANTOINE, vertical, M.O.V., spray ..	£18 0
2½ h.p. MINERVA, fine condition, M.O.V. ..	£13 10
3 h.p. CLYDE, magneto, vertical, spray ..	£15 0
4 h.p. ANTOINE, 26×2½in. tyres	£18 10
3½ h.p. SIMMS, magneto, 2½in. Palmers	£17 10
3½ h.p. CENTAUR, free engine, M.O.V.	£18 0
2½ h.p. F.N., special frame, reliable	£12 10
3 h.p. HUMBER, spray, good climber	£10 10
3½ h.p. REX, 22in. frame, trembler coil	£11 10
2½ h.p. MINERVA, 26×2in., spray, vertical ..	£11 10
3 h.p. BROWN, spray, guaranteed	£12 10
4 h.p. ATELIER, long bars, low saddle ..	£13 10
3½ h.p. EXCELSIOR, spray, trembler coil ..	£10 10
2½ h.p. COVENTRY EAGLE, vertical spray ..	£10 0
3½ h.p. Two-speed REX, suit sidecar	£13 10
2½ h.p. F.N., light, low, smart appearance ..	£12 0
2½ h.p. CLEMENT, very low, good order ..	£11 0
2 h.p. KERRY, spray, low, reliable mount ..	£10 10
2 h.p. RALEIGH, spray, smart	£8 0
2 h.p. ROYAL, vertical, spray, trembler coil ..	£7 15
2 h.p. HASKARD, spray, smart	£11 10
1½ h.p. MINERVA, spray, suit light rider ..	£5 10
2½ h.p. EXCELSIOR, trembler coil	£8 0
2 h.p. HUMBER, chain drive, trembler coil ..	£8 10
2 h.p. PEUGEOT Lightweight, smart	£9 10
2 h.p. MINERVA, spray, smart, good	£7 0
2½ h.p. PEBOK, free engine, nearly new ..	£10 10

1908 Magneto TWIN REX, brand new	offers
5 h.p. Twin VINDEC, magneto, Truffault ..	£29 10
5½ h.p. Twin REX, spring forks, black finish ..	£18 18
5 h.p. Twin ZENITH BICAR	£20 0
Twin-cylinder FAIRY, very smart	£15 0
6 h.p. Twin REX, non-skids both wheels ..	£18 18
Twin KERRY, Chater Lea, with Sidecar	£22 10
5½ h.p. Twin REX, magneto, 1907	£22 0
4-5 h.p. Twin ALCYON, N.S.U., two-speed ..	£20 0
5 h.p. Twin SAROLEA, long frame	£18 18
6 h.p. Twin ANTOINE, R.O.M. ignition ..	£22 0
6 h.p. Twin ANTOINE, spring forks	£22 0
Four-cylinder F.N., guaranteed	£19 18

Ten 1907 5½ h.p. REX DE LUXE, Roc clutch, magneto, twin tyre, spring forks, spring seat, handle starting. Best sidecar machine on the market. £27 10s. Some are like new.

5-6 h.p. TWIN REX, £18 18s., or £4 and '07 Single Rex, or £6 a d 3½ Rex, or level exchange with single magneto Rex. Any machine taken.

Extended payments to suit all requirements. If you can't pay cash down, write and state what credit you require, and we will endeavour to accommodate you!

10-12 BRUSH, tonneau, 3 speeds and reverse £55 0
Gnaviter Rubber and Canvas Belting.

¾in. 10d., ¾in. 1/1, ¾in. 1/4, ¾in. 1/8 per foot.
3/- allowed for old belts

The Halifax Motor Exchange,

Agents REX and N.S.U.

16, Westgate, Halifax.

Telephone: 766.

Telegrams: "Perfection."

MOTOR BICYCLES FOR SALE

31 h.p. Rover, in beautiful order, easy starter, and one of the most reliable machines ever built; £16 16s., good push bike part exchange.—Hamilton, Ashlyn, Harrow

TRIUMPH Motor Bicycles for 1909.—Second-hand machines taken in part exchange, good prices allowed.—Agents, The Hulbert-Bramley Motor Co., 96, Upper Richmond Road, Putney.

FOUR-CYINDER F.N., new last June, comfortable footrests fitted, will climb anything; too powerful for owner; sacrifice for £32.—Laughlin, High Street, Sutton. 'Phone 201, P.O., Sutton.

MINERVA, 2½ h.p., spring forks, everything in sound and perfect condition, very reliable machine, very comfortable; £14.—R. Hoffman, 61, Chiswell Street, Finsbury Square, E.C.

1908 Triumph, 3½ h.p., magneto, perfect condition, guaranteed, only used few times, Brooks special seat, Escargot horn, complete, tools, spares; £37 10s.—22, Sidney Road, Beckenham, S.E.

1907 (late) Magneto Rex, 3½ h.p., 1908 finish, new condition, flies up hills, takes sidecar, thoroughly reliable; expert examination and trial; £20.—Motor, 9, French Place, Shoreditch, London.

23 h.p. Minerva, Longuemare, good running order, £12; also Edison Home phonograph, 72 records, one brass horn, one flower horn, £6.—C. Bullen, 4, Sunny Side, Oxted Road, Godstone, Surrey.

31 h.p. Cottereau-Minerva, spring forks, Libertys, Continental butt, F.N., P. and R. armoured, accessories, purchased Paris Salon; trials; £16.—James, jun., 2, Benworth Street, Harley Street, Bow.

3 h.p. Quadrant, magnificent condition, spring forks, light, good powerful reliable machine; £10 10s.; only wants seeing; especially suitable for novice.—Motorist, 5, New Norfolk Street, Curtain Road, London.

23 h.p. Scout, light, very efficient, low riding position, pedals and footboards, excellent condition, fast, very reliable; expert examination; £10 10s. only.—Motor, 86, Colvestone Crescent, Dalston, London.

FOR Sale, new 5½ h.p. twin Brown, fitted Osborne four-speed and free engine. Mills-Fulford Duplex sidecar; wanted, 8 h.p. De Dion car, or any other good make; reasonable offers.—35, Richmond Road, Kingston.

TRIUMPH, 1908, magneto, accessories, and usual tool kit, complete, machine been little used, enamel and plating practically unscratched, and engine, etc., absolutely perfect; seen any evening by appointment; £36; approval.—Holly Bank, 24, Manor Road, Leyton.

31 h.p. Quadrant, latest, perfect through-out, Continental tyres, Stanley belt, many spares, including accumulator, valves, Watawata, coil; what offers? push bike part payment.—Owner, 909, Romford Road, Manor Park, E.

TRIUMPH, 3½ h.p., 1908, magneto, almost new, perfect running order, climb anything, spare belt, two Brooks bags, mackintosh coat; owner buying car; price £35.—Triumph, 4, Compton Terrace, Highbury, London.

31 h.p. Triumph, 1908, engine handle-bar controlled, new June, Clincher front, Goodrich rubber studded back, and tubes, all new, compression perfect, lamp, horn, spares, etc.; £34 net.—Cocks, 17, Ironmonger Lane, E.C.

BARGAIN—3½ h.p. Brown, Longuemare, spring forks, two accumulators, Palmer cords, footrests, N.S.P. stand-carrier, toolbag, re-painted, enamelled, overhauled; inspection invited; £14.—15, West Street, Pimlico, London.

1909 Triumphs.—Enquiries should be addressed to Alfred Mellor and Sons, Moldgreen Engineering Works, Huddersfield, who will be pleased to make appointments to meet their friends at the Triumph Stand at the Stanley Show.

21 h.p. Jap Lightweight, not run 500 miles, engine, tyres, enamelling, plating, in absolutely new condition, fast, good hill-climber, efficient, thoroughly reliable; £13, complete with stand, lamp, kit, tools, ready to ride away; no time to ride.—S., 9, French Place, Shoreditch, London.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

QUADCARS.

h.p. Phoenix Quadcar, two-cylinder, water-cooled Fafnir, magneto, two speeds, reverse, four lamps, spares, guaranteed perfect; any trial; offers.—Narroway, Southgate, Chichester.

CARS FOR SALE.

ALMER.—5½ h.p. Humberette, two-seater, two speeds, reverse; great bargain.

ALMER.—9 h.p. Tonneau Car, three speeds, reverse, light, reliable, perfect; £35.

ALMER.—9 h.p. Sizaire et Naudin, two bucket seats, semi-racing type; £75.

ALMER.—10-12 h.p. Tony Huber, tonneau, two-cylinder, nearly new, been carefully overhauled; £55.

ALMER.—24 h.p. Hunt and Lloyd, side entrance, four-cylinder, long chassis, e hood; £95.

ALMER.—16-20 h.p. De Dietrich, tonneau, four-cylinder, four speeds, magneto, y fast; £110.

ALMER.—15-20 h.p. Flying Darracq, tonneau, four-cylinder, hood screen, as ; £125.

ALMER.—16-22 h.p. Gladiator, side entrance, 1906 car, four-cylinder, Krebs, clutch; £140.—L. N. Palmer, 190, Melli-Road, Tooting. Telephone, 208 Strea-n.

UTOMOBILE, 6 h.p., Cadillac, 9 h.p.; any offers.—Moore, Motor Works, Andover.

ART 8 h.p. Buchet, tonneau; £40; exchange entertained. — 29, Minerva, er.

ARRACQ, 9 h.p., tonneau, Cape hood, good tyres; £45.—Moore, Motor Works, over.

12 h.p. Humber, four-cylinder, late 1907, long chassis, hood, perfect order; —Below.

24 h.p. Belsize, four-cylinder, side entrance screen, hood, five lamps, ney, splendid condition; £145.—Below.

16 h.p. Daimler, four-cylinder, tonneau, gate change, fast, silent, bargain; —Below.

h.p. Mutel, four-cylinder, tonneau pressed steel, perfect order, bargain; —Below.

h.p. Humber, four-cylinder, side entrance, good order; £60, exchange. low.

12 h.p. Peugeot, tonneau, honeycomb, two ignitions, hood, fine order; £80. lipse Eng. and Motor Co., 255, Earls-Road, Wandsworth. 'Phone, 1,135, ey.

p. Velox, two-seater, Aster engine, £27; lathe or motor cycle part exchange.—ning, Burley, Hants.

DLEY, 10 h.p., twin-cylinder, three speeds and reverse, two-seater, good order; —James, Daventry.

h.p. four-cylinder Lloyds; £75, accept good tricar or cycle in part.—P. ton, Peckham Rye, S.E.

INHARD 8-11 h.p. Chassis, dual ignition, good tyres, running order; £90. —re, Motor Works, Andover.

ARRACQ, 24 h.p., tonneau, five lamps, speedometer, fast, reliable; £75.—Con-soner, 12, Kew Bridge Road, Brentford.

p. Aster-Premel Car, removable tonneau, three speeds and reverse, tyres new, in d running order, very reliable; £40.—r, Feltham.

OLDSMOBILE, 6½ h.p., two speeds and reverse, tyres as new; any reasonable r.—Particulars, 1,217, c/o The Motor Cycle es, Coventry.

h.p. Darracq, detachable tonneau, three speeds and reverse, cardan, gain; £38, or part exchange.—98, Potter-ton Lane, Leeds.

h.p. Oldsmobile, two speeds and reverse, just been thoroughly overhauled, four, with hood.—Laurence, 115, Orcm-Road, Peterborough.

0 the lot, or near offer.—Good order, 8-10 h.p. Wolseley, 2½ h.p. Peugeot, 2 h.p. den, 1½ h.p. Werner, pair large acety- es.—21, Balfour Road, Ilford.

BARGAINS BY POST.
Our Latest Specialite;
THE SERVICE

"COLDWEATHER" JACKET

Approval. Deposit.
Thoroughly Windproof.

for MOTOR CYCLISTS.
Unequalled Value.



Made in grey Yorkshire frieze. Body and sleeves lined good quality tan leather. Fitted with wind cuffs. All sizes.

Our price, 25/6

sold elsewhere at 37/6.
Pattern post free,

THE SERVICE

"ALLWEATHER" SUIT.

Thoroughly Waterproof and Windproof.

Is unsurpassed for value.

Approval. Deposit.

State height and chest measurement.

JACKET and LEGGINGS, 25/-



Double texture material, fawn shade, seams stitched and solutioned, making the garments extra strong. Fitted with storm cuff. Leggings made to fasten at the side with 3 buttons and strap under foot. **GUARANTEED WATER-PROOF.** Jacket only, 16/6; Leggings only, 8/6.

The Suit is very smart in appearance, and, being very loose fitting, is easy to slip on. It also enables the cyclist to wear good clothes without fear of getting them soiled. The "Allweather" Suit is described as an absolute essential.

IMPORTANT.—The Service Company realise the difficulty a customer has in ordering Clothing by post. We, therefore, agree to send our goods on approval on receipt of deposit, and if our Garments are not to the entire satisfaction of the purchaser, cash will be returned in full. Our list of Motor Clothing Specialities will be sent post free on application.

The Service Company, Ltd.,
292 & 293, HIGH HOLBORN, W.C.

CARS FOR SALE.

SIDDELEY Autocar, 6 h.p., two-seater, excellent order, new Cape hood would be fitted for purchaser; £45.—Robbins.

DE DION, two-seater, good order; £25.—Robbins.

MASS, four-seater, 1907 car, good as new, 8-10 h.p., detachable rear seats; £100.—Robbins.

MORS, 30 h.p., four-cylinder, side entrance, fine touring car; £145 or offer.—Robbins.

LANCHESTER, five-seater, perfect order, very comfortable car; £55.—Robbins.

BROOKE, three-cylinder, 14 h.p., fine touring car, a real bargain; £65.—Robbins.

MANY Others.—State your requirements to Robbins, 334, Clapham Road, S.W. Telephone, 460, Brixton.

8-10 h.p. Ariel, two-cylinder, seat four, latest type, four speeds and reverse, excellent order throughout, Cape hood, etc.; £55.—9, Parkholme Road, Dalston.

6 h.p. Twin Two-seater Car, splendid condition, £30, or nearest offer; and Triumph cylinder and piston, £1 10s. — S. Scoones, West Street, Sittingbourne.

HALIFAX.—10-12 h.p. Brush Car, tonneau body, three speeds and reverse; £55, cycle taken part payment. — Halifax Motor Exchange, Westgate, Halifax..

8 h.p. De Dion Prunel tonneau car, genuine De Dion engine, Cape hood, folding screen, bargain; £58 cash, or part exchange.—98, Potternewton Lane, Leeds.

14-16 h.p. Aster, four cylinders, four speeds and reverse, seats five, in perfect order, very fast; £120; small car taken in part payment.—63, Kirkstall Road, Leeds.

OLDSMOBILE, 6 h.p., artillery wheels, 700 by 90 Dunlops, smart little car; £40; motor cycle, piano, or good gramophone part exchange.—George Farmer, Leamington.

STAMFORD HILL. — 10-12 h.p. twin Pick, two-seater, new 4½ Colliers on back, two speeds and reverse, in excellent condition and perfect running order; £25, great bargain.

STAMFORD HILL. — 10-12 h.p. twin Pick, four-seater tonneau, three speeds and reverse, 760-90 equal artillery wheels, all in splendid condition and excellent running order, fast and powerful; £40; photos, further particulars, and trials with pleasure; exchanges.—128, High Road, Tottenham.

BABY Peugeot, 5½ h.p., hood and wind screen, car recently overhauled, two speeds, fast, powerful, splendid condition, wire wheels; £45.—26, Offerton Lane, Stockport.

10 h.p. Rex Tonneau, three speeds, reverse, gears as new, everything good running order; £60, or exchange smaller machine and cash.—Raine, Alexandra Road, Morecambe.

SPECIAL 9 h.p. Riley Car, of May last, fitted up specially throughout, in perfect condition, with three months' guarantee; cost £205, price £125.—E. W. Walford, 18, Hertford Street, Coventry.

NICEST Little Side Entrance 15 h.p. Darracq ever offered second-hand, silent, fast, fine condition; £145; trial will convince.—Hurlock, jun., 70, Walworth Road, London. 'Phone, 14942 Central.

6½ h.p., Bournemouth Motor Engineering Co., splendid order, seats two and luggage, tyres good, etc.; £50, or offers; also Coventry make car, tyres good, etc.; seats four, wants overhauling, £9 10s.—Abell, 166 High Street, Sevenoaks.

8-10 h.p. Singer, two-cylinder, two-seater, three speeds and reverse, artillery wheels, control on steering wheel, lamps, and spare tyre; £80, or would consider Triumph motor cycle (magneto) and cash; seen by appointment.—S., 90, Trinity Road, Upper Tooting.

ROVER Cars. — You never know what a skid means when you drive a Rover. Now the days of muddy roads are here are you not thinking of the pleasures that would be yours if you owned a car? Write us for the amount we will allow you for your skiddy mount in exchange for a Rover at £135.—Louis Davis and Son, Moseley; Birmingham.

CARS FOR SALE.

HUMBER, 12-14 h.p., four-cylinder, two-seater, very smart; sacrifice £75. —Chaufeur, The Cottage, Melbourne Lodge, Queen's Walk, Ealing.

15 h.p. Three-cylinder Coventry Duryea Car. seats five, excellent condition, not a worn out car; taken for debt; room badly wanted; very low price accepted for quick sale; offers in cash or exchange entertained.—Jackson, 17, Upper Well Street, Coventry.

ROVER, 6 h.p., two-seater, perfect condition, first-class running order, three speeds and reverse, fast, thoroughly reliable, very simple; any convincing trial; genuine bargain, £70, or good motor cycle and cash.—Rover, 86, Colvestone Crescent, Dalston, London.

8 h.p. Rover, two-seater, wire wheels, in splendid condition, excellent hill-climber, and very reliable, two horns and four lamps, spare cover and tubes, full set of tools and spares; trial run with pleasure: £125, or near offer.—Box No. 1,164, *The Motor Cycle Offices*, Coventry.

8 h.p. Rover, two-seater, wire wheels, in splendid condition, excellent hill-climber, and very reliable, two horns, and four lamps, spare cover and tubes, full set of tools and spares; trial run with pleasure: £125, or near offer.—Box No. 1,164, *The Motor Cycle Offices*, Coventry.

BABY Peugeot, splendid running order, spares, accessories, Victoria leather hood, artillery wheels, complete set lamps headlight, two new spare Dunlop covers and tubes, gears, working parts as new, three speeds and reverse; reason selling, buying higher power; cash offers wanted; photo on application.—Garaged, Heath and Wiltshire, Aldershot.

HOTELS AND APARTMENTS.

WHEN visiting London stay at Waverley Temperance Hotel, 17, Euston Square. Bed, breakfast, attendance, from 3s.

APARTMENTS, with accommodation for motor bicycles, billiards, comfortable home; terms moderate. — 70, Josephine Avenue, Brixton Hill, London.

INSURANCE.

PLEASE send for full covering Motor Cycle Policy, from 19s. per annum.—Bass, Insurance Broker, Ongar.

INSURANCE Policies for motor cycles are issued by Hugh J. Boswell, insurance broker, Norwich, at exceptionally low rates. Please write for particulars.

LOST AND FOUND.

FOUND, in Garden City, Letchworth, about five or six weeks ago, a motor cycle belt case.—Owner can have same on applying to Mr. Sharman, 10, Bedford Road, Hitchin.

SITUATIONS VACANT.

WANTED, a smart lad, to learn the motor business; wage paid 5s. week.—Apply to Rey, 5, Heath Street Motor Works, Hampstead.

WANTED, Man, young, used to lathe, to take charge of shop, preference given to one with own lathe and cash security, or £50 cash.—1,223, *The Motor Cycle Offices*, Coventry.

BUSINESSES FOR SALE.

COMMODIOUS Premises in a well-known South Coast watering place, population 28,000, cycle trade been carried therein for many years past; small stock, main road; capital opening for motors; lease granted to suitable man; price low to an immediate purchaser.—Apply, No. 1,213, *The Motor Cycle Offices*, Coventry.

ACCUMULATORS.

13S. 6d., Castle Accumulator, cost 23s. 6d., 25 amp. hours, perfectly new, no use owner.—B., 42, Crondace Road, Fulham.

ACCUMULATORS Repaired promptly, any make; reasonable charges, best work; estimates given; full value for your old accumulator in exchange for our new "Mayfair" accumulators; special 15 amp., 10s. 6d.; 20 amp., 15s.; guaranteed one year.—Fellows, 49, Hertford Street, Mayfair.



ACCUMULATORS

Does your present battery leak?
Does it ever run down unexpectedly?
Does it play you tricks and leave you stranded miles from anywhere?
If so, send it along to us and we will either make a thorough repair, or take it in part exchange for a new E.P.R.



E.P.R. No. 19c. 4-volt. 10-amp.
Price 10/6.
Size 2½ x 2 x 6in. (over Terminals).
Unspillable type 2/- extra.



E.P.R. No. 20c. 4-volt. 20-amp.
Price 14/6.
Size 4 x 2½ x 6in. (over terminals).
Unspillable type 3/- extra.

Our Batteries are especially suitable for Motor Cycles. Special Splash Proof Vents and Non-Corrosive Terminals are always fitted. The cases are exceptionally strong and well made, allowing for rough roads and jolting.

Special unspillable batteries made, all sizes stocked.

REPAIRS.—We make a speciality of treating old and damaged cells. All repairs guaranteed. Send for new list.

Richford and Co.,

ACCUMULATOR SPECIALISTS,

153, FLEET STREET, E.C.

ACCUMULATORS.

CELLULOID Accumulator Repair Outfit useful for all celluloid repairs; full directions; post free 1s.—Below.

CHARGING Plant always running.—Below.

ACCUMULATORS, London made through out, and fully guaranteed; the best value at the lowest price; in the following sizes: 6 amp., 4½in. by 1½in. by 5in., price 6s. 6d.; 10 amp., 2½ by 2½in. by 5in., 8 6d.; 15 amp., 4in. by 2in. by 5in., 10s.; 20 amp., 4in. by 2in. by 5½in., 11s. 6d.; 40 amp. 4in. by 4in. by 5½in., 18s. 6d.—Osborne Works, Forest Hill, London, S.E.

CONTACTS.

COPY of Letter from Mr. C. R. Collier, "Jebron. Dear Sir.—You will be interested to learn that your 'Jebron' contacts were fitted to the 7 h.p. 'Matchless' motor cycle on which I recently broke the world's hour record, covering 70 miles 1 yard. The wonderful regularity of the running of my engine was, I consider largely due to the excellence of your contacts, which are not to be compared in reliability with platinum. I did not experience a solitary misfire, although for some time my machine touched 73 miles an hour. Wishing you every success with a splendid article, which I have tried with equal success on magnetos, yours faithfully, C. R. Collier."

JEBRON Contacts were used by Mr. C. Collier on his Matchless motor cycle when making the 1 hour world's record Brooklands, October 8th, 70 miles 105 yards. Jebron for high speeds, cures misfiring.

JEBRON Contacts, registered 291-289, vast superior to platinum; cures misfiring is reliability and efficiency.

JEBRON, best contact obtainable for blades, screws, cranks, rockers, plungers, magnetos, coils.

JEBRON, prices 2s. 6d. each rivet fitted special trimmers for polishing Jebron 9d.; remittance with order ensures prompt attention; write for particulars and testimonials; too numerous to publish.

JEBRON, Magneto Screws, complete for Bosch magneto, DA2 and DAV, will contact breakers 5a, 5b, 5c; 5s. 6d. pair; c screws refitted with Jebron, 2s. 6d. each equal to new.

JEBRON, the King of Contacts, fitted post return post; no delay; post free home or abroad; liberal trade terms.

JEBRON.—From the Inventor, J. Edward Brown, 38, Herbert Road, Plumstead, Kent.

IRIDIUM Champion Contacts.—Any pair fitted, returned same day, 1s. 3d. each warranted pure; special iridium trimmer 9d.; no filing required; magneto screws refitted, 1s. 3d. each.—Williams, 16, Wellington Street, Woolwich.

ENGINES.

23 h.p. Genuine De Dion Engine, near new, only wants contact; 90s.—A. Beehive, Meeting House Lane, Peckham.

ENGINES, Engines, Engines, bought, sold or exchanged; new 4½ h.p. twin, £6 10s.; new 3½ h.p. M.O.V., £6 10s.; approval.—Motor Accessories, Broad Street, Coventry.

ENGINES, Engines, Engines.—Large stock of clearance lines in new and second hand engines from 1 h.p.; send for particulars.—Motor Accessories, Broad Street, Coventry.

6-7 h.p. Twin Jap Engine, complete, a fitted in No. 7 Chater-Lea frame, 13s.; 3½ h.p. Fafnir engine, with carburettor etc., £4 19s.; all quite new.—6, Killearn Place, Catford.

4-5 h.p. Simms Engine, M.O.V., water-cooled quite new, £7 10s.; 3½ h.p. Standard engine, £4 10s.; 2½ h.p. Quadrant, £3 3s.; h.p. Antoine, with damaged cylinder, 15 2½ h.p. Quadrant engine sets, 25s. set to clean.—Below.

31 h.p. Quadrant Engine Sets, comprising cylinder, piston, connecting rod, crank cases, flywheels, three bushes, etc. £2 19s. each.—Farrar, Square Road, Halifax.

BOOTH.—New 6 h.p. twin Antoine, £8 15s.; 3 h.p. Simms, magneto, M.O.V., £5 10s.; water-cooled 5 h.p. Antoine, M.O.V., new, 5s.; 5 h.p. Aster, w.c., £7 10s. — Booth Motories, Wade Street, Halifax.

THE MOTOR CYCLE

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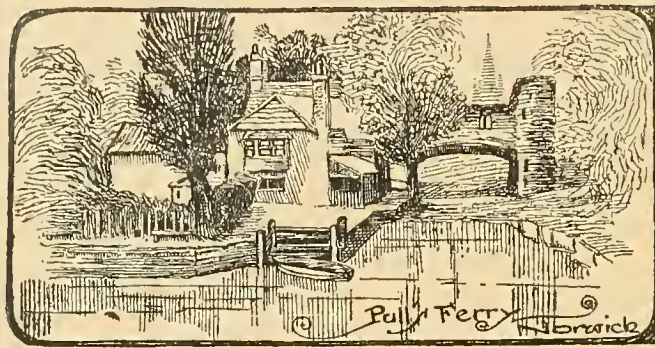
Show Features.

THE show which was opened on Friday last at the Agricultural Hall, Islington, N., by Sir Albert Rollit is the 5th exhibition which has been held by the Stanley Committee since the first number of *The Motor Cycle* was published. This year's display of motor cycles and accessories is quite as large as before, and the number of exhibitors is increased by the addition of several large and reputable firms, whose machines when they get into the hands of the public will tend to still further increase the popularity of the pastime. The motor bicycle, although far removed from finality in design, is settling down to a standard model—at least so far as the older makers are concerned. There are a few radical departures which can only prove their true worth by actual public performances, and time alone will show their value.

As already forecasted, handle-bar control and magneto ignition are universal, as also are spring forks. The frames are slightly lower, and there is a slight tendency to build the frame with a specially low top tube and carry the socket tube higher, supporting it by lugs built into the fore part of the diamond. Very few machines are shown without stands and luggage carriers, the former in nearly all cases allowing the rear wheel to be detached without interfering with the stand attachments.

On machines of 3 h.p. and over there is a greater tendency to dispense with pedals and fit in their place a neat pair of footboards. The change speed gear is also steadily gaining ground, the live axle rear hub type most certainly predominating. Although other systems hold their ground, they have not advanced at the same rate.

The twin-cylinder lightweight is increasing in popularity, and several new examples are on exhibition, the method of transmission having been greatly improved. There are three types to choose from—twin V, horizontal opposed, and vertical. The single-cylinder lightweight remains practically unaltered. For passenger work the powerful twin-cylindered machine with two-speed gear is shown attached in most cases to a sidecar, although there are examples of the air-cooled forecar built as a non-convertible machine on the lines advocated in these pages. The two examples of four-wheeled runabouts built on motor cycle lines, viz., with air-cooled engines and combined belt and chain transmission, should not be missed by motor cyclists. They are in the Gilbey Hall to the right of the main entrance to the hall, and, like the galleries, may easily be overlooked by those who only have a limited time in which to inspect the exhibition. It is in the galleries that many of the interesting accessory exhibits will be found. A great deal of ingenuity is yearly devoted to the improvement of such articles as touring bags, saddles, ignition devices, belt fasteners, lamps, adjustable pulleys, etc. All the principal improvements in this direction will be found in our description of the exhibits. The number and variety of these accessories, however, make it impossible to include opinions concerning their merits in this article, which deals with main tendencies alone. One of the growing tendencies is the adoption of strong and efficient speed indicators for motor cycles. These instruments require to be well and carefully constructed; motor cyclists must therefore expect to pay a reasonable price for them, as a cheaply made article seldom indicates accurately. The exhibition, which closes on Saturday next at 10 p.m., should be visited by all motor cyclists who can conveniently attend.



Occasional Comments

By Lexion

A Smart Accessory.

1908 has produced several of those rare phenomena accessories which are all but indispensable to every motor cyclist. Among them the combined inner tube and spare belt carriers take a high rank, but in the very first place I think should rank the Lumsden sparking plug tester, described and illustrated on page 858. For some years I have used a bolted on bracket to grip the plug and provide an "earth" for the high-tension current during all sparking plug tests, but the Lumsden is a great improvement on my rough idea.

Domed Pistons.

An Ulverston correspondent kindly reminds me that the Brown motor bicycle engine was turned out for at least twelve months with a convexly domed piston. He further states that, in his opinion, this design of piston throws a lot of work on the top piston ring by directing the force of the explosion towards the cylinder walls, and thence down upon the rings. One would certainly imagine that of the two types of domed piston the concave pattern would be the most efficient, provided always it did not serve as a collecting bowl for accumulations of carbonised deposits; but I doubt whether the convex pattern can put more of a burden on the top ring than it already has to bear.

The Future of Variable Gears.

Without doubt the development of variable gears has been greatly hindered by the production of sound adjustable pulleys, as riders who had previously been clamouring for a variable gear of the saddle-operated, several-fixed-ratio type have found their main needs more or less satisfied by adjustable pulleys. On the other hand, the almost universal adoption of these makeshift substitutes for a proper two or three-speed gear has taught riders the advantages of a multi-speed gear, and thus they have been educated up to the appreciation of variable gears, and will be more ready to adopt them when improved patterns finally enter the market. At the Stanley Show (now open) there are several new and interesting exhibits in this line, and I am strongly of opinion that within five years from date the standard high-grade motor bicycle will possess a change speed gear and free engine. I shall, further, not be surprised if this development also brings in its train an entirely enclosed and weather-proof transmission, including a spring drive. Great advances have been made in belt design and construction during the last five years, but no one can claim that it is perfect, or indeed ever will be, since it cannot be made weather-proof. Owing to its cheapness, light weight, and facility of repair, it must always survive on cheaper mounts, but I for one believe it will eventually be superseded on the higher grade machines.

Handle-bar Control.

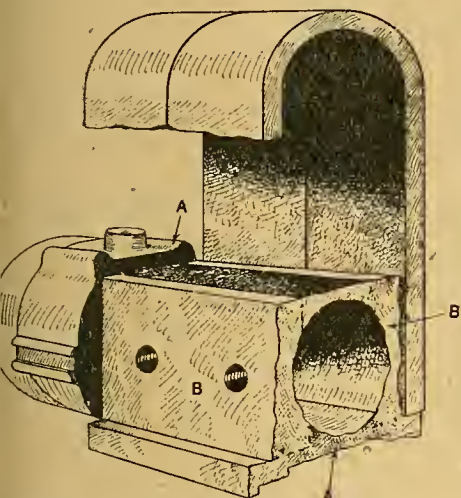
I think I have now tried every brand of handle-bar control on the market, and I cannot help feeling that no patentee has yet quite hit upon the natural finger action. All of them will do very well on the supposition that one is going to wholly or partially relax the grip of one hand while setting the levers. But no rider can retain a good grip and at the same time wave his forefinger horizontally, as most patterns of H.B. control demand, nor yet work two stumpy levers, working out radially from either side of the bar. For real comfort and convenience, and also for real safety at speed, the levers ought to be of the pull-up type, set like a brake lever beneath one of the grips; they could easily be pushed down, as well as pulled up, by the tip of the finger, without relaxing the grip, and I rather fancy a control of this type will eventually come to the front. At low speeds it matters little what type of control be employed, but at high speeds, such as most machines of to-day can attain, the grip must be permanently good. If a machine is allowed to swing ever so slightly at high speed a novice is not likely to regain control before the machine has wobbled over.

Two-speed Lightweights.

I have received several enquiries for a two-speed gear suited to 80 lbs. motor bicycles. These enquiries have come from riders of poor physique resident in exceptionally hilly districts. I have been compelled to reply that I know of no suitable gear, all standard gears being disqualified either by their own weight or by the lightness of the frame and fittings of the cycle in question. Here is a gap that might easily be filled. A very light hub gear indeed would be strong enough to withstand the gentle impulses of a 2 h.p. twin-cylinder engine, *e.g.*, the Moto-Rêve. Such a gear would be a desirable fitment on all the members of the 80 lb. class, as it would increase the hill-climbing capacity and reduce the frequency of belt troubles. All fixed gear machines are geared lower than is necessary for four-fifths of their running, because exceptional hills are kept in view. This low gear ratio is essential in the absence of a variable gear, but on most lightweights the miniature engine pulley thus rendered necessary produces frequent and exasperating belt troubles. Could not a hub gear be devised which would not add more than a few pounds to the weight of the machine, and which would in addition reduce belt troubles by rendering a bigger front pulley possible, and simultaneously double the hill-climbing capacity? I have used a light gear made by the Hub Two-speed Gear Co., which weighed very little, and stood up all right on a 3 h.p. 130 lbs. single-cylinder roadster, but I do not know if it is still on the market. [It is not now sold for motor cycles.—Ed.]

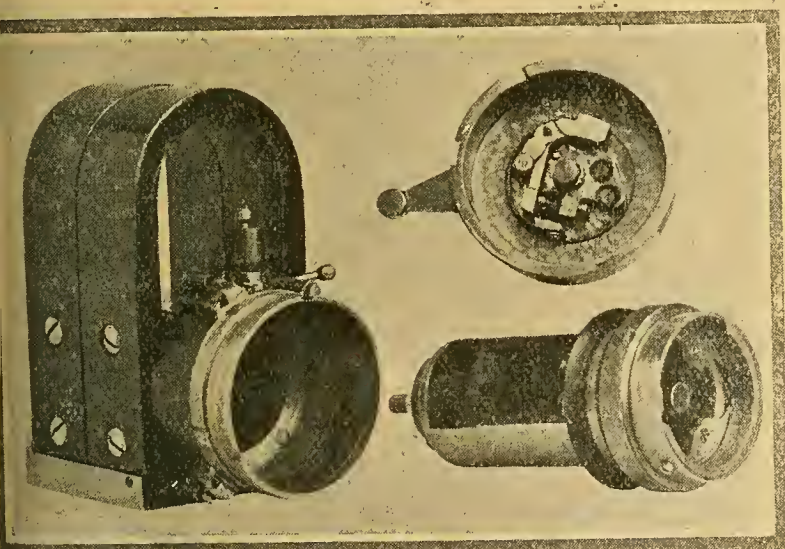
An All-British Magneto.

WE have received for inspection a new motor cycle magneto of the high-tension type, the product of the Premier Accumulator Co., Ltd., Northampton. Although only recently placed on the market, we understand that the magneto has undergone severe tests during the last twelve



Showing the brass bed plate A, and iron pole pieces B, which are all made in one solid piece in the casting process.

months, and is being tested with a view to adoption by several well-known manufacturers. There are several original points about this magneto, such as the case for enclosing the armature, the brass case and the iron pole pieces being cast together. The make and break of the contact breaker is novel, and can be removed from the machine in a few seconds and examined while lying in the palm of the hand. Adjustment is provided for the usual fixed platinum point, as shown in the drawing of the contact breaker, so that wear can easily be taken up. Another good point is that the end of the bell crank rubbing on the cam has a



The Premier All-British Motor Cycle Magneto, showing contact breaker and armature removed.

case-hardened steel ball threequarter-sunk into it, and is operated by a steel cam, thus ensuring long life for these particular parts, which are so vital in the running of the engine. The armature is totally enclosed, and is claimed to be damp-proof.

The construction of the magneto is most simple and accessible, and, if necessary, it can be taken to pieces in a few minutes. First of all the vibration-proof contact breaker cover is removed, and inside the cover the contact breaking mechanism is held by a couple of nuts. After unscrewing the high-tension carbon brush the entire armature can be withdrawn, complete with its Hoffmann ball bearings, slip ring, and circular condenser; this is attained by making the bearing cases a good fit in two circular recesses in the

main casting. It will thus be seen that the magneto consists essentially of three separate units, viz., (1) the magnets, with which is the armature casing, (2) the armature, complete with bearings, slip ring, and circular condenser, and (3) the contact breaker, complete with cover.

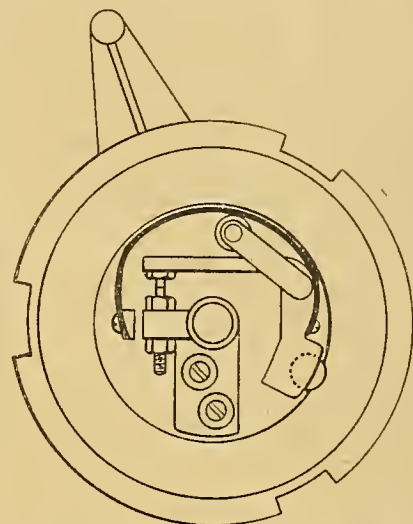
These parts are shown detached in the half-tone illustration. A spark gap is provided by the method of construction. The brass insert in the high-tension collector ring is only $\frac{5}{16}$ in. distant from the brass armature case for the whole of its circumference, so that if a high-tension plug wire becomes accidentally detached the current will here find an easy path to earth.

For V-type engines the armature box is

constructed as a single casting in exactly the same way, but with shaped and staggered pole pieces.

The magneto gives a spark at very slow speeds, ensuring easy starting.

It is exhibited on Stand No. 19 at the Stanley Show.



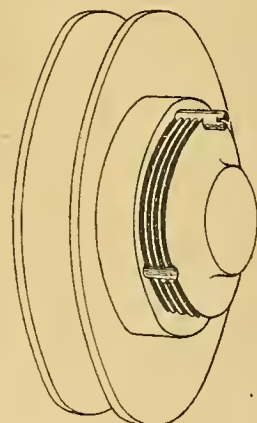
The contact breaker fastened inside the end cover, showing platinum contacts, flat spring, and rolling ball actuating the contact making arm.

ANOTHER ADJUSTABLE PULLEY.

THE adjustable pulley shown in the annexed illustration is one sent to us by Mr. G. R. Lee, 18, Somerset Road, Edmonton, N. It is very simply constructed, consisting merely of the

fixed and the loose flange, the latter being screwed on to the boss of the fixed flange. The loose flange is screwed on, and to lock it in any desired position there are semi-circular grooves machined in the boss which coincide with similar grooves cut in the loose flange. When two of the semi-circular grooves are in register a pin is inserted which is screwed into the back of the fixed flange, so holding the loose one from turning. The advantages claimed for it are extreme simplicity, a fine adjustment, and no loose parts to rattle. It is said to be unnecessary to remove the belt when making the required adjustment.

In the illustration the screw head is shown partly protruding. When the pulley is in use it is flush with the outer edge of the boss. The second hole for the screw is to allow for a finer adjustment, viz., one-third turn of the loose flange. We are assured that the article has been well tested in actual service on the road.



THE NEXT ISSUE will be the third and last of

"THE MOTOR CYCLE" SHOW SPECIALS

and will include special articles on the exhibits

Questions and Replies

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E. C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

A Damaged Accumulator.

? I have just had an accumulator recharged, and now it is returned with the positive plates crumbled and the celluloid case buckled. Would this be done by charging too fast or only by a fall?—J.A.G.

The trouble is probably due to the accumulator having been charged too rapidly. There is nothing to be done except to send it back to the makers to be repaired.

An All-weather Machine.

? I am going to buy a $3\frac{1}{2}$ h.p. P. and M. motor bicycle. As I wish sometimes to take a passenger I prefer to have three wheels at night and in grease. Would you advise a forecar attachment or a side-carriage? Oftenest used without passenger. Roads narrow, hilly, rough, and stony. Combined weight of self and passenger twenty-five stones. Will the machine be strong enough for this work?—Dr. N., South Wales.

A forecar attachment would be satisfactory, and it would be better if sprung in front, and the passenger's seat made easily detachable. The machine should be quite strong enough for your work if not driven too fast over rough roads.

Knocking in Engine when Picking Up Speed.

? I have just fitted new piston rings and new connecting rod to my $3\frac{1}{2}$ h.p. magneto Rex. Previous to this I had never had any reason to complain about knocking in the engine, but now when starting with the spark fully advanced there is serious knocking until the machine picks up speed, and on the least hill this same thing occurs. I may say, however, that the pounding is very much more noticeable when running against the wind, but so long as I can keep up a speed of fifteen to twenty miles per hour everything is A1. I have previously always run with the spark fully advanced, and I scarcely ever move the lever. Could you help me in the matter?—H.C., Wilts.

It is just possible that the connecting rod may be slightly longer than previously, thus reducing the compression space, or the new piston rings are too tight a fit. The engine may also have been timed differently, and requires the spark lever slightly retarded until the engine has picked up speed. You could try reducing the compression by inserting a washer between the bottom of the cylinder and the top of the crankcase if you find the knocking is not due to the timing or the new rings.

Speedometers.

? Do you think a Bullard speedometer can be fixed to a $3\frac{1}{2}$ h.p. 1908 Triumph motor cycle? I have had a Goodlad, but it would not work on account of the spring forks.—C.W.S., Manchester.

We understand that the Bullard speedometer will fit your machine. You could make the Goodlad work on your machine all right by fitting a longer flexible shaft and driving by the rear tyre.

A Reader's Experience and Warning.

? I should be glad of your advice (or that of your readers) in regard to a claim for personal damages I have had to pay through my running a man down. Three weeks after the accident I got a letter from him demanding £10 damages, as he had not been able to work since, and his wage was £2 per week, and he had eleven children to support. My solicitor advised me to pay, which I did. I now find the man had only been off work two or three days, and five or six of his children are working. Can I bring any action against him for making a false claim, or would you let matters stand as they are? In any case, I think you should warn motor cyclists not to part with their money without fully investigating any claim that may be brought against them.—VICTIM.

We fear that as you have paid the claim you can do nothing. This is, of course, an entirely legal question, and one which you should ask of a solicitor. However, we are practically certain that you had better leave the matter now as it is. Thanks for the warning.

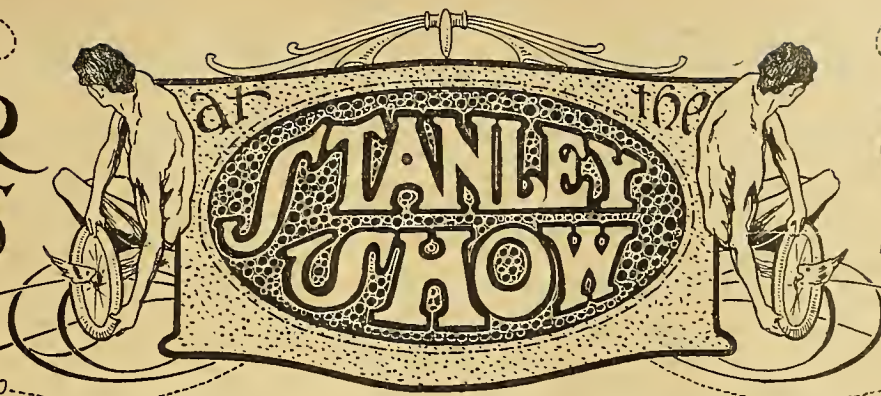
Explosions in the Silencer.

? I recently bought a $3\frac{1}{2}$ h.p. Minerva bicycle, and it is in good trim with one exception, that is, explosions in the silencer, when I cut out the lift the exhaust lifter, more especially if going at slow speed, and very bad if magneto is fully retarded. There is a sharp pistol-like crack when exhaust is dropped again, and also when switch is put on. In the dark the explosion shows like a yard of flame coming out of silencer, and the noise is enough to frighten a horse. Please tell me what is wrong and how to remedy the matter?—C.C.

Explosions in the silencer are caused by charges of unexploded gas which have collected therein, while the exhaust has been raised or spark cut out before fired by the first flame which enters the silencer from the exhaust. The way to prevent them is to have the throttle practically closed when using cut-out or valve lifter. It is unusual to drive a magneto ignited machine with ignition lever fully retarded; try to drive more on the throttle.



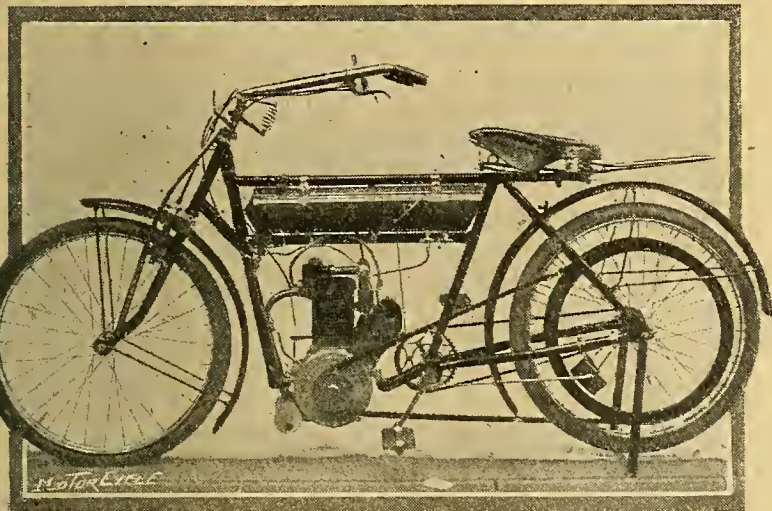
Enthusiastic Vindec Special riders in Tasmania. From left to right—A. Bosworth, Rev. H. B. Atkinson, Cecil M. Dyer, and S. Spurling, jun. Some of Mr. Dyer's interesting adventures while motor cycling in Tasmania were related on page 846 of *The Motor Cycle* for October 28th, 1908.

MOTOR
CYCLES& ACCESS
ORIES

The following illustrated description of the motor cycles and accessories at the Agricultural Hall Show has been written by *The Motor Cycle* staff after a careful examination of the exhibits. The report is arranged alphabetically, and stand numbers are given, so that with the aid of the plans in our last week's issue, readers will have no difficulty in finding the whole of the exhibits of interest to motor cyclists. The exhibition closes on Saturday next, 28th inst., at 10 p.m.

Alldays, No. 131.

The Alldays is one of the entirely new model motor bicycles at the show, and is a medium weight machine of 2½ h.p. The engine is carried low down in the frame, and is fitted with an automatic inlet valve. The cylinder has two long holding down bolts extending to the top of the combustion head. A handle-bar controlled Amac carburetter is fitted and a Bosch lightweight magneto. The petrol tank is a



Alldays & Onions new pattern medium weight motor bicycle.

round one. Although no spring forks are fitted, the handle-bars are pivoted at the top, and their movement is controlled by a coil spring. The machine has a front rim brake and a back pedalling belt rim brake. The rear mudguard is made detachable for ease in tyre repairs. A Rideasy saddle, tubular carrier and stand, and pedalling gear complete the equipment.

Ariel, No. 232 Gallery.

The 2½ h.p. Ariel lightweight motor bicycle has been improved in several respects. It is now fitted with the latest pattern Brown and Barlow handle-bar controlled carburetter and a specially large sized toolbag behind the petrol tank. This space was previously occupied by accumulators and coil, but now that magneto ignition has been adopted the special tool case fits snugly. The Ariel lightweight is a fast machine for its power, and a splendid little hill-climber.

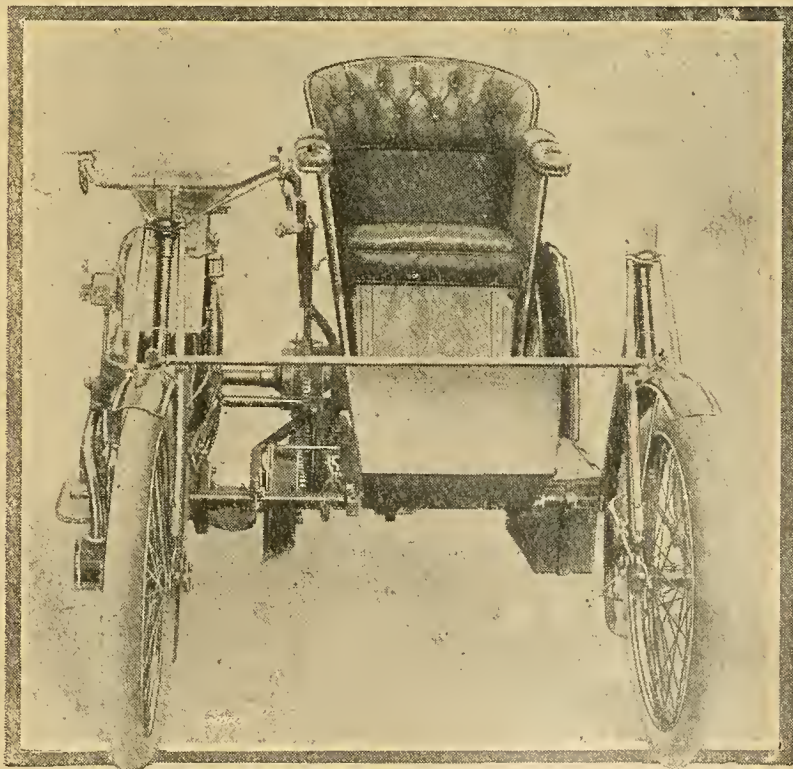
Arno, No. 301 Gilbey Hall.

This company exhibit for the first time at any show the Arno single-cylinder motor bicycle. The frame is built specially low, with long straight chain stays extending direct from crank chamber to rear forks, with the exception of the one crank for the belt rim. The bracket for pedal axle is detachable to enable riders who prefer a pedalless machine to remove the pedal gear entirely and leave no trace of it having been fitted. The ball socket is a particularly strong piece of work, and, although the frame is very low, the length of the steering socket is not reduced in any way. Spring forks are provided, and the forks are also stayed with girder tubes. The engine (which is made throughout at the Arno

Motor Co.'s Coventry works) has a bore of 90 mm. and a stroke of 85 mm., with Hoffmann ball bearings to the crank shaft. The silencer consists of a separate casting, which fits over the exhaust tube, the latter being drilled with a number of fine holes, the final exhaust release taking place underneath the outer casting, and somewhat to the left-hand side. The ignition is by a Bosch chain-driven magneto machine, the magneto being fitted behind the engine on a bedplate cast with the rear half of the cradle. The carburetter is an Amac with handle-bar control. Neat metal footrests are fitted, with the name Arno embossed upon them, the raised lettering giving a good grip to the sole of the boot. Mr. Hammon, who is responsible for the design and production of this machine, was also the maker of the Clarendon motor bicycles, a number of which are still running and giving every satisfaction to their owners.

Bat, No. 97.

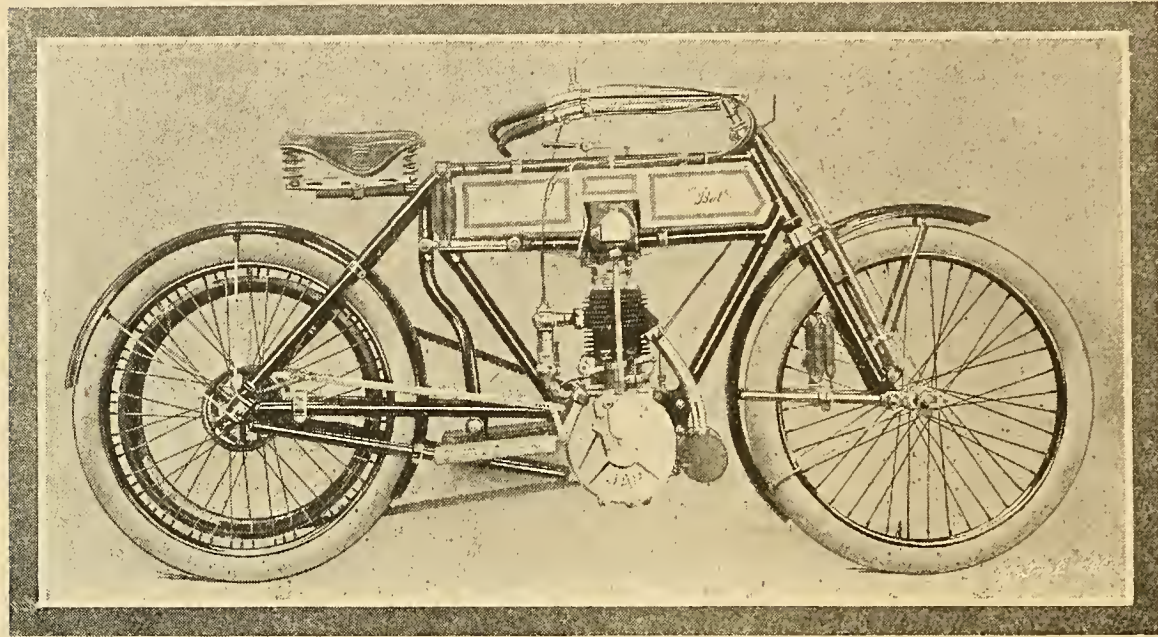
No less than seven distinct models of the well-known Bat motor bicycles are to be seen here. Beginning with the smallest, the 2½ h.p. lightweight is a machine worthy of special attention. It embodies the well-known Bat specialities, such as their spring frame and spring forks, and is fitted with the new lightweight J.A.P. engine, having a bore and stroke of 70 by 76. The ignition is by Bosch magneto, type DA1, gear driven, all the gear wheels being enclosed in a case forming part of the timing gear cover. The carburetter is the well-known Amac with handle-bar control. Another interesting type of machine which should be very popular during the



The Bat Four-wheeler, propelled by a 9 h.p. twin-cylinder engine through a change-speed gear. Both back wheels are differentially driven.

Motor Cycles at the Stanley Show.—

coming year is the $3\frac{1}{2}$ -4 h.p., 85 by 85, with the new J.A.P. engine with side by side valves. The ignition is by Bosch magneto carried in a compartment of the tank, and driven by means of a vertical shaft and bevel gearing. The usual Bat spring frame and forks are fitted. The 6-7 h.p. twin with automatic inlet valves has been previously described in these pages, and remains unaltered for 1909. A lighter type of the above machine is also shown, in which the springing arrangement has been slightly modified, enabling the frame to be



4 h.p. 1909 Bat, fitted with a new Jap engine with valves at the side.

made of less weight. To this particular machine the J.A.P. carburetter is fitted. Another new type is the 7-8 h.p. fitted with mechanically operated valves, having a bore and stroke of 85 by 85. This has the usual type of magneto and drive, and a J.A.P. carburetter is fitted. With mechanically operated valves the machine should be especially useful for those who require a powerful touring machine or one which is eminently suitable for sidecar work. The 7-9 h.p. type is practically unaltered. Reference was made in our last issue to the Carcycle. This is to be seen on the stand, and is well worthy of close examination. It is well to mention here that it is fitted with both accumulator and magneto ignition. The whole presents a very handsome appearance, and it has the advantage which so few passenger machines have, of being really adjustable, for in a very few minutes the machine may be removed from the attachment and the cycle made of use as a single geared solo machine. All the Bat machines are fitted with automatic lubrication, spring frames and forks, and handle-bar control.

Bradbury, No. 78.

A machine with a glorious past has been revived for 1909, and after a lapse is again to be seen at the Stanley Show. This is our old friend, the Bradbury, which behaved so conspicuously in the early A.C.U. and M.C.C. Trials. The engine, which has a bore and stroke of 87 by 87, is called $3\frac{1}{2}$ h.p., and is provided with mechanically operated valves, while the main shaft runs on ball bearings. It is fitted with a magneto driven by a chain enclosed in an aluminium case. Both pedals and footrests are provided, and on the latter is a control pedal, which works the brake acting on the belt rim. The frame is low, and girder spring forks are fitted. A separate luggage carrier is supplied, while a stand is attached to a lug on the back forks. The machine is well fitted out, and the tank is provided with a petrol gauge and an enclosed pump.

Bransom No. 107.

Messrs. Bransom and Co. are showing a double-seated trailer provided with brakes controlled from the cycle. A description of this was published on page 900 last week.

Brown, No. 265 Gallery.

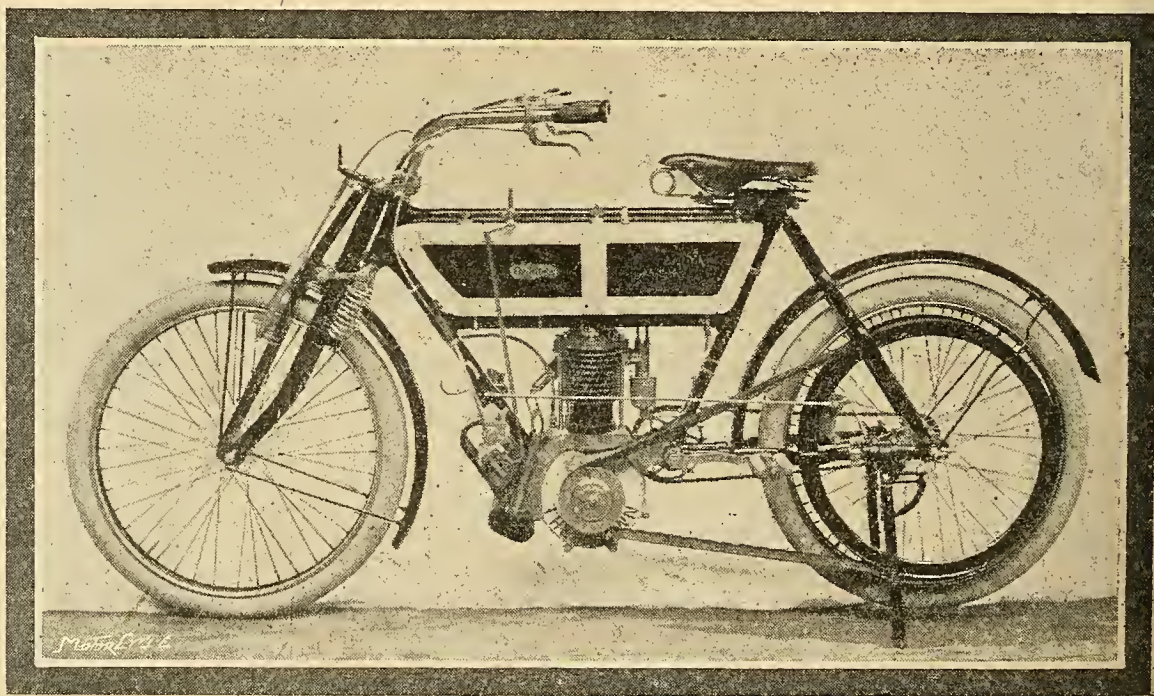
Brown motor cycles have been improved in several details for 1909, some of the improvements being as follows: Handle-bar controlled carburetter, spring forks, new pattern of exhaust valve lifter, improved method of building up the rear stays, and various other smaller details. We tried a $3\frac{1}{2}$

h.p. Brown machine during the summer and were quite pleased with its behaviour in our hands, for it never once gave any trouble during the several hundred miles we rode it. Brown motor cycles have no flimsy parts in their construction, and can be classed among the most serviceable machines on the market. They are built of strong parts to stand rough usage, and those on exhibition are splendidly finished, and fitted up complete with stand attached to the chain stays, and footrests. Either accumulator or magneto ignition can be supplied, but when the latter is fitted, the Bosch magneto is driven by a train of gears, enclosed in a neat case. The models shown include $3\frac{1}{2}$ h.p. single-cylinder machines, $5\frac{1}{2}$ h.p. twin-cylinder machines with mechanically-operated inlet valves, also a $3\frac{1}{2}$ h.p. machine with two-speed gear and free engine on the main shaft, and chain drive. This latter machine has a Mills and Fulford Castor wheel sidecar, and the two make a very imposing combination. All 1909 Brown motor bicycles will have adjustable

engine pulleys, the several advantages of which are well known to our readers.

Chater Lea, No. 228 Gallery.

A number of alterations have been made to the Chater-Lea Carette. The 6 h.p. air-cooled engine is retained, but a three-speed gear of the Panhard sliding type is now fitted transversely in the frame, the main shaft being extended the whole width of the chassis, terminating in a sprocket, which drives on to the near side rear wheel. Only one wheel is driven, and thus the necessity for a differential gear is done away with. Fitted with a magneto, the number of working parts seem to be very few indeed, and there is a noticeable absence of wiring, levers, and loose parts. The engine at the side is in a most accessible position; in fact, in making an adjustment one could almost imagine that the engine was on a bench. More rake has been put on the steering wheel,



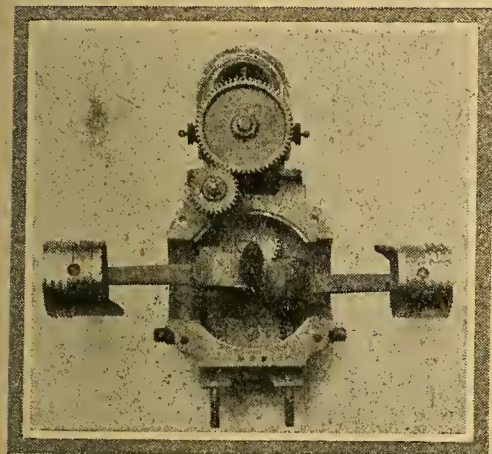
Specimen of $3\frac{1}{2}$ h.p. Brown Magneto Model, with spring forks and handle-bar controlled carburetter.

Motor Cycles at the Stanley Show.—

and the comfort of the passengers' seats increased. The two-speed twin-cylinder chain-driven bicycle, built especially for sidecar work, was illustrated in our last issue. It is just the machine for serious touring with a sidecar attachment. A new lightweight is also shown on this stand fitted with a $2\frac{1}{2}$ h.p. J.A.P. engine. The design of this machine is on quite up-to-date lines, but it was exhibited in an incomplete state. Rubber-covered footrests can now be obtained from Chater-Lea, Ltd., together with a foot brake attachment all complete.

Douglas, No. 65.

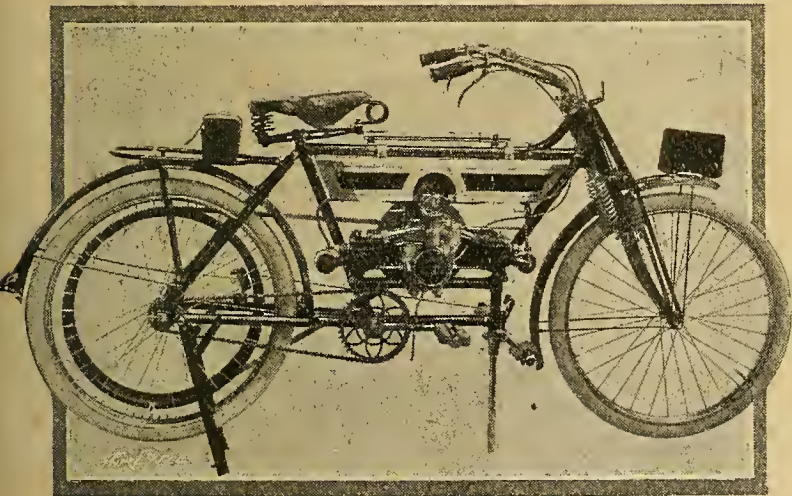
Several improvements are embodied in these well-known lightweight machines for 1909. The engine is now carried lower down on an additional horizontal tube in the frame. A separate luggage carrier is fitted, and a stand attached to



Pistons, connecting rods, timing gear wheels, and gear driven magneto of the $2\frac{1}{2}$ h.p. Douglas, which has a horizontal engine with opposed cylinders.

lugs on the back forks, which allows the back wheel to be removed without difficulty. The machine has also been considerably lightened, and a model is shown suspended from a spring balance, which registers 106 lbs. Adjustable foot-rests are provided, and in one end of these is carried a plated brass tube, which can be used as a front wheel stand, since it fits into the vertical tube which forms a part of the

diagonal tube of the frame. The carburetter can be removed by merely undoing two nuts, and its interior mechanism has been somewhat altered. A choke tube is provided, which acts as a throttle—that is to say, the outer portion of the choke tube acts as a sleeve throttle, while the fact of altering its position causes the mixture to be enriched, as the quantity of air is shut off. Druid spring forks are fitted in all cases, and these are strengthened by means of a girder. It is interesting to note that this is one of the few machines with horizontal cylinders which are provided with vertical valves. This



|| The improved $2\frac{1}{2}$ h.p. Douglas Lightweight.

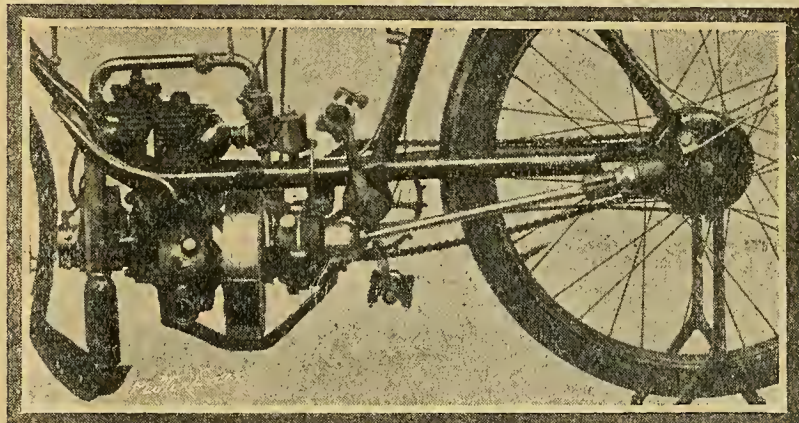
new model was successfully used in the Quarterly Trials last October. The throttle and air levers are controlled from the handle-bar. The pump is now fitted inside the tank, and it is provided with a non-return valve, so that the oil cannot be inadvertently pushed back into the tank, and the tap must be opened to admit the oil into the engine. The back brake is operated by means of a pedal situated on the footrest controlling a shoe acting on the belt rim. These machines are all fitted with $2\frac{3}{4}$ h.p. engines with horizontal cylinders opposed, with a bore and stroke of 60 by 60, developing a horse-power of $2\frac{3}{4}$. With each machine a well-equipped tool roll is supplied.

Elgin, No. 313 Gilbey Hall.

The Elgin motor bicycle is a $1\frac{1}{2}$ h.p. lightweight model, weighing unladen about 60 lbs. It is made in two patterns, for ladies and gentlemen, the first model being battery ignited and the other provided with a Ruthardt magneto machine, chain driven. The engine is of the two-stroke variety, with a bore of 45 mm. and a stroke of 90 mm. The gas is induced through an automatic inlet valve at the base of the cylinder, compressed in the crank chamber, and driven up to the combustion head from ports in the cylinder walls. A baffle plate on the top of the piston deflects the incoming gas, and prevents it mixing with the exhaust gases. The crankshaft has ball bearings. The transmission is by an ordinary $\frac{5}{16}$ in. leather V belt without jockey pulley. There is a petrol tank capacity of 100 miles. The oil compartment communicates by means of a pipe and tap with the cylinder, the feed being regulated by the rider, who has under his control a small tap under the tank. In the case of the battery ignited machine the speed is controlled by means of a combined compression release valve and advance spark to contact breaker. The magneto ignited machine has the compression release valve only. Two brakes are fitted—a rim brake on the front wheel, and a back-pedalling coaster rim brake on the rear wheel. A complete engine set is also sold for fitting to roadster pedal bicycles.

F.N., No. 130.

The *pièce de résistance* on the F.N. stand is obviously the new pattern $2\frac{1}{4}$ h.p. F.N. motor bicycle, with two-speed gear and bevel gear transmission. This machine is quite a little gem of lightweight construction, possessing practically every-



Showing the whole of the working parts of the new F.N. two-speed bevel driven lightweight.

thing that motor cyclists have asked for for some time past. Using the curved stamped cradle, which is a feature of the F.N. model, a $2\frac{1}{4}$ h.p. engine is placed transversely in the frame. This engine has an outside flywheel, and a small gear box is situated immediately behind it. In the box are a set of pinions which provide for two speeds. To change gear, one lever is used to withdraw the clutch and change the gear, and the gear cannot be changed without the clutch being first withdrawn. A special feature of the machine is that the whole of the transmission and clutch mechanism has been designed on motor car lines; that is to say, there is a universal joint at each end of the propeller-shaft and also between the clutch and the gear box. The cone clutch is withdrawn by being pushed inwards. When the clutch is engaged the two faces are quite flush, and no dirt or dust can get in to damage the clutch leather. The other F.N. models—the $1\frac{3}{4}$ h.p. lightweight belt-driven and the four-cylinder gear-driven—are, of course, well represented. The change speed gear for passenger work fitted to the four-cylinder F.N. should be examined. This gear is operated by means of dog clutches, and we hope to illustrate it very shortly. The box containing the gear is fitted between the bevel and the spur gear transmission, and is bolted around the propeller-shaft casing.

Humber, No. 98.

A firm which we are very glad to see has taken up again the manufacture of motor bicycles is Messrs. Humber, Ltd. In their new model they have produced a machine which is well worthy of the reputation Messrs. Humber enjoyed a few years ago with their older machines. In the new design the machine has been thoroughly modernised and

Motor Cycles at the Stanley Show.—

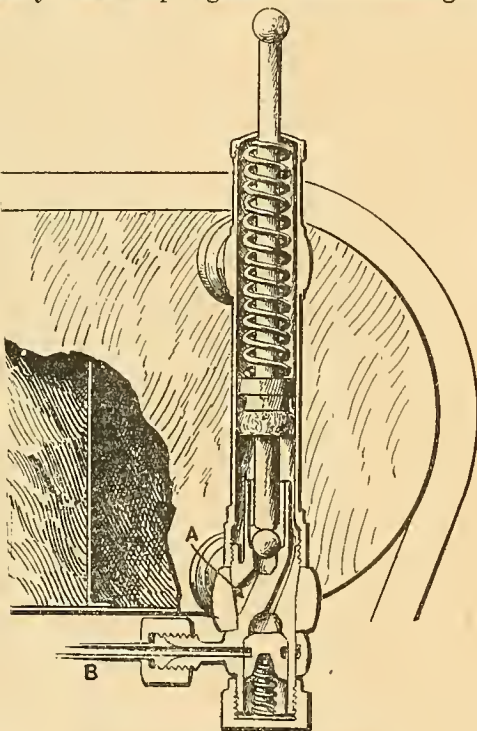
to be seen on this stand the usual outside mudguard stays have been removed, thus rendering the tyre of the sidecar wheel far more accessible.

Moto-Reve, No. 108.

No startling improvements are to be found in this splendid little lightweight, fitted with a 2 h.p. V engine, 50 by 70. All the improvements and alterations are in small but somewhat important details, e.g., the wheels are built somewhat stronger, and substantial 2in. Continental tyres are fitted. A couple of taps with small pipes leading from the tank to the compression taps are provided, so that petrol can be easily injected when the engine is difficult to start. The design of the spring forks is distinctly good, the forks being light, while at the same time they are strengthened by the aid of a girder. An extra release valve has been added to the crank chamber to prevent the oil from being splashed out. Another small but important point is the fitting of a toolbag, which comprises a neat roll, so that the tools can be inserted and the whole neatly rolled up. A new belt rim brake, operated by a pedal on the footrests, deserves special attention, since it is a fitment which is extremely neatly carried out. Another innovation consists of an alternative model, which allows the engine to be carried very low down indeed, rendering it most accessible, so that the cylinders can be removed without detaching the engine from the frame.

Motosacoche, No. 67.

The Motosacoche was one of the first light-weight machines to be introduced in this country. The chief alteration in the 1909 model is a loop frame which brings the engine 2in. lower than formerly. The frame is also strengthened by a diagonal stay close up against the steering pillar. Most models are

**Motosacoche Paraffin Pump.**

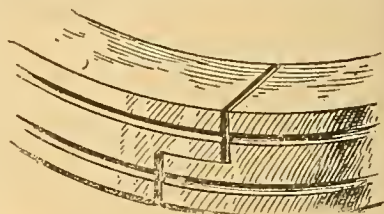
A. Inlet from tank.
B. Delivery to cylinder.

cylinder, which is one of the best multi-cylinder lightweights on the market. The inlet valves are mechanically operated, and what is an extremely important point the radiator fins are horizontal on both cylinders, thus allowing a free draught of air. A paraffin injecting device is also embodied in this model. The Bosch magneto on the twin is driven by means of a shaft and bevel gearing; the whole of the magneto transmission is enclosed in a water-tight aluminium case. The exhaust pipes are held on by a single bolt, and are carried with easy bends to the silencer, from which there extends a long pipe which reaches almost to the back forks, thus rendering the machine very silent. On the twin there is a separate lever for the spark advance, but on the single the entire control is from the handle-bar. Another interest-

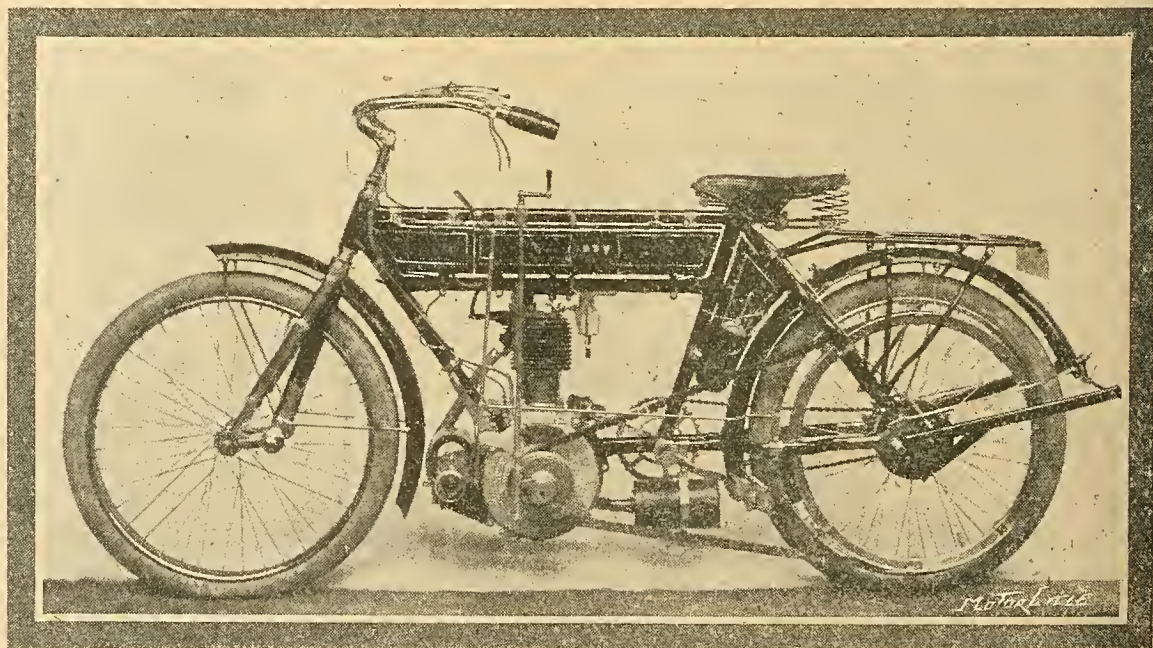
ing model seen on this stand is the Motosacoche lady's machine in which the engine is carried vertically on the frame. This engine is fitted with mechanically-operated inlet valves and magneto ignition. The dimensions of the single-cylinder engine are 52 by 72, and those of the twin are 62 by 70 mm.

Norton, No. 87.

A small, but interesting display of machines is to be found upon this stand. The models shown are a 5 h.p. twin, 76×80, and a single-cylinder 82×90. The valves have been considerably enlarged, and the frame has been improved in detail. A new form of stand is fitted as a standard, which is attached to a lug built into the chain stays. A special lug is also built into the frame for carrying the belt rim brake. The oil pump is enclosed in the tank, and is placed nearer the rider than previously. Norton machines look suitable for speed and hard work. The frames are low built, and the wheelbase is long. A novel piston ring is used in the engine, having two grooves for oil.

**Segment of the Norton Piston Ring, showing grooves for oil.****N.S.U., Nos. 262 and 263 Gallery.**

Probably the most comprehensive range of motor cycles in the whole show is the exhibit of the N.S.U. Co. It would be a very fastidious motor cyclist who could not find what he wanted on the N.S.U. stand. For instance, the models range from 1½ h.p. lightweight to an 8 h.p. twin-cylinder racer, and between these models come the following: The 2½ h.p. twin, 3 h.p. single-cylinder, 4 h.p. single-cylinder, 4 h.p. twin-cylinder, 6 h.p., and 8 h.p.; but the complete range of models is not the only thing, for the N.S.U. Co. make and fit to any of their touring machines a free engine clutch for the engine-shaft and a two-speed gear and free engine for the engine-shaft. If a rider prefers it, he can have a combined two-speed gear and free engine fitted in the back hub instead. All the models are splendidly finished, one of the more powerful machines having a sidecar fitted. The N.S.U. tricar is a very well thought out machine, and should appeal to passenger motor cyclists. It has a two-speed gear and free engine operated by one lever, the frame is sprung in front, the engine is cooled by means of a fan, and almost every recent improvement is embodied in the construction of the machine. A stripped machine for racing purposes is shown of each of the models above referred to, and a section of the new 4 h.p. engine, which shows very clearly the whole working of the engine. The N.S.U. Co. have gone so far to study the requirements of motor cyclists that they are willing to fit automatic or mechanically operated inlet valves to their twin-cylinder machines, according to the individual buyer's preference. The N.S.U. anti-skidding device is shown fitted to one of the twin-cylinder machines, and we are informed that these bands are most effective in



A new model N.S.U. of 4 h.p. The machine illustrated is fitted with a free engine clutch, and another shown at the Stanley has a change speed hub gear.

Motor Cycles at the Stanley Show.—

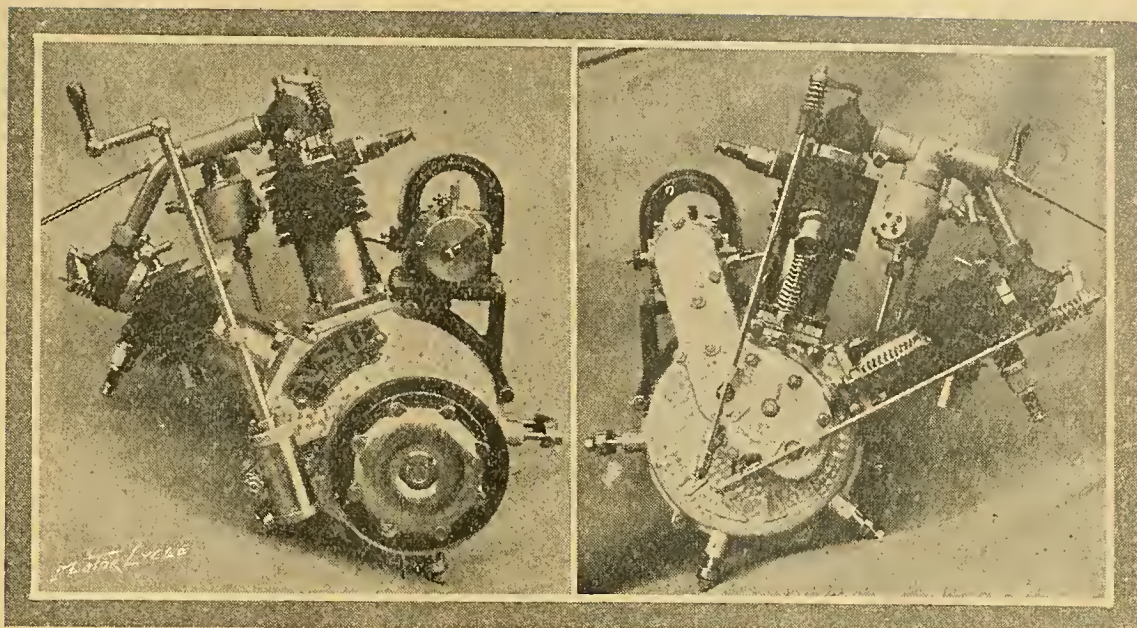
preventing side-slip. We have been promised a personal trial of these bands on one of the 1909 N.S.U. models, and shall then have something more to say about them. N.S.U. motor cycles are supplied complete ready for the road with spring forks, stand and carrier (the stand being fitted to the chain stays to allow of easy withdrawal of the back wheel), number plates, toolbag with tools, oilcan, etc. Handle-bar control has been adopted on the N.S.U. models, the levers being particularly neat, and operating by means of wires sliding pistons in the carburetter. In a word, to miss the N.S.U. stand would be to miss one of the features of the whole show.

Oakleigh, No. 106.

On this stand rigid and flexible sidecars are to be seen. A sidecar fitted with a spring suspended wheel is also shown. This wheel has already been described in our pages. Another interesting attachment is a castor-flex sidecar, which is a flexible sidecar, allowing the machine to be ridden as an ordinary bicycle, which has a castor wheel action, a joint allowing the sidecar wheel to follow the track made by the motor bicycle to a limited extent. Most of the sidecars are fitted with well-shaped seats, made in either wicker or cane, and upholstered in pegamoid. Besides the above, a system of spring back motor cycle is shown. Another accessory is a useful pan seat provided with a padded cushion.

Phanomen, No. 114.

Some interesting machines are to be seen upon this stand. One of the most attractive is the 6 h.p. twin—74 × 84—enamelled entirely grey. There are no bright parts about the machine at all except the handle-bars. As regards colour the machine carries with it a strong reminiscence of a British ironclad. The result is that this motor bicycle is distinctly businesslike in appearance. It is fitted with the well known Nala two-speed gear, which is controlled by one lever. An enclosed fan is also fitted as well as spring forks. Another attractive machine is a 4 h.p. single—86 × 84—enamelled cream. This is fitted with the Brown and Barlow handle-bar controlled carburetter. On all the machines the magneto is carried horizontally underneath the bottom bracket. In the pages of *The Motor Cycle* "Ixion" has made a point of the lightweight twin-cylinder. A machine which comes near his ideal is the 4 h.p. Phanomen—67 × 72—fitted with spring forks and Nala two-speed gear. On this stand the main parts of Phanomen machines are displayed upon a table as well as a complete engine. Enthusiastic motorists will do well to examine the excellent workmanship displayed in these.



The new 2½ h.p. Twin-cylinder Lightweight N.S.U. Engine. Its special features are handle-bar controlled carburetter, M.O.I.V., geared down engine pulley, and gear-driven magneto.

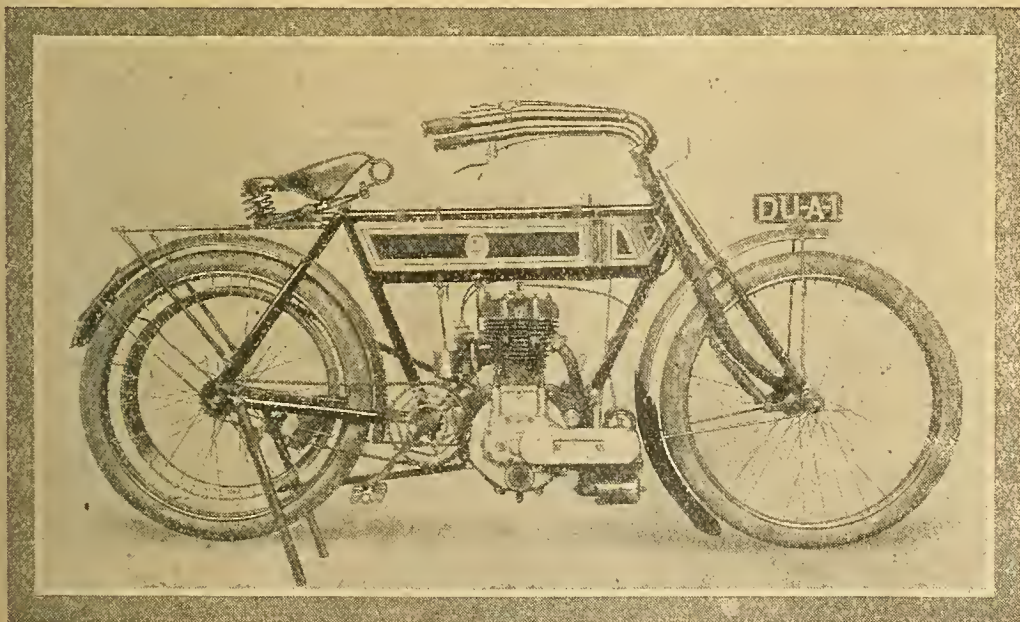
The magneto machine is driven by means of gear wheels, the transmission being particularly well carried out. The half-time wheels and cams and the spindles which carry them are made out of one piece, while the main shaft spindle has the small timing wheel turned solid with it, and at the further end is carried the small pinion driving the magneto. This is held on by a hardened steel pin. A 6 h.p. twin with two-speed gear is shown attached to a rigid sidecar, while we understand that a Phänomobile will be shown at a later date. This machine was described at the beginning of the year in our pages.

Premier, No. 79.

A new 3½ h.p. Premier motor bicycle makes its *début* before the public on this stand. It is a splendid example of the best possible workmanship, while the finish is beyond all praise. The engine is the famous White and Poppe, fed by a Brown and Barlow carburetter, controlled from the handle-bar and the latest type of Bosch magneto driven by an enclosed chain. In future engines, we understand that ball bearings will be fitted, while the engine is already provided with adjustable valve tappets. The machine shown is fitted with Chater Lea spring forks, but we are informed that a new fork of novel design will be embodied on future models. Pedals as well as footrests are provided. The engine will be fitted with a compression tap with the sparking plug arranged on it so that if the rider desires it the plug may be carried in the centre of the cylinder, or two plugs may be used simultaneously. The new Premier is equipped complete ready for the road, including stand attached to the chain stays, tubular carrier, and footrests. A Davison petrol gauge is fitted in the tank, which latter has a capacity exceeding one gallon. We understand that the Premier Co. intend to enter thoroughly into the manufacture of motor cycles, and that the Premier machine will figure largely in 1909 competitions.

Pringle, No. 84.

A motor bicycle with a new type of frame is shown on this stand. The Sinclair patent frame comprises three main tubes, two of which extend parallel to one another from the lower end of the steering head, one on either side, with suitable curves to the back forks, to which the rear wheel is connected. The other main tube extends from the top of the steering head to the seat-pillar, all three being brazed together at the bottom of the loop, and completed with the necessary lugs and stays. The frame is of quite original design, and can be used by either a lady or a gentleman. The engine is a 3½ h.p. Minerva, fired by an Eisemann self-contained magneto. An Osborne four-speed pulley is fitted, and a dressguard is provided just behind the engine. A Brooks motor cycle saddle is fitted.

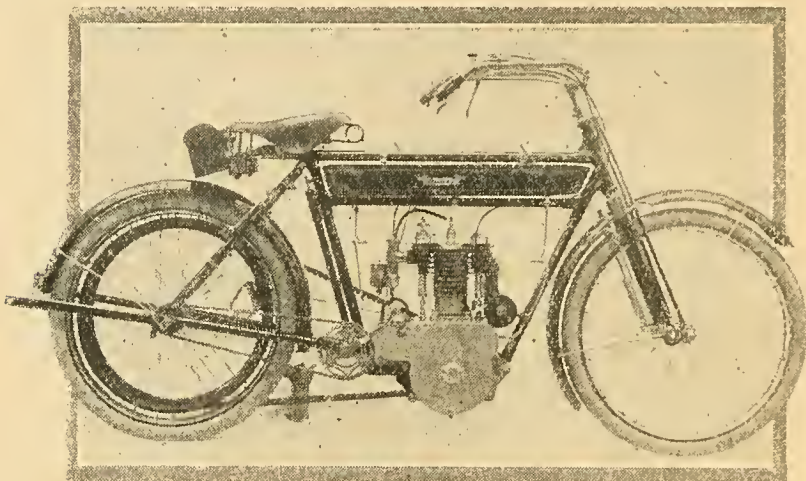


The first 3½ h.p. Premier Motor Bicycle, with Bosch magneto and Brown and Barlow handle-bar controlled carburetter

Motor Cycles at the Stanley Show.—

Quadrant, No. 109.

The new Quadrant, the engine of which was described in a recent issue of *The Motor Cycle*, is shown here for the first time. This engine has a bore of 84 mm. It will be as well to recall the fact that the chief points about it are that the engine, carburetter, magneto, and silencer form one unit, but the cylinder may be removed without removing the crank case from the frame, and, moreover, the timing wheels are easily accessible, and not only can the cylinder be taken off, but the whole of the engine can be dismantled.

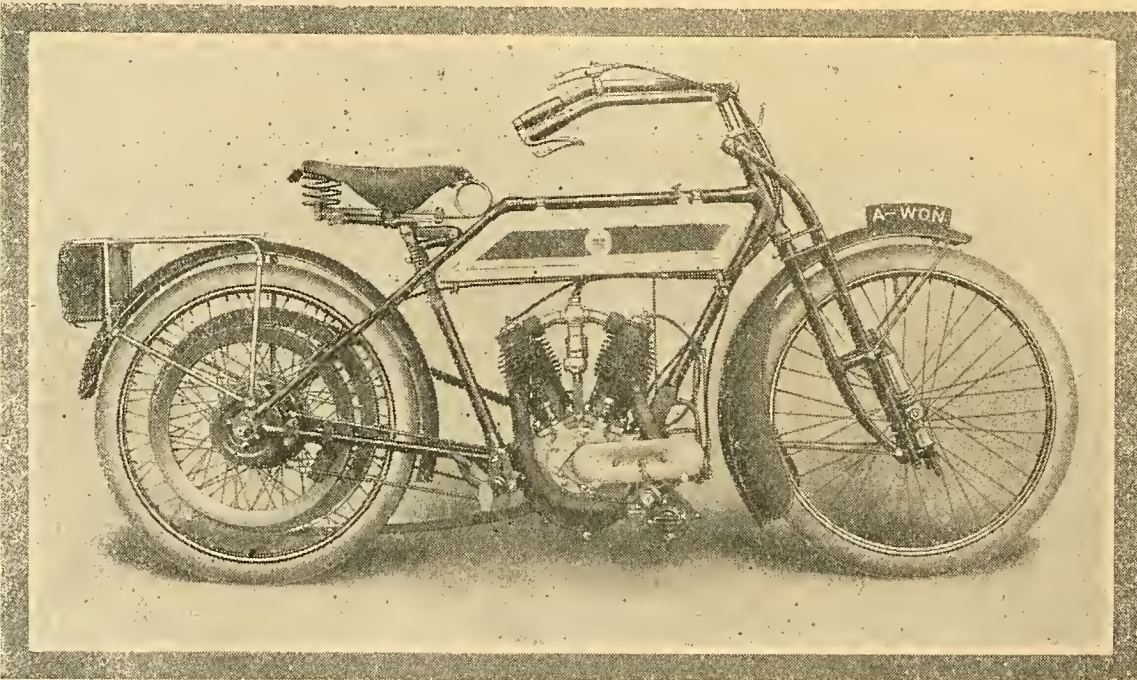


Next year's $3\frac{1}{2}$ h.p. Quadrant model. It is controlled by a single lever on the handle-bar.

leaving only the crank case in position. The carburetter fitted is automatic, and only one lever serves to control it, but there is a port on the side of the spray chamber fitted with an adjustable shutter, so that the degree of air admitted can be slightly varied according to the temperature. The frame is low and the wheelbase fairly long, while spring forks of the Quadrant type are fitted. These forks are duplex, and provided with longer bearings, being strengthened by means of a girder. Two brakes are fitted, one acting on the rear rim and the other on the rear belt pulley. We understand that in future models a back pedalling band brake will be provided. A special machine presents a very handsome appearance, and one of the chief points about it is the safe place in which the magneto is situated, being well out of the way of mud and wet. The oil pump is enclosed, and is thus free from damage. One of the machines exhibited is shown fitted to a rigid sidecar, while a Roc two-speed gear outfit, complete with back forks, is also to be seen.

Rex, No. 76.

Four distinct types of the well-known Rex motor bicycles are to be seen on this stand. The $3\frac{1}{2}$ h.p. single and the 5 h.p. twin both fitted with pedalling gear, and the $3\frac{1}{2}$ h.p.

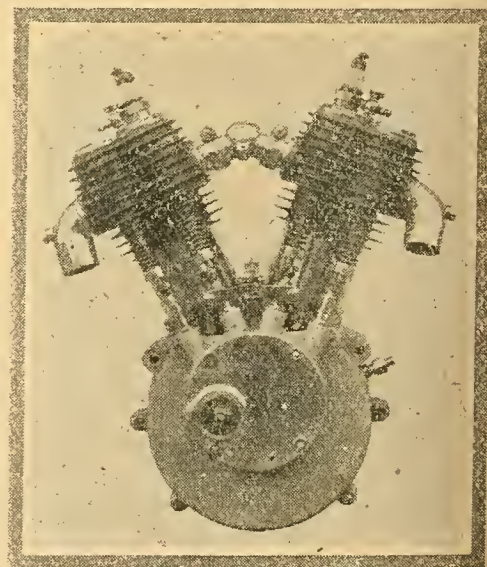


A 1909 Rex de Luxe Twin-cylinder Bicycle equipped with two-speed gear and free engine.

single de luxe with two speeds, and a 5 h.p. with two-speed gear. Ball bearings are fitted to the main engine shafts in all cases, as well as a domed piston with two rings, one on the top of the piston and the other at the bottom. The new spring fork fitted to Rex models is well worthy of attention. The forks are of the girder type, and the springs are enclosed in tubes attached to lugs brazed on to the forks themselves. The springs are on both sides of the spindle, so that the forks are smooth and efficient in action. These forks allow the front wheel to be easily removed, which is a distinct improvement over last year's model. The mudguards are wide and efficient, and the mudguard flap is incorporated with the guard itself. On all models the Amac carburetter with handle-bar control is fitted. Some excellent specimens of the fine work turned out by the Rex Co. are displayed upon the stand. A dismantled engine is shown showing the excellent finish of the cylinder and the neat fitting of the crankshaft ball bearing, as well as the timing gear arrangements in which both valves are operated by one cam. The new frame is particularly neat, as the Rex cantilever spring saddle-pillar can be fitted to both the tourist and de luxe models. The frames are finished in black enamel, and present a very smart well-finished appearance, while the tanks are enamelled aluminium with a deep blue panel. A separate luggage carrier of ample dimensions is fitted, also a stand which we have previously described. The Rex machines present a neat, workmanlike appearance, and we congratulate the company upon the advance made in the finish and design of the 1909 models. The tricars referred to in our forecast issue were not in evidence on the opening day, but we hope to refer to them next week in our third and last show number.

Roc, No. 81.

An interesting display of Roc machines is to be seen on this stand. The chief improvement for 1909 lies in the new spring forks, of which the movable members are hung on C-springs working on telescopic tubes attached to a bracket on the head. Small detail improvements are also embodied in the two-speed gear. A further means of adjustment is provided for the top speed clutch, and the design of the live axle bearings and clutch has also been improved. Two absolutely independent back brakes are fitted, situated side by side. These brakes carry little studs at intervals, which engage with a steel drum, giving, we understand, a very smooth action. The two models shown are the 4 h.p. single (83 by 90 mm.) and the new 5-6 h.p. twin (75 by 80 mm.). These engines are now fitted with mechanically operated valves—an improvement which we are very glad to see. The twin-cylinder is shown fitted to a Castor wheel sidecar, while a single-cylinder is exhibited with two-speed gear attached to a Castor wheel sidecar, carrying a delivery box engraved with the name of William Whiteley, Ltd. A special point made for next year is the Roc conversion set, embodying the complete rear portion of the machine, comprising the two-speed gear, fitted with the Roc control. These are now supplied to fit practically every make of motor bicycle.

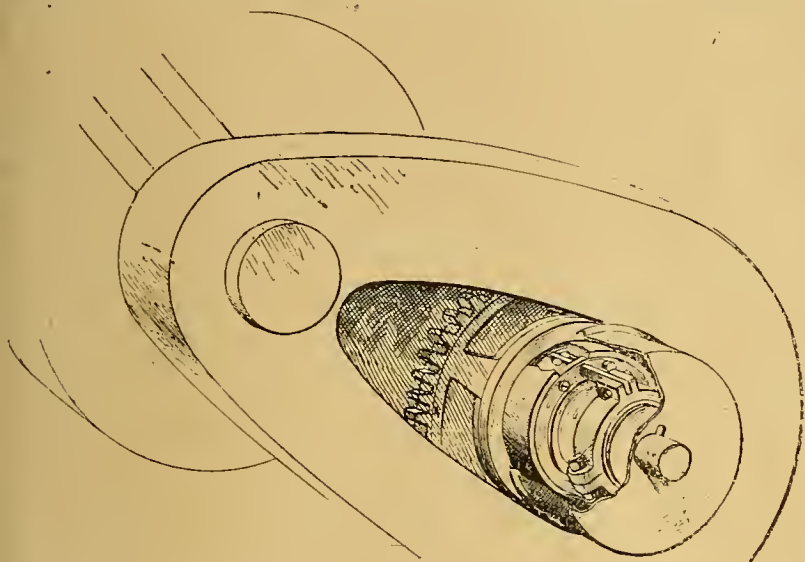


The new pattern Roc Twin-cylinder Ball-bearing Engine with mechanically-operated valves.

Motor Cycles at the Stanley Show.—

Service Co., Ltd., No. 116.

One of the most interesting and varied exhibits including all the different makes of motor cycles for which the company are agents. They comprise the Moto-Rève, L.M.C., four-cylinder F.N., $3\frac{1}{2}$ h.p. single cylinder Triumph, $3\frac{1}{2}$ h.p. Rex, Millford Castor wheel sidecar with a board on axle for luggage, a N.S.U. with Wysall's patent seat and steering wheel, and six examples of the Phelon and Moore two-speed



The geared-up handle-starting arrangement on the $3\frac{1}{2}$ h.p. 1909 two-speed P. & M.

geared motor bicycle. The latter machine is not represented elsewhere in the show, therefore we may here devote a few lines to a description of its latest improvement. This is in connection with the starting device which is illustrated in the annexed line sketch. Previous to this show the handle was fixed on the engine-shaft, which could not be revolved rapidly enough to ensure a hot spark from the magneto. The handle is now attached to a stud carried on a plate which is riveted to the low speed chain wheel of the counter-shaft, and forms at the same time a cover plate for the wedge bar clutch mechanism.

Triumph, No. 122.

A number of superbly-finished Triumph motor cycles are shown, the two 1908 patterns being retained for next year, viz., the $3\frac{1}{2}$ h.p. standard Triumph and the $3\frac{1}{2}$ h.p. Tourist Trophy model. Both models have been improved in various details, the chief advances being in the engine. The size of the engine remains the same as last year, viz., 84 by 86 mm., but the compression is slightly higher. The design of the piston has been considerably altered. It is shown in the accompanying illustration, and it will be noticed that it is dome shaped, and one ring is fitted at the top and one at

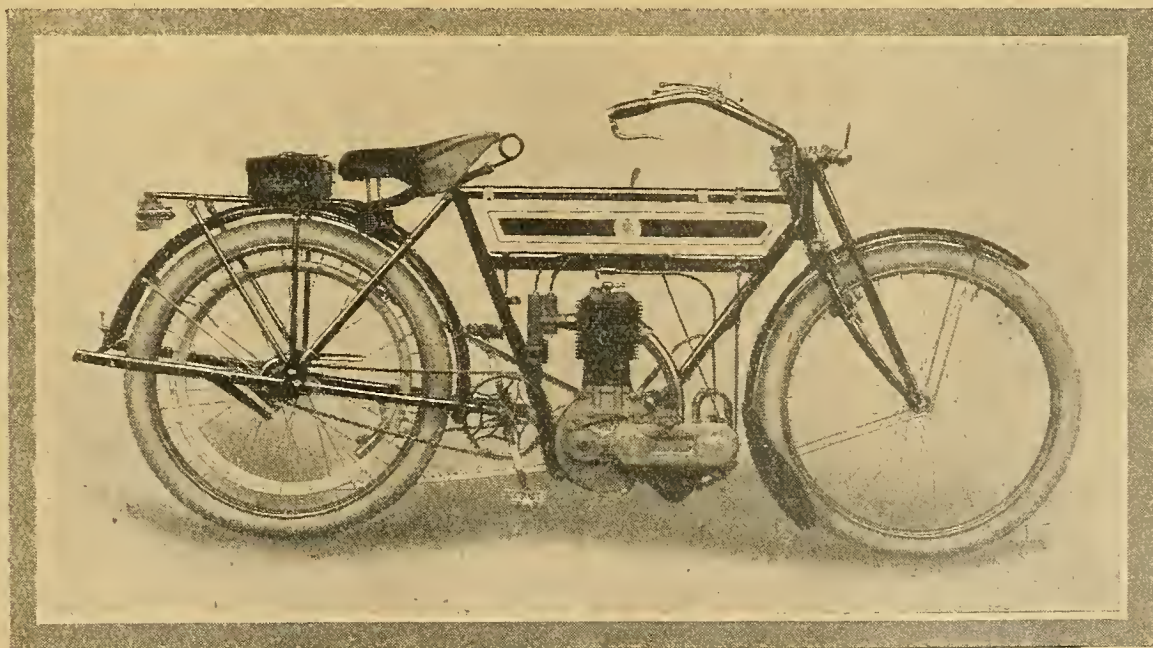


The dome-shaped piston on the 1909 Triumph. Note the step cut rings, one at the top and one at the bottom of the piston.

the bottom. The whole length of the piston is a good fit in the cylinder. It is claimed by this construction that there is a more even thrust on the cylinder, and, consequently, wear is less likely to take place. The mud flap is now made more of a protection for the magneto, and is attached to the magneto support, entirely away from the front mud-guard. The neat generator clip on the tank will be found extremely useful, and will do away with the necessity of fitting what was in most cases an ugly protuberance on the front forks. Brooks's hogskin top seats have been adopted as standard for the touring machines, a larger tool-bag fitted to the carrier, and Clincher rubber studded motor cycle tyres. Palmer or other makes can be obtained to special order. The T.T. model is much lighter than the touring model, and has no pedals. It was illustrated on page 898 last week. Triumph motor cycles have proved themselves absolutely reliable in the hands of all classes of riders, and when one examines closely the excellent finish and workmanship, it is not difficult to account for the enormous popularity they enjoy.

Vindec, No. 127.

A finely-finished collection of Vindec motor cycles, which for 1909 are coloured Vindec grey, lined black and red, with white panels to the tanks. Brooks's saddles are fitted to all models, the saddle springs even being coloured to match the frame and wheels. The *tout ensemble* of this exhibit makes a most tasteful and attractively finished stand. All models are shown— $3\frac{1}{2}$ h.p. single-cylinder, 5 h.p. twin-cylinder, and 7-9 h.p. twin-cylinder. The position of the carburetter has been slightly altered. It is now fitted midway between the two cylinders. The induction pipe can still be detached, or the inlet valve domes removed with the greatest facility. A new adjustment is provided for the handle-bars. In addition to the vertical adjustment, the handle-bar is now adjustable radially, so accommodating riders with various ideas as to the most comfortable position for the grips. An ingenious little arrangement to prevent the crank axle revolving is a spring catch which engages between the teeth of the sprocket wheel. It allows the bracket axle to be rotated in either direction, yet does not allow the cranks to revolve even if the free-wheel is slightly clogged. Tubular luggage-carriers are now fitted to all roadster machines. A fine example of the Vindec racer, 7-9 h.p., and a 5 h.p. twin with sidecar enamelled to match the frame of the motor cycle, complete a most interesting exhibit. Samples of the parts used in the new Vindec models can be inspected in a show case at one end of the stand. Among these is a new pattern silencer, which is lined inside with sheet asbestos, the exhaust pipe being slotted, the total number of slots being equal to several times the area of the opening of the exhaust valve. The new adjustment for the lift of the inlet valve can also be seen. Mr. Wells informed us that he had not noticed any signs of wear on this type of inlet valve in 2,500 miles running. The adjustment is provided not so much to compensate for wear as to allow for tuning up the



The $3\frac{1}{2}$ h.p. 1909 pattern touring Triumph. In outward appearance it is much the same as this year's model, the chief improvements being in the engine.

Motor Cycles at the Stanley Show.—

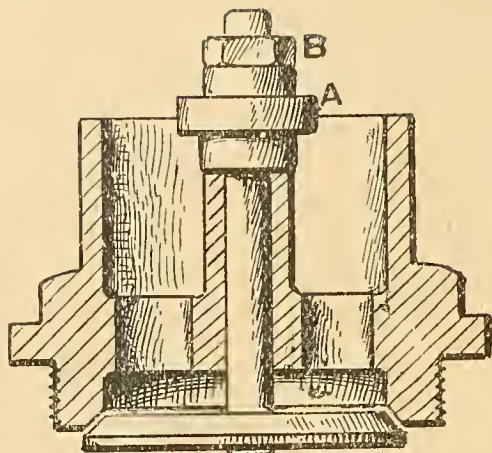
engine to give a small or large opening, according to the speed or hill-climbing requirements.

Vindec, No. 297 Gilbey Hall.

An entirely new model of small run-about on motor cycle lines, called the Vindec Runabout. This is a four-wheeled machine, with air-cooled 7.9 h.p. Vindec-Peugeot twin-cylinder air-cooled engine, arranged longitudinally in front under a bonnet. Transmission from the engine to the gear box is by means of a chain, the final drive being by means of a motor cycle belt to a belt rim on the left-hand rear wheel, which is the only driver, the right-hand rear wheel running loose on the shaft. There is no differential gear. The starting is effected by a handle which fits on the starting shaft midway between two side wheels. This shaft is connected to the gear box. A lubricator is fitted on the dashboard with sight drip feeds. The brakes are two rear wheel external band brakes operated by side lever, which is interconnected with the clutch pedal. Another pedal on the right-hand side operates the exhaust lifter. The wheels are all of equal diameter and size 26in. by 24in., the rear covers being studded Excelsiors and the front ribbed Excelsiors. This machine has a most taking appearance, and will appeal strongly to motor cyclists who are contemplating a sociable vehicle of the four-wheeled variety. It is extremely light.

Wolf, Nos. 57 and 58.

Several interesting machines are shown on these stands, ranging from the smallest to the largest. The first is the 1½ h.p., weighing about 70 lbs., fitted with an engine having a bore and stroke of 63 × 63 mm., carried in an inclined position and fired by accumulator and coil. The frame is 22in., and rigid forks are supplied. This machine is sold at a very moderate price. Another machine of the same horse-power with slightly lower frame, viz., 20in., is fitted with a Ruthardt magneto, and has a direct belt drive; it weighs about 5 lbs. more than the battery ignited model. The next machine is also of 1½ h.p., magneto ignited, and follows the same lines, but is fitted with larger tyres. Two distinctive models of the 20in. frame are built with engine fitted low down, clamped to the down tube in a slightly inclined position, as illustrated below. The ignition is by Ruthardt magneto, driven by an enclosed chain, and with outside flywheels similar to the other models previously reported, but with Druid spring forks. The belt rim brake is operated by the foot on a pedal fixed to the leather-covered foot-rests. It is, in common with the other models shown, fitted with handle-bar control. This machine weighs about 80 lbs. The most interesting model

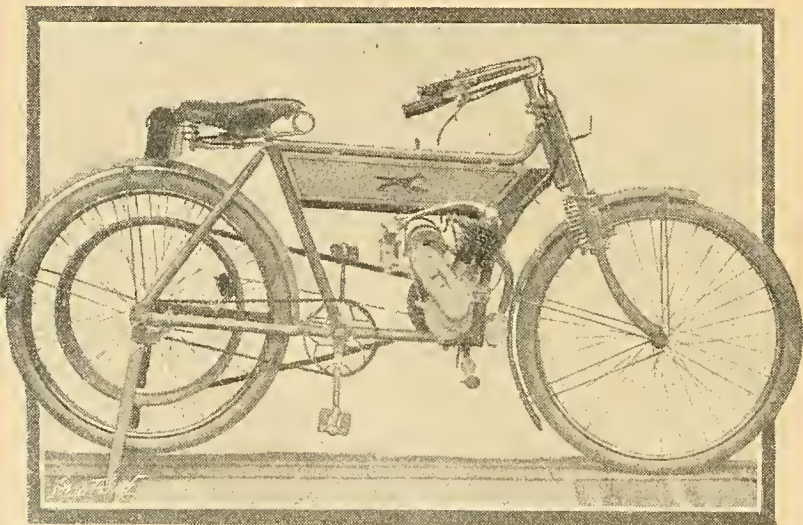


Vindec Adjustable Inlet Valve.
A. Nut for adjusting lift.
B. Lock-nut.

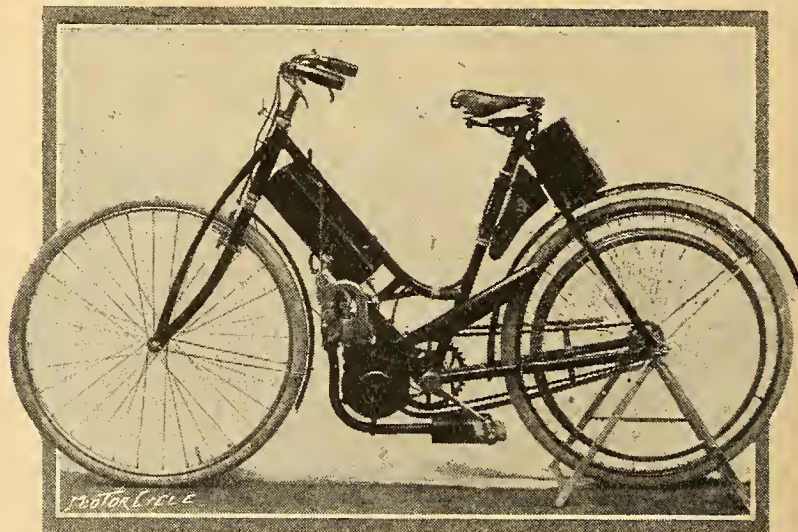
on the stand is the new 3-3½ h.p. twin, built in accordance with the specification suggested by "Ixion" in *The Motor Cycle*. The bore and stroke are 63 × 63 mm., and the carburetter is carried midway between the two cylinders. Both carburetter and engine have been designed by Mr. Stevens, the originator of the well-known Stevens engine. The ignition is by Ruthardt magneto, driven by an enclosed chain, while the silencer is carried in the proper place, underneath the bottom bracket, the exhaust pipes being large in diameter. A neat fitting is the provision of a couple of branch pipes leading from the tank to the cylinders, provided with a tap for the cylinders, and a separate needle valve on each compression tap, so that it is only necessary to turn on the first-named tap and the pipes fill up, and when the valves are open sufficient petrol reaches the cylinders to allow the engine to be started easily. Druid spring forks are fitted, and the back mudguard is halved and hinged, so that the rear tyre is most accessible. Rubber-covered footrests are provided, and on the near side the brake pedal is to be found. This brake acts on the belt rim. The machine only weighs 116 lbs., is low in the frame, being only 20in. from the ground, and has a wheelbase of 49in. Another interesting fitment is the provision of a short stand underneath the crank case, which allows the front wheel to be jacked up. The rear stand enables the back wheel to be easily removed if necessary. In short, the machine is a thoroughly practicable lightweight twin. The detail work is excellent. A new type of exhaust lifter is fitted, which is highly efficient and should work well, while the relief valve leads into a long pipe, which catches any excess of oil and allows it to escape on the ground. No less than seven different types of machines are to be found on this stand, only differing from each other in small details, but the three distinct types are a twin, the low-frame single-cylinder with practically vertical engine, and a cheaper form of machine with enclosed engine. The twin just described has enclosed flywheels, while the others have an outside flywheel.

Zenith, No. 124.

Several specimens of Zenette spring frame motor cycles are exhibited, both with and without the Gradua gear. Although we have previously illustrated and described the action of the Zenette spring frame, we may remind our readers that its action is similar to that of a pair of scissors, the movement being controlled by long coil springs. As regards comfort, this spring frame brings the Zenette near the top notch in motor cycles. The Gradua variable gear has many good points, its two chief advantages being the simplicity of its action and the fact that almost any gear can be obtained. This change of gear is obtained by opening or closing the flanges of the engine pulley, the slack of the belt being taken up by the back wheel sliding backwards. The two movements are obtained by gently turning a hand wheel placed in a convenient position by the side of the tank. Other up-to-date features are adopted in the design of the Zenette, such as a handle-bar controlled carburetter (Longuemare), variable lift of inlet valve, flexible metallic oil pipe, petrol gauge, low frame, and two pairs of footrests. A Zenette machine without the spring frame but with Druid spring forks was illustrated on page 899 last week.



A Single-cylinder Wolf Lightweight, with Ruthardt magneto and Druid spring forks.

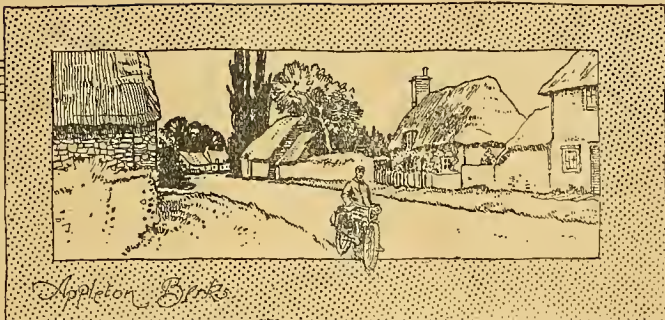


One of the few ladies' motor cycles—shown by the Victoria Trading Co.

(Continued on page 929.)

CURRENT
CHAT

Sydney R. Jones



SPECIAL FEATURES

MOTOR CYCLES AND ACCESSORIES
— AT THE STANLEY SHOW. —
Fully Illustrated Description.

TIME TO LIGHT LAMPS.—Nov. 25th, 4.59 p.m.; Nov. 28th, 4.56 p.m.; Dec. 2nd, 4.53 p.m.

Electrically Propelled Tricars.

Quite a number of readers have written for the address of the makers of the Harborn electrical tricycle, which was illustrated in our issue of the 4th and 11th insts. This goes to prove that a really practical passenger machine on the same lines would meet with a good demand in this country.

A Club for Newcastle, Staffs.

It is proposed to start a motor cycle club in Newcastle-under-Lyme, Staffs., and with this object a meeting has been arranged at the Castle Hotel, Newcastle, on Monday next, the 30th inst., at 8 p.m. All motor cyclists in the district are asked to attend the meeting. The hon. secretary *pro tem.* is Mr. J. H. Higson, Northcote Place, Newcastle, Staffs., to whom all communications should be addressed.

A Measured Stretch at Darlington.

A number of motor cyclists and car drivers were recently fined at the Darlington Police Court for exceeding the legal limit over a measured stretch of 290 yards of road near the park. There is a school in the middle of the control. The Town Clerk pointed out that signboards had been erected, but were not taken notice of, though as soon as more care was exercised in driving in the town there would be no more prosecutions.

A Curious Conviction.

T. W. Worrall, of Walsall, was last week fined £5 and £1 18s. 6d. costs at Penkridge for driving to the danger of the public. Judging by a daily paper report of the case, the fine seems altogether too heavy, seeing that all the witnesses admitted that there was no one on the road at the time. A constable in plain clothes said that Worrall and another motor cyclist were racing at the very least 40 m.p.h., and he was unable to take the number of the second cycle owing to the speed at which they were going.

The Motor Union and Motor Cyclists.

The November meeting of the Motor Cycle Committee of the Motor Union of Great Britain and Ireland was held at 1, Albemarle Street, London, W. The Motor Union scheme of membership for motor cyclists has proved exceedingly popular. Under it members may have the full privileges of membership of the Union for half a guinea, including a copy weekly of *The Motor Cycle*, and these privileges plus an insurance policy for one guinea. During October twenty-one new motor cyclists joined the Union under the scheme. They were drawn from all parts of the country.

Germany's Trade in Motor Cycles.

In the third quarter of the current year Germany imported motor cycles weighing collectively 4,600 kilogs., representing seventy machines, as against 4,000 kilogs. during a like period in 1907. Her exports dropped from 42,200 kilogs. to 26,800 kilogs., taking the same basis of comparison. Belgium doubled her sales, Austro-Hungary's figures remaining the same. Notice the falling off in the purchases of the three most important buyers of German machines: Denmark, third quarter 1908, 1,600 kilogs.; third quarter 1907, 3,300 kilogs. Great Britain, 6,100 kilogs. and 13,500 kilogs. Holland, 2,600 kilogs. and 3,000 kilogs. Great Britain's purchases declined more than fifty per cent., it will be seen.

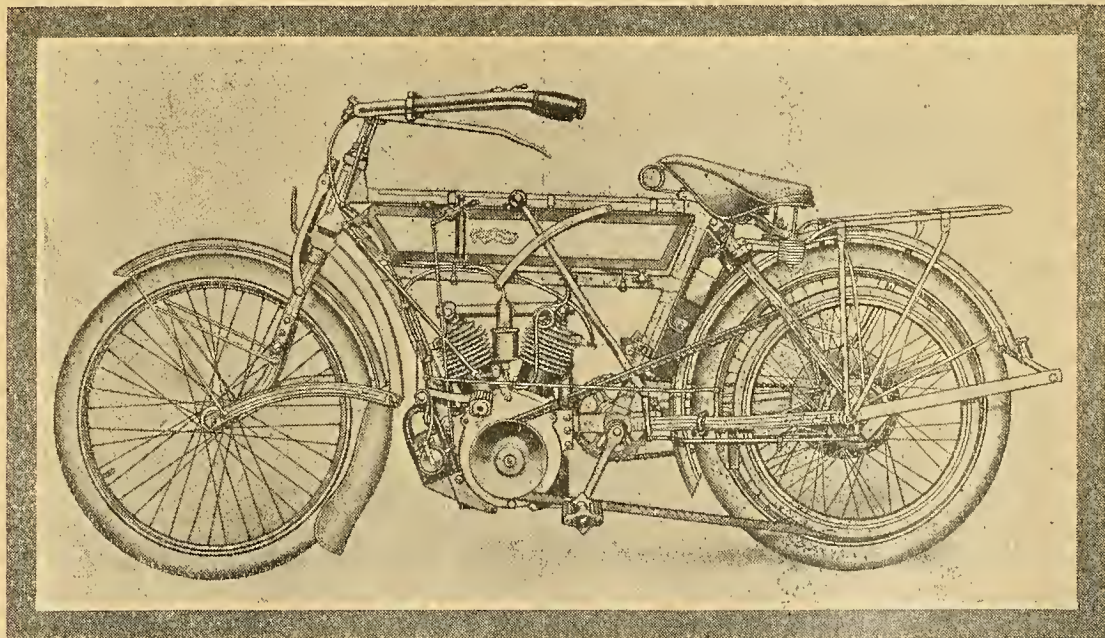
American Championship Race.

The Federation of American Motor Cyclists' National Championship Race was held on the Morris Park Track, New York, on the 3rd inst. These championships are competed for annually, and are the means of picking out the best riders in the States. The races this year were held on a mile flat dirt track, and the times are considered remarkable when it is taken into consideration that the riders had no banked curves to help them negotiate the corners at full speed. The best time for a mile on a track of this kind is 54½s. One hour, 61¼ miles. Both records are held by Fred Huyck and his 7 h.p. twin Indian. Twenty-five thousand spectators witnessed the last race meet. Although held in combination with an exhibition of flying machines—not one of which flew—it is safe to say,

judging by the enthusiasm, that everybody was there to see the motor cyclists race against Father Time. There were a dozen competitors in all on Indian, N.S.U., Peugeot, P.R.S., and Merkle motor cycles.

Motor Cycle Show in Edinburgh.

At a largely attended meeting of the motor cycle and cycle trade, held in Edinburgh on Monday, November 16th, consideration was given to the proposal of the Scottish Cyclists' Union that a show should be held in Edinburgh in the beginning of 1909. The feeling was that it was not possible to make preparations for a successful show in so short a time, but it was resolved that a show should be held annually, the first about the beginning of 1910. An association was formed, with the title of the "Scottish Cycle Trade Show Association," with this object in view, Mr. Richard Johnstone, S.S.C., 45, Frederick Street, Edinburgh, was appointed secretary *pro tem.* The meeting resolved to recommend manufacturers and agents not to exhibit at any show in Scotland prior to the 1910 exhibition, and gave expression to the view that any show in which the main feature was not motor cycles or cycles, was of no advantage to the trade. Members of the motor cycle and cycle trade in Scotland wishing to become members of the new association are invited to communicate with the secretary as above, who was instructed to call a meeting of those interested towards the end of the year, for the purpose of framing the rules and regulations.



One of the 1909 Vindex two-speed models (a 5 h.p. twin) exhibited by the Vindex Motor Cycle Co. at the Stanley Show. (See page 923.)

Police Traps.

We are advised that a very active police trap is in operation in Shooters Hill Road, near Blackheath, S.E.

Accident to a Well-known Camper.

We much regret to hear that Mr. T. H. Holding, the well-known authority on camping, met with rather a severe accident recently while bicycling in Bond Street, London. Although he has suffered great pain in consequence of the accident, it is not thought that any bones are broken, and we believe that he is now well on the way to recovery.

Magneto Machines.

During the last few days we have had no less than five new pattern magneto machines for motor cycles submitted to us. One of these is described and illustrated this week in a separate article. One is mentioned in the description of the Stanley Show exhibits, another was described in the Olympia show report, and two remain to be dealt with as soon as space permits.

Next Week's Issue.

In the next issue of *The Motor Cycle* we hope to publish a criticism of the motor cycle exhibits at the Stanley Show, written by Mr. B. H. Davies; also a statistical table compiled by Mr. H. Hewitt Griffin, showing the number of each of the various types of motor cycle on exhibition.

Motor Cycle Stolen.

Mr. H. Raven, 6, Beacontril Avenue, Walthamstow, advises us that he had a motor bicycle stolen from the rear of the above premises on the night of Friday, the 13th inst. The description of the machine is as follows: 6 h.p. Bat-Jap twin a.o.i.v. spring frame and forks, Modèle de Course tyres, Longuemare carburetter, registration number A 9,453, and engine number 3,543. Any reader who is offered a machine corresponding with the above particulars is requested to communicate with Mr. Raven at the above address.

"The Autocar" Lectures.

At the close of the lecture which was delivered at Birmingham on Wednesday, November 11th, by Dr. Ormandy, it was announced that there would be no lectures at the Newcastle, Birmingham, and Leeds centres on the 16th, 18th, and 19th inst.

The lectures in each of the above-named centres were therefore extended a week to enable those who wished to do so to attend the Olympia Show.

The above decision will necessitate the course at these three centres being extended to December 16th in Birmingham, December 21st in Newcastle-on-Tyne, and December 17th in Leeds.

The dates of the remaining lectures at each centre are as follow:

LONDON.—3.30 and 8.30 p.m. Dec. 1st.
BIRMINGHAM.—7 p.m. Nov. 25th, Dec. 2nd, 9th, and 16th.
LEEDS.—7.30 p.m. Nov. 26th, Dec. 3rd, 10th, and 17th.

MANCHESTER.—4.0 and 7.30 p.m. Nov. 27th, Dec. 4th and 11th.

NEWCASTLE-ON-TYNE.—7.15 p.m. Nov. 30th, Dec. 7th, 14th, and 21st.

We draw special attention to the fact that to meet the wishes of some of our readers it has been arranged to issue tickets to admit to the remaining lectures of the series at any of the centres at a fee of 10s. 6d. We strongly urge all those who have not yet applied to take advantage of the opportunity now afforded them of gaining a knowledge of the working of a car.

Applications for tickets should be made immediately to *The Autocar* Lecture Secretary, 20, Tudor Street, London, E.C.

failure of the mechanism, an annuity of £450 can be claimed by the next of kin of the person killed, or £500 where property only is concerned. The effect of this extreme legislation has caused the insurance companies to raise their rates 250 per cent., and a movement, originating with the Austrian M.C., has been started to form a co-operative motorists' insurance association, and dispense with the insurance companies and their high rates. The German Association, which comprises 9,000 motor cyclists, has forwarded a recommendation to the Government. This points out the harm such legislation will cause to a growing industry.

Stanley Show Opening Ceremony.

At the inaugural luncheon which followed the opening of the Stanley Show by Sir Albert Rollit on Friday last at the Agricultural Hall, Mr. Robert Todd responded to the toast of the Stanley Show, and said that the feature he noticed in connection with the show was the improvement both in the number and quality of the motor cycles on exhibition. He further said that the motor cycle is now a very different article from what it was a few years ago, and there are now more than 60,000 motor cyclists. Referring to the 1906 Land's End to John-o'-Groat's Trials, he pointed out that the percentage of riders gaining awards was twenty-eight per cent., whereas this year a similar trial held under more adverse conditions resulted in the percentage being increased to fifty-six per cent., thus showing the improvement made in the reliability of motor cycles.

The Handicapping of Motor Cycle Races.

Mr. R. O. Clark, Norwich, wishes us to state that he is not the writer of the letter signed "Five Horse Power."

A Novel Test.

A novel test for demonstrating a car's hill-climbing power and quietness of running under the severest of road tests is, we hear, shortly to be made on a hill said to be peculiarly suitable for such a trial. A phonograph with a blank cylinder will be used to record the actual noise made by the car, but it is not stated where it will be fixed. With a biograph film it should be possible to portray the performance in a very realistic manner.

Touring in France. A Concession.

Members of the Motor Union who contemplate a Continental tour will appreciate a concession just made by the French Government as the result of representations resulting from the proceedings of the Ligue Internationale des Touristes, with which the Motor Union is associated. Motorists in possession of triptyques will be permitted to make their first entry or last exit on Sundays and fête days, the regulations hitherto having permitted the Custom houses to be open only on weekdays. The new arrangement will apply only on roads over which the greatest amount of motor traffic passes, but it will prove a great convenience.

FUTURE EVENTS.

Nov. 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.

Dec. 12—Motor Cycling Club Annual Dinner.

„ 12. (Provisional)—Essex M.C. Paper by Mr. H. G. Cove on "Motor Cycles, Accessories, etc."

„ 16—Motor Union General Committee Meeting.

Jan. 7 (Provisional)—Essex M.C. Paper by Mr. H. M. Wyatt on "Magnetos."

„ 16-23—Motor Cycle Show at Madison Square Garden, New York.

„ 23 (Provisional)—Essex M.C. Annual Dinner.

German Automobile Liability Bill.

The above Bill which is now before the German House will, if it passes, make motorists liable for accidents however caused; it will even make the motorist responsible for the failure of a brake or any other part of a motor vehicle, if such failure causes an accident. In case of fatal personal damage, which can be traced to the

**Books for
Motor Cyclists****Motor Cycles & How to Manage Them.**

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Hints & Tips for Motor Cyclists.

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North-west London M.C.C.

Will members please note that the annual dinner will be held on December 19th, not the 5th, as previously arranged? Full particulars will be sent to the members within the next few days.

Newcastle and District M.C.C.

Notice is hereby given that a special general meeting of the above club will be held at the Barras Bridge Hotel, Sandyford Road, Newcastle, on Wednesday, December 2nd, at 7.30 p.m., by the direction of the committee to consider special business.

Members will please note that a club dance and whist drive has been arranged for Wednesday, December 16th, at the Minories Assembly Rooms, Jesmond Road. Tickets may be had from members of the committee or the hon. sec., Mr. S. W. Carty, 32, St. Mary's Place, Newcastle.

Sunderland and District M.C.C.

A special meeting of members will be held at 11, John Street, on Monday, November 30th, at 8 p.m.

The annual smoking concert will be held at the Grand Hotel on Wednesday, December 9th, at 8 p.m., to present the prizes in connection with the season's competitions, etc. Major Vaux will preside.

A large attendance is anticipated of members of the S. and D. M.C.C. and neighbouring clubs, and the committee request members to assist them by attending and bringing friends. Tickets may be had from Mr. Thos. Jameson, hon. sec., 11, King Street, Sunderland.

Ayr and District M.C.C.

The above club brought a highly successful year on the road to a fitting close with a smoking concert and presentation of prizes. The members and friends present numbered over forty. Mr. John Hourston, the genial president, in the course of his address, referred in detail to the work of the club during this, its first year of existence, and also laid considerable stress on the necessity for motorists to unite together for protection of their interests and the development of an industry that had assumed immense proportions in the last few years.

Thereafter, Mr. Grant, Ayr's tramway manager, in a happy and felicitous manner handed over the numerous prizes and medals for the 170 miles reliability run, four in number, to the successful competitors in the year's fixtures.

A splendid programme followed, the success of which was in no small measure due to the indefatigable efforts of the club's secretary, Mr. M. Brown, and a small committee. What with song and story, the evening passed all too quickly. The usual vote of thanks to the chairman, speakers, and artistes, and the singing of "Auld Lang Syne," terminated a most enjoyable evening.

Cambridge University M.C.C.

The results of the fast and slow hill-climb held at Croydon Hill on November 14th are as follows:

Rider and machine.	Fast ascent.	Slow ascent
W. B. R. Moorehouse (7-9 J.A.P.) ...	22 ⁴ / ₅ s. ...	1m. 59 ¹ / ₅ s.
R. G. Heyn (5 ¹ / ₂ Rex) ...	24 ² / ₅ s. ...	55s.
N. J. F. Colenso (5-6 Bat) ...	Failed, belt slipping	1m. 25 ³ / ₅ s.
E. D. Dickson (5 Vindec) ...	26 ⁴ / ₅ s. ...	Dis-mounted near top
F. P. Dickson (5 Vindec) ...	39s. ...	Disqualified
C. L. Mere (3 ¹ / ₂ Triumph) ...	31 ³ / ₅ s. ...	Dis-mounted.
L. J. McCormick (3 ¹ / ₂ Triumph) ...	32 ³ / ₅ s. ...	"
N. W. Hutchinson (3 ¹ / ₂ Triumph) ...	31 ¹ / ₅ s. ...	"
C. H. Stephenson (5 Vindec) ...	27 ² / ₅ s. ...	"

Bradford M.C.C.

The team competition recently promoted by the Bradford Motor Cycle Club brought forth eighteen riders, each team consisting of three members. The route chosen was *via* Harewood, Wetherby, Boroughbridge, to Leeming Bar and back, a distance of about 100 miles. The run was a non-stop, with surprise and stated checks all along the route. The winning team proved to be the one captained by Mr. Bullus, his co-riders being Messrs. Milnes and Moore, all mounted on Phelon and Moore machines. Mr. Bullus made the best individual performance, gaining 288 marks out of a possible 289.

The annual dinner of the club will be held at headquarters, Imperial Hotel, on December 1st, when a good attendance is expected. The club has one of the finest collection of trophies for competition in the North of England.

Nottingham and District M.C.C.

At a committee meeting held at headquarters, the Welbeck Hotel, Nottingham, on the 17th inst., the hon. secretary read a letter from Doctor Bigg (Bingham) notifying that he would be pleased to have the petrol consumption test, for which he had given a gold medal, run off early next year.

The chairman (Mr. J. Elliot Littlewood) reported the visit he, together with other members, had recently paid to the committee of the Long Eaton M.C.C., who wished to become members of the Nottingham and District M.C.C.

All motor cyclists are cordially invited to attend the whist drive, to be held at headquarters to-morrow (Thursday), November 26th. The hon. secretary, Mr. C. A. Aubert Spring, Stratford Road, West Bridgford, will supply the necessary tickets.

Harrogate and District M.C.C.

The members of this club held an impromptu discussion at the Somerset Hotel on Friday night, the 13th inst., a most enjoyable and instructive evening being spent. The idea of the discussion is as follows: Each member is asked to write a question on paper appertaining to motor cycles or motor cycling. Each question is placed in a hat and drawn for in rotation. The speaker's time is limited to five minutes, and the subject is then open to discussion. A most instructive evening was spent, some of the questions and replies being most instructing. Other meetings of a similar nature will be held during the winter months. The next meeting will be held on Friday, December 4th, and will be entitled "Ideas and Impressions of the Stanley Show."

Although Mr. Stanley Webb is not exhibiting the Stanley Dermatine belts at the Show, they are to be found on numerous makes of motor cycles at the stands.

Messrs. Thomas Whittle and Sons, Ltd., Rose and Crown Street, Warrington, the makers of the Whittle Link Grip belt, are making several improvements to their belts for 1909. Full particulars may be obtained on application to the above address.

Among the firms making motor cycles and accessories who will not be found at the Stanley Show may be mentioned H. Reed and Co., 316, Deansgate, Manchester, makers of the Dot motor bicycle. During the present week Messrs. Reed are making a feature of the Tourist Trophy Dot motor cycle at a special price, including spring forks.

THE NEW PENNY EDITION OF "THE AUTOCAR."

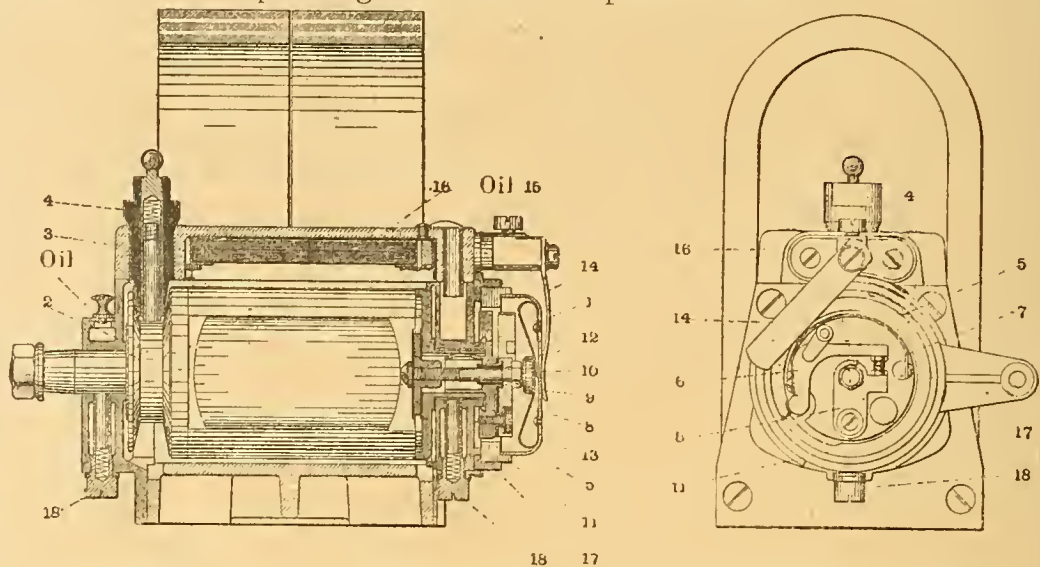
Readers of "The Motor Cycle" who are interested in motor cars are reminded of the new Penny Edition of "The Autocar," now obtainable of all Newsagents and Booksellers every Friday Morning.

The Path of the Magneto Current.

It is fairly obvious that magneto machines are little understood by the majority of motor cyclists, nor is it necessary for users to be thoroughly conversant with the working of these machines, on account of their unfailing reliability. Magneto machines have undoubtedly solved seventy-five per cent. of the troubles with motor cycles. Provided the magneto is kept scrupulously clean and oil is not allowed to collect behind or on the contact breaker, nothing will require attention beyond lubricating the bearings in several months' usage. Even riders of considerable experience are yet practically ignorant of the elements of the magneto. There are those, however, who like to know thoroughly the working of their machines, and for this reason we publish a diagram herewith showing the course of the currents in the DA2 Bosch high-tension motor cycle magneto. This system of ignition produces in the armature winding a high-tension current without the use of a separate induction coil, which bridges the points of the sparking plug in the form of an arc-like spark. By studying the diagram closely, it will be seen how the condenser is connected across the platinum points, and how the switch, when earthed, carries the whole of the primary current, inde-

instance to help to explain the working of the magneto to various people, and it has been of great use to them.

The second illustration is a longitudinal section and end view of the DA2 magneto, the numbers corresponding with the inscription underneath.



1. Contact plate.
2. Slip ring.
3. Carbon.
4. Carbon holder.
5. Contact breaker.
6. Bell crank lever.

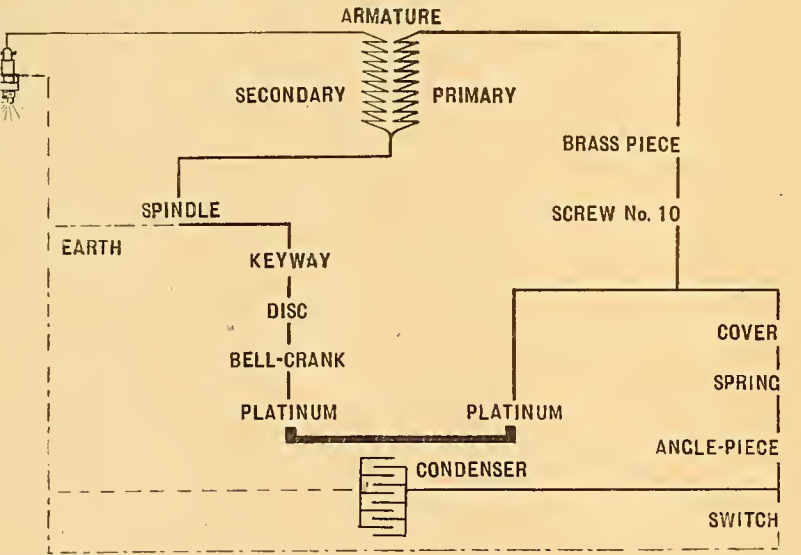
7. Bell crank lever spring.
8. Contact piece.
9. Insulating bush.
10. Fastening screw.
11. Fibre ring.
12. Carbon brush.

13. Brass end cap.
14. Flat spring for end cap.
15. Angular terminal block.
16. Condenser case.
17. Timing lever.
18. Wick screw (for lubricator).

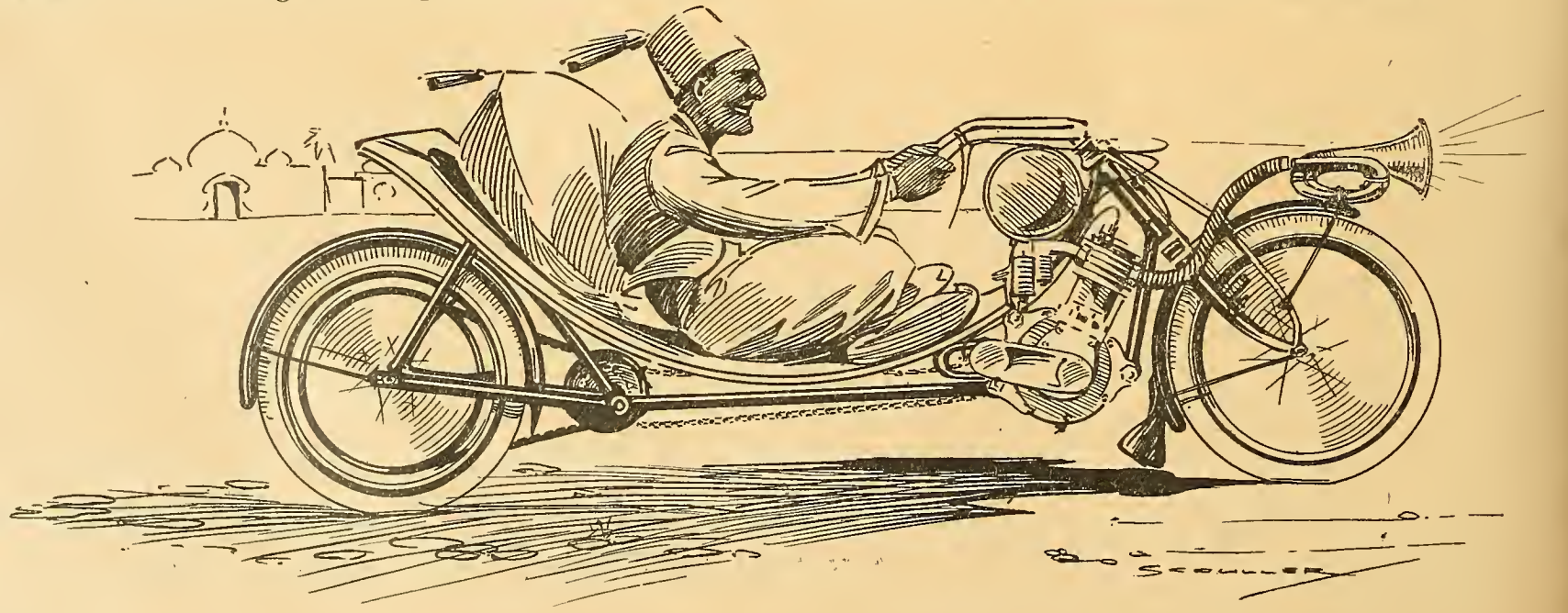
In the above illustration the old pattern contact-breaker cam made of fibre is shown, but on the latest patterns a steel cam, which is less likely to wear, has been adopted, the fibre insulation being on the end of the rocking lever.

A close study of the illustrations will show in a simple manner the working of that interesting machine—the magneto. The latest edition of “Motor Cycles and How to Manage Them” contains a detailed description of Bosch, Eisemann, and Simms magnetos.

“Hints and Tips for Motor Cyclists,” Iliffe and Sons Ltd., 20, Tudor Street, E.C., price 1s. nett, is now ready. These hints and tips first appeared in *The Motor Cycle*, and are now issued in a handy book form, which will be appreciated by our readers who have either mislaid their copies of *The Motor Cycle* in which the hints and tips were printed, or wish to have them bound in a convenient form for reference.



pendent of sparking plug, platinum points, and the condenser. The diagram was plotted out in the first



The Stanley Show.—Continued from page 924.

ENGINES, PARTS, AND FITTINGS.

R. W. COAN, Nos. 157 and 158 (Arcade).—Aluminium castings of all kinds for motor cycle engines; also examples of aluminium parts which have been repaired by R. W. Coan's repair process.

THE GRIFFIN SIMPLEX GEAR Co., No. 176 (Arcade).—The Griffin variable gear for motor bicycles shown in action. This gear can be fitted to any motor bicycle or tricar, belt or chain driven. The example shown is belt driven. To the engine-shaft is keyed an adapter carrying two conical clutches, over which run chain wheels of varying diameters. On the crank case is a counter-shaft carrying a pair of chain wheels, which are solid together, and also of varying diameters. From the smaller of the chain wheels on the clutch shaft power is conveyed to the large chain wheel of the counter-shaft, and from the small chain wheel of the counter-shaft to a large chain wheel on the engine pulley. This is the low gear position. When the clutch is in the midway position the free engine is obtained. To obtain the high gear the engine pulley and the main shaft are clutch connected; the drive is then direct. The clutches are operated by cams and levers connected to suitable control mechanism on the handle-bar.

A Well-tried Engine.

PEUGEOT FRERES, No. 244.—The well-tried Peugeot engine remains unaltered for 1909, and after all it would be difficult to find where improvements could be made, especially in view of its many successes during the past three years. Some riders prefer mechanically operated inlet valves, but at the same time automatic valves have their advantages.

A. D. POWELL AND Co., No. 164 (Arcade).—The Fit-all two-speed motor cycle gear for engine-shaft and rear hub. The latter was fully described and illustrated in *The Motor Cycle* of November 11th, page 875. The latest addition is an improved form of operating gear, by means of rods instead of Bowden wires. The rods are all made with screw adjustment, and the long rod connecting the lever with the handle on the sector quadrant is telescopic. We hope to test the new hub gear at an early date.

Motors of Various Sizes.

TORMO MANUFACTURING Co. (H. E. FRIEDENHAIN), No. 25.—This firm are exhibiting a new 2 h.p. motor cycle engine, 66×72 mm. The inlet valve is automatically operated, but the exhaust port has been considerably enlarged, and is now pointed in a downward direction. The ignition is by Bosch magneto, and the drive is carried out by means of gear wheels, the lower half of the case forming part of the crank case casting. The type of magneto fitted is the Bosch A1, or lightweight motor cycle type. The weight complete is 40 lbs. The engine is well designed, and should meet with a ready demand. The other types—the 2 h.p. and 3 h.p. single-cylinder, and the 4 h.p., 5 h.p., and 6 h.p. twin—remain unaltered. A new departure is made in a water-cooled engine suitable for tricars. These comprise a 5 h.p., 90 by 100, single, with mechanically operated valves, cast-iron crank case, fitted with either type of ignition; 6 h.p., 7 h.p., and 8 h.p. V twin, 86 by 86, automatic inlet valves, and aluminium crank case; and the 8 h.p. single, 100 by 120, mechanically operated valves, which is practically a facsimile of the present 8 h.p. De Dion.

TYRES AND CLOTHING.

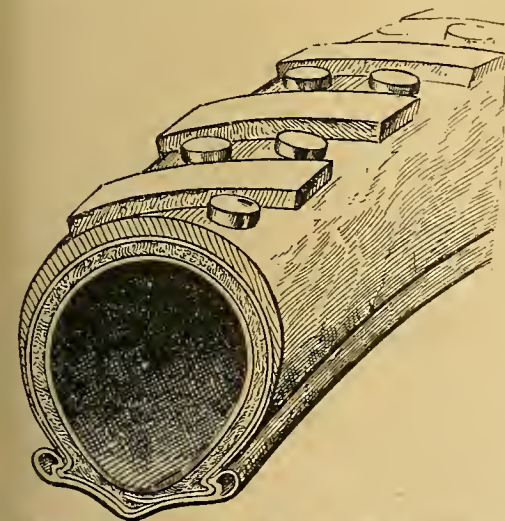
W. AND A. BATES, LTD., No. 205.—Treads of different thicknesses are exhibited here, also a butt-ended tube, the advantages of which are well known.

CALMON RUBBER WORKS, No. 61.—Various types of motor cycle covers are shown. They are heavily built up, and should be suitable for powerful machines, while all types of lighter covers and tubes are also shown.

CAPON, HEATON, AND Co., LTD., No. 60.—A speciality is made by this firm of heavy solid rubber treads, meant to be vulcanised on to partly worn covers. The treads are provided with ribs, which project out a good distance, and which should be effective against skidding, and should wear well. Other motor cycle tyres are shown, and a speciality is made of butt-ended tubes.

CONTINENTAL MOTOR Co., No. 27.—Several innovations in motor cycle tyres are to be seen on this stand. The most novel is the R.O.M. rubber and steel non-skid, consisting of diagonally set oblong rubber projections, between which are

steel studs. These covers obviate the objections to armoured treads, as the number of the steel studs is greatly reduced, thus preventing excessive wear on the roads, while as a non-skid its efficacy is undoubted. The tread is composed of toughened compressed rubber, which is claimed to render the tyre flint and puncture-proof. It can, moreover, be retreaded without difficulty when necessary. Another tyre shown is the all-



Section of the R.O.M. Combination Non-skid. The studs are of steel and the bars of rubber.

rubber bar non-skid, similar to the above, but without steel studs. Two other types of non-slipping tyres are shown, one of rubber provided with staggered oblong projections, and the other with steel studs projecting through rubber. Some

excellent specimens of the company's retreading work are also exhibited, which are well worthy of special attention.

CONTINENTAL TYRE AND RUBBER Co., LTD., No. 152.—The well-known manufacturers of Continental tyres are introducing several novelties for this season. A new Bat pattern rubber non-skid has been introduced, a steel-studded cover with the studs projecting through rubber, and also a leather steel-studded cover. This is the first year during which the Continental Tyre Co. have introduced non-slipping tyres for motor cycles. It is interesting to note that visitors to the show will recognise the Continental tyres instantly, since the name of the makers is stamped on the covers in red letters. A speciality is, of course, also made of the well-known Continental rubber and canvas belt.

Effective Non-skids.

COVENTRY RUBBER Co., No. 268.—The Three Spires non-skid tyre has now been before the public for some months, and has been well spoken of by users. It is claimed that it is the only non-skid which lasts as long as the tread. A ridge on each side of the tread forms the non-skid, the ridge not coming into action until the bicycle has a tendency to lean to either side. Two patterns of treads are shown, but very similar in design. The Three Spires non-skid tyre can be obtained in different thicknesses for heavyweight and medium weight motor cycles. The thickest tyre is called the *Modèle de Luxe*, and Mr. Jelley, the manager, having furnished us with a pair of these covers for trial purposes, we propose fitting them to one of our own machines, and will let our readers know how the covers wear. A new pattern inner tube will shortly be marketed by the same firm.

EAST LONDON RUBBER Co., Nos. 211 and 212.—Most of the different makes of motor cycle tyres are exhibited here, to great effect. In addition a large quantity of necessary fittings for motor cycles and Kerry engines.

HANOVER RUBBER Co., No. 259.—The Shamrock-Excelsior rubber studded motor cycle covers were only introduced at the beginning of this year, but they immediately sprang into popularity, and they are now fitted to thousands of motor cycles. The Shamrock-Gloria rubber and canvas belt is also largely used by motor cyclists, and sections of all sizes up to 1½ in. wide can be examined on this stand. A lock-joint detachable tube, which we have previously illustrated, is also exhibited on the stand.

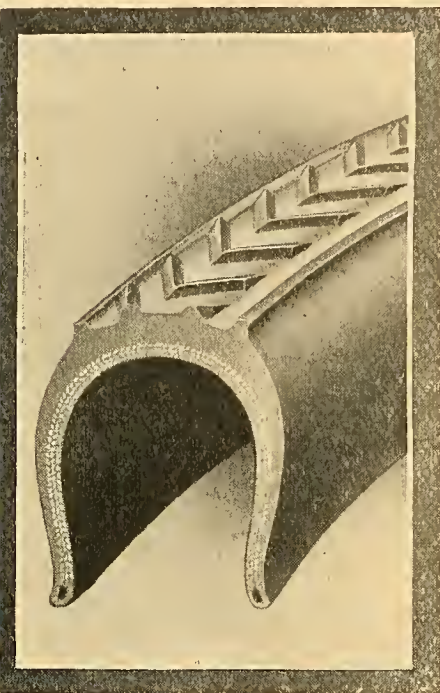
Accessories at the Stanley Show.—

MIDLAND RUBBER CO., No. 1.—Strongly constructed motor cycle tyres are to be seen on this stand. These tyres are really car tyres in miniature. They are provided with heavy ribs and tread. Inner tubes and rubber pedals for motor cycles are also exhibited. It is also interesting to note that the motor cycle tubes are heavily made, and all standard sizes are stocked.

MICHELIN TYRE CO., LTD., No. 64.—As regards quality, Michelin tyres have a very enviable reputation. A special point is made of the E.S.T. cover, provided with a very stout, substantial tread for powerful motor bicycles. The well-known Michelin Semelle cover is also shown—one of the best wearing and most efficient (chrome) leather steel studded covers on the market.

An innovation for this company is a light leather treaded, steel studded, non-slipping cover, which is light in weight and yet efficient against side-slip. In putting this cover on the market we feel that the Michelin Tyre Co. are supplying a long felt want.

DAVID MOSELEY AND SONS, LTD., No. 59.—A new motor cycle tyre has been brought out by this well-known firm. It is very substantially made, and the tread is heavy and thick, and is provided with arrow pattern corrugations. It can be had either wired or with beaded edges, the latter type being provided with a flap to prevent the tube being nipped.



Moseley's Non-slipping Tread.

THE NORTH BRITISH RUBBER CO., LTD., Nos. 55 and 56.—The Clincher tyres for 1909 are now made by a new process, which allows a pressure to be obtained never before equalled in the manufacture of tyres. This, we understand, is most important in lengthening their life. The most distinctive model on the stand is the rubber-studded cover, which was used with great success by Mr. A. W. Bentley on his famous ride from John-o'-Groat's to Land's End. Four types of motor cycle tyres are shown—the A Won, ordinary tyre; the A Won, rubber-studded; Dreadnought, moulded on car tyre lines; and the Dreadnought, heavy rubber-studded special pattern, which is more substantially constructed than the other studded model.

ASTON MOTOR ACCESSORIES CO., No. 270.—The Amac carburettor has come very much to the front during 1908, and in addition to being fitted to various well known makes of machines in the show, it is shown by the makers. Two methods of handle-bar control can be obtained according to the rider's choice, one of the methods of control being by horizontal levers and the other by vertical levers. The good points in the design of the carburettor have already been dilated upon in these pages. Amac terminal clips are also shown and numerous patterns of switches.

E. M. BOWDEN'S PATENT SYNDICATE, LTD., No. 123.—The numerous operations to which Bowden wires and levers can be put are shown to effect on this stand. We have at different times dealt with the productions of the Bowden Co., including the most recent innovation of the syndicate, which are handle-bar control levers. These are particularly neat, and should appeal to owners of existing machines fitted with tank levers. Among other interesting articles shown on the stand are valve lifters, foot brakes, rim brakes, petrol drainers, and all kinds of locking levers too numerous to mention.

PALMER TYRES, LTD., No. 3.—An innovation to be seen on the Palmer stand is a 1½ in. fabric cover for light motor bicycles made in two sizes, 26 in. and 28 in. The other models which are seen mounted on motor cycle wheels are constructed of fabric, and Airless Cord for which this firm is famous. The heavily ribbed tread which possesses such excellent non-slipping qualities remains unaltered for next year.

PETER UNION TYRE CO., No. 231.—Peter Union tyres are made in three different patterns—firstly, the ordinary standard tyre; secondly, the tyre with basket pattern tread; and, thirdly, the steel-studded leather and rubber non-skid. These covers are made in all the different sizes. A speciality is made of the puncture-proof bands and a new butt-ended tube, which, we understand, are selling in large quantities.

POLACK TYRE CO., No. 248.—Motor cycle tyres of 2 in., 2½ in., and 2½ in. section. The treads have ribs to prevent skidding, and the thickness of the rubber is up to the usual standard. Rubber and canvas belts are also shown of all the sections in use on motor bicycles. We were informed by the company's representative that these belts are made in thousands abroad, but they have not been pushed in this country up to the present. They appear to be well constructed, and should give long and satisfactory service.

Advantages of Detachable Air Tubes.

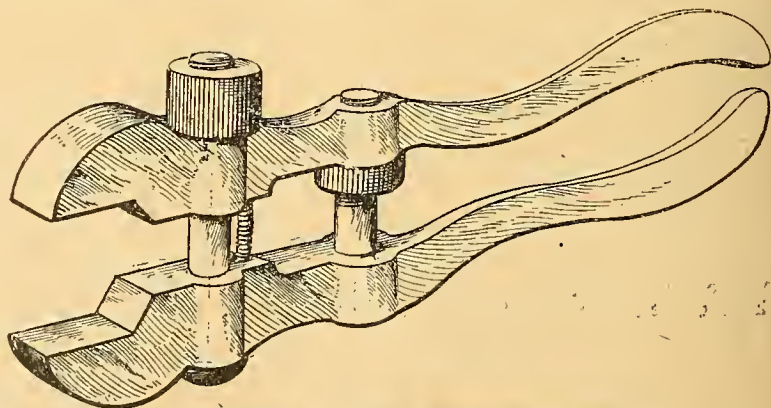
RICH DETACHABLE AIR TUBE CO., No. 255.—The Rich detachable air tube needs no further praise at our hands. Riders in all the long distance trials invariably carry a spare detachable tube, and the Rich is the one most generally used. They are most convenient in case of a puncture, as it is unnecessary to mend it straightaway, but the tube can be replaced and mended at home at leisure. There have been no improvements made for 1909, for, as Mr. Rich put it, "We find that no improvements are necessary."

SELF-SEALING RUBBER CO., No. 225.—Non-skidding tyres are shown with three different patterns of treads—zigzag, double zigzag, and ribbed. The treads look very substantial, and should give very good wear. A double-jointed tube should also be examined on this stand. We have used one of these tubes for several hundred miles on one of our machines this year, and we have found that, unlike some detachable tubes, the air does not leak away even after standing for a week or more. It is a great convenience to be able to change a punctured tube, especially on a long run, for one never knows how long a solutioned repair will last. The ends of the tube are smeared with soap-suds, and the joint is then made without difficulty. A butt-ended tube is also shown with a dome end.

STUART LOCK JOINT TUBE CO., No. 243.—A section of this detachable jointed tube was illustrated on page 901 of last week's issue. It is really a butt-ended tube, but the joints overlap considerably, and the makers claim that by this construction a burst is less likely to take place. They are made in three different qualities, and we understand the tubes have been well tested on different pattern motor cycles.

ACCESSORIES.

J. B. BROOKS AND CO., LTD., No. 230.—The new padded top Brooks saddle is to be found on several different makes of machines in the show, which goes to prove the general popularity of this really excellent saddle. It is of large dimensions, splendidly made, and it would be difficult to find



J. B. Brooks & Co.'s Adjustable Locking Spanner.

Accessories at the Stanley Show.—

a better saddle on the market. Riders purchasing motor cycles fitted with these saddles, however, should not fail to specify to the makers their weight, so that the correct tension of springs can be supplied, otherwise they will not get the full measure of comfort. They are made in three different styles for riders of 8 to 10, 10 to 12, and 12 to 14 stones. Brooks's seat is still retained, also several other different patterns of seats and the Stratex belt. Buyers should not fail to inspect several different kinds of valises specially made for motor cycles. Messrs. Brooks have found by experience that straps are not sufficient to hold bags on to a motor cycle, and have a neat screw fixing which prevents the bags rattling loose. Brooks's patent locking adjustable spanner is an exceedingly useful tool. It remains exactly as adjusted, and is quite as firm as a solid spanner. It is sold in convenient sizes. The spanner is shown in the accompanying illustration. One turn of the lock nut fixes the jaws.

BROWN BROS., LTD., No. 265.—Autoclipse lamps and generators (two different patterns), Ducoflex belts, Hellesen dry cells, belt punches, and belt fasteners are only a few of the accessories shown by Brown Bros., Ltd. Readers in want of a really well made and reliable lamp should not fail to examine the Autoclipse. It is sold either brass finished or plated, and can be obtained either with or without the eclipsing mechanism.

E. BURT, No. 173 (Arcade).—All Mr. J. H. Greenwood's specialities for motor cycles are displayed here. The Glare headlight, original Greenwood adjustable pulley, unbreakable lamp bracket, spring handle-bar grips. All these articles have been previously described in our pages. In addition to the above accessories may be mentioned the D-All belt fasteners and Leicester switches.

A New Pattern Magneto.

THE CITY IGNITION Co., No. 166 (Arcade).—In addition to the useful electrical accessories, including the Voltoo induction coil, the following new electrical accessories may be mentioned: A motor cycle magneto machine, which is excellently made and finished; it is intended for single-cylinder and V twin-cylinder motor bicycles up to 6 h.p.; it is not a particularly light pattern, and therefore is not suitable for lightweight motor bicycles, but it is well suited for engines of 3 h.p. and over. An extremely handy push-on sparking plug connection called the Electra; the connection for the high-tension cable is very neat, and after the cable is placed in position an insulating fibre cover is screwed over the ends; when the push-on is in position no amount of vibration can possibly shake it loose.

CLISSOLD CYCLE Co., No. 105.—This firm are showing their well-known stand* and non-slipping device, which has been several times previously described in our pages.

COLLIER AND SONS, No. 128.—The Matchless footrests are now rubber covered, and the Matchless adjustable belt fastener is an article which should be carefully examined by those who possess adjustable pulleys, as it provides for a big range of adjustment with great flexibility.

CONTINENTAL MOTOR Co., No. 27.—A new accessory shown for the first time in public is to be found on the Continental Motor Co.'s stand. This is the front wheel support for motor cycles. The device has quite recently been described in our pages. We may, however, remind our readers that this stand is well made and well designed. When in the working position the legs are splayed outwards, but when out of action the legs are parallel and are stowed away neatly just clear of the front mudguard. Being fitted with ball ends, a machine fitted with the R.O.M. front and back wheel stands can easily be wheeled about when the stands are in use. The well-known R.O.M. synchronised contact-breaker is also to be seen on this stand.

COUNTY CHEMICAL Co., No. 266.—Three items of interest to motor cyclists can be seen here. A new spring sparking plug terminal, which can be instantly attached and detached, a G.B. plug with three points, and samples of G.B. lubricating oil for air-cooled engines.

COWEY ENGINEERING Co., No. 117.—Three motor bicycles fitted with the Cowey speed indicator, also a hand wheel and speedometer to show the steady reading of the indicator needle. The dial of the Cowey indicator is divided up into five mile spaces reading from ten to sixty miles per hour. Each five mile space is sub-divided into miles. The driving mechanism is easily fitted to any make of machine, and,

owing to the special form of chain employed to transmit the motion from the gear to the indicator, it is capable of withstanding a considerable amount of wear. The clip attaching the indicator to the handle-bar is of strong section and a special shape, which provides a wedging action, so that it is almost impossible for it to come loose. To provide for reaction of spring forks, an ingenious little device fitted to the mechanism of the indicator allows for the radial movement of the gear wheel round the driven pinion when the spring fork comes into action. Very little power is required to drive the mechanism, owing to the freedom of the parts and the accuracy of the gear cutting.

H. J. HARDING, No. 178 (Arcade).—Numerous motor cycle accessories, including the push-on pump connections, the band brake which was described in our forecast issue, sparking plugs, free-wheel clutches, etc.

Adjustable Air Intakes.

W. AND R. JACOBS, No. 193.—A complete array of the Electary accessories, most of which have been dealt with in our columns within the last six weeks. Tricar owners should ask to see the Ara cold vulcanising outfit. White's economiser is a fitting which should be on every motor cycle carburetter, for it allows the main air intake of the carburetter to be adjusted at will. When the air intake is almost closed off there is naturally a greater suction on the jet, and on a cold morning starting is rendered an easy matter. When the machine is under way the air inlet can be opened, and more speed, and better hill-climbing obtained. We shall be surprised if a device of this description does not become general before many months are past.

J. LUCAS, LTD., No. 233.—A new motor cycle lamp has been introduced by Messrs. J. Lucas, Ltd., for 1909. It is of the separate generator type, and is splendidly finished and well proportioned. It is built on similar lines to the Lucas motor car projectors, and is fitted with a Mangin lens mirror and parabolic reflector. Its weight is 2½ lbs. The face of the lamp measures 5½ in. and glass 4½ in. The generator, which is of the drip feed pattern, has a capacity of 4½ hours. The setscrew for holding the lamp to the bracket has a lock-nut to prevent it working loose.

E. LYCETT, LTD., No. 185.—The Lightning stand has been improved and lightened considerably. A good point about this stand is that it is foot operated. The advantages of a foot-operated stand are not generally appreciated, for after a long ride on muddy roads the stand becomes splashed with mud, and when putting it in action the fingers or gloves are not soiled. Tubular carriers in different styles of finish are also shown, and form a very rigid support for a good sized touring bag. The Rawido belt is continued, also the Lyso rubber and canvas belt, which, it will be remembered, has grooves at the top and bottom. The method of manufacture of the latter belt has been considerably improved, and the makers are confident that there will now be no trouble with the ends of the belt pulling through.

LYXAVON MOTOR SOAP, No. 148 (Arcade).—A liquid solvent for cleansing the hands after undertaking dirty operations, such as a thorough overhaul of the engine.

Lightweight Accessories.

MERKHAM TRADING Co., No. 254.—The Gripple joint for quickly repairing a broken wire was recently illustrated and described in these pages. Other articles exhibited are two different patterns of spring seat-pillars for motor bicycles.

MOTO-REVE Co., LTD., No. 108.—Various accessories suitable for lightweight motor bicycles are to be seen on the Moto-Rève stand, including an electric headlight, several patterns of acetylene headlights, horns, and a new stand. This stand keeps in whichever position it is put without the aid of catches, and though light is extremely strong. This is shown fitted to a 2 h.p. Moto-Rève, finished in grey enamel.

PRESTED BATTERY Co., No. 207.—Prested ignition specialities have been added to for 1909, two new two-way switches being the principal novelties. These are positive in action and very simply constructed. It is claimed that the capacity of the Prested accumulators have been added to by ten per cent. by employing a new paste in the manufacture.

PRICE'S PATENT CANDLE Co., No. 165 (Arcade).—Occupying their old position in the arcade entrance will be found Messrs. Price's Patent Candle Co., with an attractive exhibit of the

Accessories at the Stanley Show.—

well-known Motorine, A and B oils for motor cycle engines. Copies of the judges' report on the A.C.U. Trials can be obtained here on application.

PRICE AND Co., No. 201.—Price and Co. exhibit their stands, which are now so widely used. They have been improved in the method of operation, a thumb trigger controlled by a spring being the method adopted for bringing the stand in or out of action, instead of pulling the leg of the stand outwards, as previously. The front wheel stand we illustrated some little time ago. It is on the same principle as the new pattern back stand, and can be locked in different positions, so that the ends of the legs cannot foul the magneto or silencer on some machines. The back stand is made in three different patterns for ultra-light-weights, medium weights, and heavyweight motor cycles.

W. SEARLE AND Co., No. 169 (Arcade).—Fulmen accumulators and A.V. sparking plugs.

Some Useful Accessories.

THE SERVICE MOTOR Co., LTD., No. 116.—This company are agents for a very large number of accessory firms, and on their stand in the main hall they are exhibiting a carbide carrier made by the Novdell Co., and recently described in our articles on motor cycle accessories. The Stephenson valve spring lifter is another useful article, which we described and illustrated on page 779, October 7th. The other exhibits comprise the Mabon clutch, Advance adjustable pulleys, a very neat belt carrier in leather, and a tool carrier and air-tube case fitting to the side of the machine and suspended to the main tubes of the luggage carrier. A useful luggage valise for fitting on the luggage carrier, and made telescopic on the lines of Japanese baskets, is a very moderate-priced article. It is made of rot-proof material and bound with leather. A built-up leather V belt should also be examined. This is so made that pieces can be inserted at any time to replace worn or broken sections. Prospective motor cyclists who wish to obtain a machine on the lowest possible basis—viz., free—should make enquiries regarding the L.M.C. 3½ h.p. 1909 model, which is to be given away on terms which can be obtained on application at the stand.

A. G. TAYLOR AND Co., No. 246.—The Quick-grip spanner sold by A. G. Taylor and Co. is to be found here. These handy little spanners should be found in every motor cyclist's tool kit. They have not been altered since last year as they need no attention.



Returning from a tour in France, George Newburn, the popular music hall mimic, upon being informed at Dieppe that he could not wheel his motor cycle off the boat, told the officials that wherever his motor went, he went also. Newburn had previously had his machine rather badly knocked about in landing, so man and machine were accordingly landed together by means of a crane in the manner shown

I. TERRY AND SONS, No. 206.—Springs of all patterns and descriptions are shown on this stand, but the most interesting

novelty is a new lock-nut. This nut has met with great success at Olympia, and is to be adopted by many well-known car manufacturers. Inside the nut, and behind the thread, a small coil spring is inserted, one end being fixed, and it is impossible to unscrew the nut until a spoke or thin piece of wire has been inserted in a hole provided to



Terry's Steel Folding Spanner.

release the action of the spring. A new detachable belt-fastener for motor cycles is also shown, and a handy form of pocket spanner, which we illustrate. Tennis racket clips, rifle clips, golf club carriers, and all kinds of springs for every conceivable purpose.

Handle Starting.

TEMPLETON BROS., No. 226.—Some interesting accessories bearing the "Tee-Bee" trade mark are well worth inspection. Those riders who like the idea of handle starting can fit up an arrangement very easily on almost any machine to enable the engine to be started by means of a handle. A small sprocket wheel is clamped to the back stay, and a chain connects it to the free wheel. This handle is handy for testing purposes on machines which are not provided with pedals. A motor cycle is shown fitted up with a number of "Tee-Bee" accessories, including a combined generator and lamp-bracket, a bracket for clamping to the girder forks, another bracket for attaching the lamp to throw the light rearwards, which is especially handy when repairing a puncture or making an adjustment in the dark. A light stand, a clip for holding the high-tension wire for testing the spark, several good head-lights, D'All adjustable belt fasteners, and a tubular carrier are included among the exhibits. At the time of our visit a machine was expected on the stand fitted with a new variable gear; also a new puncture-proof tyre.

WOODGATE AND Co., No. 150 (Arcade).—The excellent Patch-quick motor patches and valve tubing. A special motor cyclist's outfit is put up containing twelve Patch-quick patches, a large tube of solution, valve tubing, etc. A special feature of the Patch-quick patches for the heavier types of motor bicycles and passenger machines are patches with a stud or strip of rubber in the centre which fills up a burst or crack and strengthens the repair.

XL ALL SPECIALITIES, LTD., No. 134.—No alterations have been made to the XL-all motor cycle saddles or the spring forks. This is sufficient proof that they are giving every satisfaction. The only addition for 1909 is a new saddle on the same principle for lightweight motor cycles. This saddle, in addition to the XL-all spring forks, has a rolling cantle. The cantle plate on which the leather at the back of the saddle is riveted is pivoted to the back of the saddle frame, and gives to each downward thrust of the rider's leg when pedalling becomes necessary. On this stand are shown the Robi patent hand shields for motor cyclists. These are handle-bar muffs lined with various materials, the outer cover being made of leather.

A Camping Outfit.

ASSOCIATION OF CYCLE CAMPERS, No. 26.—Motor cyclists who wish to avoid the expense of hotel bills will do well to make a careful inspection of this exhibit. A 3½ h.p. Triumph is shown fitted up with the camping kit packed up complete, the whole weighing not more than 23 lbs. It provides accommodation for two people, and everything necessary can be carried on the one machine. The whole kit extended and fitted up ready for use is to be seen on the stand, and when seen, it will be realised how neatly everything folds up.

THE AUTO CYCLE UNION, No. 281 (Gilbey Hall).—Every motor cyclist who contemplates membership of the Auto Cycle Union should call at this stand and interview the officials, one of whom will be in constant attendance. The Auto Cycle Union has a special scheme of insurance for motor cyclists, and full particulars of this, as well as the other benefits of membership, may be had on application.

COMPETITION RULES.

A LIGHTWEIGHT'S VIEWS.

THE correspondence following on the last open hill-climb of 1908 interested me, as showing that my long-cherished views regarding the necessity for reform are not unsupported. The weight factor is of very great importance in hill-climbs. To my mind, the principle of a minimum total weight (for machine plus rider) is one that should have been imposed years ago. Let us say that machine and rider weigh together at least 320 lbs. This would at once remove one great injustice to many aspirants for fastest time honours.

But spare us the horrors of the compulsory sandbag! At Fernhurst, 1905, my (two) sacks were the means of losing many precious seconds. Tight as hands could make them at the start, the front one was slack by the time I reached the sharp right-angled turn where one strikes the one in four portion. Consequently, as I swung to the right, so did the sandbag, with the result that I had not even a finger, let alone a hand, to spare for my control levers during the critical portion of the ride. Never again, thanks! A small quantity may not occasion inconvenience, but when the ballast weight approaches the half-hundredweight, something more compact, rigid, and incompressible becomes imperative. Lead becomes preferable to sand.

320 lbs. suggested as Minimum Total Weight.

The method of adding the weight may therefore safely be left to the choice of the rider, so long as he and his machine can be confidently certified to have competed at or over the fixed minimum weight, which might very well be tentatively fixed at the figure suggested by Mr. B. H. Davies, or, in round figures, 320 lbs.

I would go a step further. So far from pandering to the selfish few interested in the exploitation of "standard patterns"—which they themselves do not adhere to for competition work—I would accept, for competition against these "standard" machines, any obviously genuine roadster machine which conformed to the regulations of its class as regards number of cylinders, volume swept out, equipment, etc., and, together with its rider, scaled the required minimum weight. For three reasons:

1. There exists a large class of riders whose requirements are not fulfilled by any standard pattern on the market. This is evidenced by the large business and continued success of such firms as the Chater-Lea, Jap, and local assemblers. Such a rider pays willingly for an "assembled" machine which suits his views. It is obviously unfair to bar such genuine amateur owners from classes into which the maker's "tame" amateur is readily admitted.

2. It is only by the construction of "special" (i.e., other than standard) machines that progress can be made; and equally

3. It is only by the running of such improved machines against accepted standard types that the genuineness and value of the improvement can be demonstrated to the public.

I do not agree with Mr. Davies that the special engine is such a vital factor. The right sort of standard engine can easily be brought up to competition condition with a few hours' work by, or under the direction of, any

intelligent amateur. If he has bought an inferior or unsuitable article, or, having a good one, does not know what to do with it, he must not complain. He should diligently digest his copies of *The Motor Cycle*.

As a matter of fact, of the three fastest running and (upon dimensions) most powerful engines I have ever had during the many years I have been a motor cyclist, neither had a ball bearing, and only one had M.O.I.V. All were standard patterns of large manufacturers, and two were privately owned. Yet in open events the latter performed very satisfactorily, one beating its own manufacturer.

Other Details Requiring a Ruling.

A rule fixing the minimum size of tyre admissible in touring and roadster classes is badly wanted. 2 in. tyres up to 80 x 80 mm., and 2 1/4 in. above are the smallest sizes that will give reasonably satisfactory service, and even these minimum sections should only be admitted conditionally upon their being of the standard weight and pattern of their makers.

As regards carburetters, the case is somewhat different. As power producers there is nothing to choose between many of the carburetters now fitted to high-class machines; the fact of one appearing to give better results than another is simply due to the former being in a state of adjustment more suitable to the needs of the engine with which the experiment is made. This remark holds good not only in the case of float feed carburetters, but also with respect to the working valve type. The principles governing the adjustment of carburetters are well-known, and have been repeatedly set forth and explained in these columns.

That the rules controlling hill-climbs and other competitions need careful revision at competent hands is, in my opinion, beyond question. A more crying need still, however, is the provision of means for securing the proper administration of such rules, in the spirit as in the letter.

The average hill-climb prospectus contains a set of regulations which appear to provide for every imaginable contingency. Yet still competitors are dissatisfied. No wonder! Why?

The Disease.

Because the average administrative committee contains a majority of members who, however admirably they may succeed in organising the event so far as local arrangements are concerned, are absolutely incompetent to deal with the technical questions involved in the efficient conduct of what, as Mr. B. H. Davies points out, should be an efficiency competition. Time after time both in connection with hill-climbs and with track races have I seen enforced "technical" decisions which I knew to be unjust and absurd. The effect of such decisions has been the award of the prize to the most impudent trickster. Brutus, in the shape of the "technical judge," may have been in intention a scrupulously "honourable man," but the effect of his incompetence has been to defraud the deserving competitor, and to reduce the carefully prepared "rules" to chaos. The remedy lies, in my opinion, in the compulsory employment by all promoters of such events of a technical judge appointed by the A.C.U. The desirable qualifica-

Competition Rules.—

tions of such an individual are, however, much more easily scheduled than attained. In fact, when one comes to think it over it appears that he should literally realise the motto that Goethe's fiend inscribed in the student's album.

For instance, it is obviously necessary that he be a competent mechanical engineer and electrician; also that he should have had both manufacturing and competition experience. To strict impartiality he must add moral and physical courage, and a firm conviction of the mission and future of the motor cycle. He must be prepared to sacrifice most of his week-ends at the pleasantest time of the year to the discharge of duties that will often prove disagreeable, simply for the good of a sport in which he may no longer participate. In fact, in order to avoid any suspicion of partisanship,

I am safe in saying that not one of us anticipated that the effect would be to enable the makers of single-cylinder machines to say that they had "beaten" in a "race" multi-cylinder machines capable of 50% higher speed average under genuine racing conditions. Many riders who hear such statements will be totally unaware that the twin is not a mere complicated substitute for the simpler single, but is a different type with a distinct purpose, created to efficiently perform duties of a nature for which the single is ill adapted, and offering for certain purposes advantages which quite outweigh the inevitable extra fuel consumption. Surely the odds are too absurdly heavy—a few pennyworth of petrol against the status of a useful type and the welfare of an important section of the industry.

Why tinker? The R.A.C. has candidly recognised the futility of the fuel limit; has had the pluck to find



Leaders in the F.A.M. Ten Miles National Championship Race held on the 3rd inst., rounding the turn at Morris Park, New York. No. 7, Walter Goerke (the winner). No. 29, Fred Huyek. No. 1, A. G. Chapple. The winner's time was 10½ min. 45½ secs. Photo by R. G. Curtis.

I doubt whether he should even own a motor cycle—at all events, of any known make. His fee must be moderate, and therefore inadequate; nevertheless, his censorship must be free from feeling of dissatisfaction or show of arrogance.

The duties of such an official would include the inspection and passing or disqualification of all competing machines, and of any or all devices fitted to or used in connection therewith. He would hear and decide upon all appeals or references concerning the construction and equipment of the competing machines.

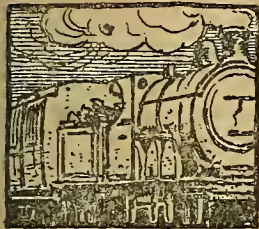
Lastly, I would call attention to the urgent need for reform in the Tourist Trophy regulations, as demonstrated by recent events. A serious injustice is being perpetrated against the manufacturers and entrants of the twin and other multi-cylinder machines. As a member of the committee who passed those regulations,

a safer course and run the race as a sporting event, subject only to engine limitation. Result: Thorough success—a genuine and satisfactory contest, productive of lessons of real value.

Consequently, I advocate the adoption of Mr. N. E. Drury's suggestion as regards singles; but I consider that, subject to suitable alteration of the course, the limit for the multi-cylinder class should be extended to admit the 80 × 80 mm. twins—say, 805 ccms. As a precautionary measure, it might be required that riders in the multi-cylinder class must have held a competition license for at least three years, and have competed without accident in twin classes of at least three open events.

Should not this give us a better demonstration of the comparative value of both types?

R. W. AYTON.



LETTERS TO THE EDITOR



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Touring in Norway.

[3678.]-I read Mr. Jack Kneiff's interesting letter on "Touring in Norway" in your issue of November 4th. Will Mr. Kneiff kindly place your readers under a further obligation and describe the back seat attachment he used so successfully on his tour?
W. H. J.

Keeping Mounting Pedal in Position.

[3679.]-Re hint 265 in "Hints and Tips for Motor Cyclists," I fastened a short piece of iron bolt under the left pedal, thus ensuring the pedal always being at the bottom and always flat side up. I think this better than springs, as pedals are always available for use without any alteration.
AJ 577.

The Danger of Night Riding.

[3680.]-I experienced a peculiar accident on returning after a run on the 11th inst. Turning out of a by-lane on to the main road, I was suddenly thrown from the saddle. On picking myself up (glad to say unhurt) and looking for the cause of it, I found that a telegraph wire had snapped and stretched taut across the road. Thank goodness it caught me across the chest, instead of the neck, otherwise I should not have been writing this letter.

In case of a dangerous accident of this kind, do you think a claim could be made, and if so against whom? Thanks to footrests the machine was not damaged.
N 2770

Winter Riding.

[3681.]-"Ixion" in his "Comments" of the 11th appears to be under a misapprehension. What I recommended was a pair of gauntlets with soft ends instead of the hard type. Perhaps I am somewhat longer in the body than "Ixion," but I have found water run down the sleeve into the glove on several occasions, and it is impossible to tuck a stiff-ended gauntlet into the sleeve end of the umbrella coat. He also comments on wind-cuff pressure, but this is largely a myth. A wind cuff should be large enough to just touch the wrist without exerting any pressure, and I for one find them necessary. It is not always desirable to use a pair of gauntlets, and in such a case the coat is useless without them.

IVAN B. HART-DAVIES.

The Life of Pneumatic Tyres.

[3682.]-With reference to Mr. Crow's letter, his experience, if it includes a year's riding, must be rather small and narrow. I did 3,000 odd miles on a nameless steel studded back tyre fitted to a 3½ h.p. machine, weight over 200 lbs., and rider 13 stones, without burst or puncture, but not without side-slip, and have the tyre still in good condition. I have done 10,000 miles since on rubber-studded tyres, and if Mr. Crow only used them he would feel the difference in comfort and speed, and even if he rode in winter in grease, he would not need to fear side-slip or skidding. The comparison between the two both in comfort and skid are odious. A great many who ride in winter simply have a non-skid on the back wheel. This is a mistake. It should be fitted to both wheels. I ride every day, wet or fine, and in the thickest traffic and grease, and have not had a side-slip since using a rubber-studded tyre.

I certainly think that a good rubber-studded tyre should do 10,000 to 12,000 miles on a lightweight, and 6,000 to 8,000, if carefully driven, on a 3½ h.p., weight about 200 lbs., but it depends on the man and the machine. Having to ride all through the winter to earn my living, I should not care have to go back to steel studs after rubber.

LN 3980.

Running on Benzol.

[3683.]-The real interest underlying the discussion regarding running on benzol, etc., is, I presume, the possibility of getting along when the petrol supply gives out. The following experience of mine lately on a 1908 Triumph is therefore *à propos*. When the petrol gave out eleven miles of hilly country separated me from the nearest supply. From a shop close by I obtained about a quart of ordinary methylated spirit, which carried me ten miles, and the remaining mile was comfortably covered on paraffin obtained at a wayside cottage. I found that the alcohol gave less power than petrol, and from the presence of the hydroxyl molecule in its composition it took less extra air. The paraffin, on the other hand, gave more power than petrol.
ES 224.

Magneto Manufacture.

[3684.]-With reference to Mr. J. Jackson's letter [3657] concerning magneto manufacture, as far as I know there is one firm that manufactures a real British magneto of British origin, and that is Messrs. John C. Fuller, of Woodland Works, Bow, London, E. I have not myself tried one of their magnetos, but have tried their accumulators and coils, and in my opinion I do not think there are any better. If their magnetos are like their coils and accumulators, they are a masterpiece of skill and workmanship. Their magnetos have been used on cars, and have proved very successful, having won a very big event at Brooklands this year. I may say that I have no other interest in this firm than that of a
BRITISHER.

[3685.]-We notice in your last issue letter No. 3657, signed by Mr. J. Jackson, and in reply to same we have very much pleasure in stating that not only are we a British firm making the well-known British-made Simms magnetos, but that these magnetos are adopted by a large number of the leading firms in Great Britain.

We are the actual manufacturers, and if your correspondent, or any other gentleman similarly interested, will write to us direct, we shall be very pleased to give him (or them) the fullest information concerning our magnetos, and the names of British motor cycle and car manufacturers actually using them.

There is not the slightest need to buy magnetos of foreign make when we can supply.

THE SIMMS MAGNETO CO., LTD.

The Future of the Light Tricar.

[3686.]-I regret exceedingly that I was unable to be present at what, from your report, appears to have been a most interesting and instructive paper. I notice, however, that some reference was made to the "A.C." tricar and its failure in the last Quarterly Trials. As the driver on that occasion, I think it only due to the makers that the cause of the stoppage should be known, particularly as the machine caused no small stir amongst riders for its very neat and clean design and sweetness in running. The beginning and the end of the whole trouble was a faulty coil, the trembler blade repeatedly refusing to tremble. This failure has, however, finally decided the makers to adopt magneto ignition, and they are in consequence fitting this wherever asked without extra charge.

While on the subject it may interest your readers to know that similar machines, suitably geared, and known as the "Auto-carrier," have been running, in the hands of well-known London firms, since November, 1907, with varying loads up to 5 cwts., and to the owners' complete satisfaction.

For an air-cooled engine in London traffic and this summer's temperature it is fairly evident that the question of air-cooling is simply one of design.

Trusting the above facts may be of sufficient interest as bearing on the tricar question to secure a place in your esteemed journal,
JOHN PORTWINE.

[3687.]-I think Mr. A. C. Pemberton's is the nearest to the real article, but the engine should be 5 h.p., 2½ in. front tyres and 2½ in. back; the whole weight (unladen) about 100 cwt. with two-speed gear. No doubt the chain would be most serviceable, but if the belt were 1½ in. it might be then a matter of choice. All considered, I think the bicycle frame best, being less inclined to "whip," and perhaps cheaper; but the fore part should have two sets of springs, as the weight would not be much more, and springs would be of great benefit to engine and driver. For myself, I drove a 5 h.p. single-gear belt-driven tricar during 1907, and am fitting it with a Roc two-speed gear. I like a twin, but I can't keep it up to its power like the single-cylinder. One thing more, have the adjustable pulley, too; you can use up your worn belt when it "pines" through old age. I write these few lines for the working men "motorists" only.
C. D.

A Well-known North Country Motor Cyclist.

[3688.]-Owing to a broken piston in my 5 h.p. twin the other day, I found myself along with a friend hung up here until such a time as the necessary repair could be effected. To my surprise and pleasure whilst looking for the trouble, whom should I see approach but that well-known North of England motor cyclist, C. B. Grimshaw, by whose aid the engine was smartly dismantled and the new part wired for. I was sorry to hear from Mr. Grimshaw that he was not at Banchory on pleasure bent or on motor business, but that owing to decided weakness of one lung he was having to undergo the open air treatment for tuberculosis at the Nordrah-on-Dee Sanatorium. Mr. Grimshaw's many friends will be sorry to know that he will be away from his business for at least twelve months, and I was personally sorry to hear him state that this illness would prevent absolutely any attempts at showing the paces of his 20 h.p. machine, of which we all had such great hopes. It may also mean that motor cycle hill-climbing competitions will know him no more.

When I said *au revoir* to Mr. Grimshaw the other day he was most cheerful, and asked me to convey his compliments to any of his *confrères*. This I thought most easy of attainment through the columns of your widely read journal.

GAUTIER GUILLAUME GRIFFON.

Banchory, N.B.

Protecting Magneto Terminals.

[3689.]-I noticed in a recent issue of *The Motor Cycle* a letter on "Protecting Magneto Terminals," by Mr. E. P. Waghorn, who states that after he had rubbed vaseline over the terminals he did not have a single misfire, although he was out on one of the wettest days of the year. He also states that he took his tip from the judges' report on the End-to-end Trials, which mentioned that one rider smeared his whole magneto machine with vaseline.

Now in regard to this I would like to say that several years ago I found that covers of any description were not reliable on a magneto, particularly in wet or damp weather. There was only one place where I was ever troubled with short circuits when riding in the rain or mud, which was across the carbon brush high-tension terminals, and knowing that vaseline was a good non-conductor, I adopted the plan, whenever it was wet, of smearing a little vaseline over the terminal end of the high-tension wire and all over the vulcanite carbon brush holder, and never had any trouble whatever with short circuiting. I think many of the riders in this year's End-to-end Trials can thank me for the vaseline tip; I know of several who adopted it and had no trouble throughout the run, although no one will question that there was plenty of wet and rain.

In regard to covers, I well remember one very wet day two or three years ago, when Mr. Frank Applebee arrived at Uxbridge on the morning of the Quarterly Trials, and made the remark that he did not think much of magnetos; he had just had a new one fitted on his machine, but had been troubled with misfiring from the time he left London. Considering myself quite an expert on magnetos, I went over

to his machine and examined it, and found that the magneto was well covered up with a rubber cover. Much to Mr. Applebee's surprise, I immediately began to cut away the lacing which held his cover on, removed it entirely, and then asked him to go out and ride up and down the road and see if he had any more trouble. He came back with a smile on his face, and said it ran perfectly. His trouble was simply with moisture which had collected under the rubber cover, causing short circuiting.

Whenever vaseline is not obtainable, or if one gets caught in the rain, ordinary cylinder oil smeared over the high-tension terminals on the magneto will help things for a while, but vaseline is much better, as it does not wash off or wear away with constant splashing of mud and water.

W. H. WELLS.

A Problem to be Solved.

[3690.]-I have read with interest the various suggestions made as to the reason of the four-cylinder F.N. suddenly developing abnormal (!) power and jumping away, and am surprised to see that no one has yet struck what appears to me a simple solution (having had one myself). I think it is all due to the inlet valves and the larger charge entering through them at very high speeds, due to the inertia—given to the gases in the induction pipe at the beginning of the suction stroke—causing the gases to keep on flowing till the piston is on the compression stroke, and thus admitting an "abnormal" charge. Naturally this would give a very much higher compression—being a larger charge in the same space—and much more power would be developed. Of course, as every experienced motor cyclist knows, compression is almost "perfect" at high speed, even if only "good" when on the stand, and, as the originator of this discussion states, the cylinders and pistons assume a glass-like surface, setting up a minimum of friction after some usage. The strength of the inlet springs should also have a lot to do with the fast running of the engine, and if these are altered, the speed at which the "abnormal" condition takes place will be altered to a small extent. A very small lift and strong springs are, naturally, essential for speed. It is also quite possible that some lubricating oil takes part in the explosion, but this should also be at lower speeds. However, this does not appeal much to me. Trusting the above is quite plain,

A. MANNING LOMAX.

[3691.]-Reading in *The Motor Cycle* a further interesting letter from Mr. Earle Ovington, I was struck with two possible explanations of the abnormal condition of his F.N. which may be of interest. In the first place, could not—as suggested in your own footnote to Mr. Ovington's first letter—the lubricating oil vaporise under the abnormal heat and add its energy to that of the petrol vapour? The loose screws in the top of the piston probably allow a little oil to leak through into the combustion chamber, and it would appear that this, rather than the fact of having bad compression, accounts for the engine's very fast running. Otherwise one might imagine that by slacking back the sparking plug in its seating, so as to allow the gases to leak past when the engine is turned slowly round, the same conditions might be induced in a four-cylinder F.N. engine as in that of Mr. Ovington whilst running at high speed.

The other explanation that occurred to me was that with a high piston speed, and the rather small inlet pipe fitted to these machines, the velocity of the incoming gases may be sufficiently great to thoroughly "pack" the cylinder with explosive mixture—on the suction stroke, of course.

GEO. H. WALKER.

EXPERIENCES WANTED.

"J. H. P." would like readers' experiences with Hayes's Jack-no-skid, used with and without a studded tyre.

"H. F." would like readers' experiences with the N.S.U. and Roc twin-cylinder motor cycles, 1907 pattern.

"Lightweight" would like readers' experiences with the Simkins pitch band drive. Can the amount of slip be satisfactorily regulated, and are there any objections to its use?

"W. G. K." would like to hear from readers who have run their machines with a two-volt coil for some considerable time. Is there any serious difference in the firing, and what extra percentage of distance can be run by using the two cells of a four-volt accumulator separately?

CYCLES FOR SALE.

h.p. Brown, ridden about 500
14 14s.—Scale, 311, Great West-
asholme, Manchester.

Triumph, 1906, 3 h.p., spares,
steed perfect, bought 1908; £23.—
Albattross Street, Preston.

1908, brand new; £44; complete,
spares; 1909 models now in stock.
s, Ltd., 74, Bold Street, Liverpool.

Rex, good condition, quantity
as, Millford castor wheel sidecar;
ild, 63, Copthorne Road, Bradford.

3 wanted, owner going abroad.—6
twin Antoine, Chater-Lea, and side-
3.—7, Beaufort Avenue, West Dids-

1/2 h.p. Rex de Luxe, Roc clutch, twin
tyres, etc., perfect condition, not run
es; £25.—1,221, The Motor Cycle Offices,
try.

Triumph, in perfect condition, Sham-
rock-Excelsior tyres, lamp, horn, etc.;
no offers.—1,244, The Motor Cycle Offices,
try.

h.p. Jap, magneto, No. 6 Chater frame,
Jap patent carburetter, 2 1/2 tyres, foot-
s; bargain, £24.—73, Plymouth Street,
Manchester.

CHATER-LEA-JAP Lightweight, Palmer
cord, Advance pulley, very fast, climb
anything, perfect condition; £15.—67, Free-
m Street, Sheffield.

NEW 3 1/2 h.p. Phelon and Moore, two speeds,
magneto, Palmer tyres, supplied Sep-
ember, never ridden, all accessories; £44.—
otter, Blenheim Square, Leeds.

TO be sold immediately, 1 1/2 h.p. Minerva,
good order, fast; nearest cash offers to
36 10s.—Particulars willingly, Smithies, Port-
and Grove, Heaton Chapel, Manchester.

5-7 h.p. Peugeot Twin, B. and B., handle
control, two speeds, tyres perfect, gar-
aged Southport; £25; lower power, magneto,
considered.—19, Mountfield, Prestwich, Man-
chester.

3 1/2 h.p. Minerva, B.S.A. frame, and sidecar,
complete, splendid condition, only
wants seeing, or exchange higher power, cash
adjustment; trial.—Wood, 108, Breck Road,
Liverpool.

1908 Triumph, made 13th June, 1908, as
new, perfect condition, lamp, horn,
spares, tools, etc.; approval, deposit; £37
10s.; buying 1909.—Dove, Stocksbridge, near
Sheffield.

VIBRATIONLESS Douglas Twin Light-
weights, absolutely perfect workman-
ship; inspection invited; lists free.—From
sole agents, Hitchings, Ltd., 74, Bold Street,
Liverpool.

GREAT Bargain.—3 1/2 h.p. Zenith Bicar, two
speeds, free engine, Palmer cord tyres,
bought July, 1908; cost £60, will accept £28,
or nearest offer; trial allowed.—Evic Cycle
Co., Whittingham, Lancashire.

N.S.U., two splendid twins, 5 1/2 and 4 h.p.,
both won several competitions, tyres
perfect, Shamrock and Palmer cord, 2 1/2 in.,
spring forks, magneto; sacrifice £25 each.—
Hughes, 16, St. John's Terrace, Leeds.

3 1/2 h.p. Rex, 1906, newly fitted with 2 1/2 in.
3 1/2 Peter-Unions, Fuller Syntonic coil, two
accumulators, stand, and all accessories,
footboards or pedals; £15, or exchange for
lightweight.—Kelvey, architect, St. Annes-on-
Sea.

SHOP-SOILED 1908 Magneto Rex Feather-
weight, £19 19s.; 3 1/2 h.p. 1908 Tourist
Rex, ball bearing engine, handle-bar con-
trol, £27 10s., unriden; exchanges enter-
tained; cash offers wanted.—Booth's Mo-
tories, Halifax.

£19 19s. 6d.—Magneto Twin Minerva, spring
forks, 2 1/2 in. tyres, nice condition. —
Booth's Motories, Halifax.

ZENITH Bicar, open frame, free engine,
enamel in splendid condition; cost
£50, accept £13 15s.—Booth's Motories, Hal-
ifax.

MINERVA and Rex.—We carry the largest
stock of spare parts in the provinces
for these machines, can deliver new ma-
chines from stock at low prices; cash, ex-
change, or gradual payments; charged ac-
cumulators for hire, 1s. per week.—Cookson
Bros., 511, Chester Road, Old Trafford.

FLITTING.

Prior to removing to our new Works, LOW CASH
OFFERS will be welcomed.

SHOP-SOILED, UNRIDEN.

3 1/2 h.p. REX TOURIST model (1908), mag- neto, ball bearing engine, handle-bar control listed at 38 guineas	£27 10
5 h.p. REX TWIN TOURIST (1908), mag- neto, ball bearing engine, black and gold, listed at 43 guineas	29 10
2 1/2 h.p. REX FEATHERWEIGHT, magneto, weight 90 lbs.; listed at 25 guineas ..	19 19
3 1/2 h.p. QUADRANT (1908), magneto	26 10

Exchanges entertained.

OTHER GOOD BARGAINS.

4 h.p. ZENITH BICAR, free engine.....	£15 15
3 1/2 h.p. ARIEL, M.O.V., low built	14 14
4 h.p. TWIN N.S.U., magneto	20 10
3 1/2 h.p. REX (1907), black finish, magneto..	18 18
5 h.p. TWIN REX, Osborne four speeds ..	17 17
5 h.p. TWIN VINDEC (1907), magneto ..	29 10
4 1/2 h.p. TWIN MINERVA, magneto	25 0
4 1/2 h.p. TWIN MINERVA, spring forks....	18 18
5 h.p. TWIN G.B., magneto, very smart ..	25 0
6 h.p. TWIN ANTOINE (1908), brand new	25 0
4 h.p. ROC, magneto, Roc clutch	22 10
FOUR-CYLINDER F.N., magneto.....	19 19
4 h.p. ANTOINE, magneto, Roc two speeds	20 10
6 h.p. TWIN REX and SIDECAR, 4 speeds	20 0
5 1/2 h.p. REX-DE-LUXE, Roc clutch, mag- neto, black finish	28 10
3 1/2 h.p. MINERVA, Chater-Lea, low built ..	14 14
4 h.p. TWIN N.S.U. (1908), magneto, two speeds	28 10
3 h.p. SIMMS, magneto, nice order	10 10
2 1/2 h.p. SPARK, vertical engine, magneto..	9 10
3 1/2 h.p. TWIN WERNER, 26" wheels.....	11 10
3 h.p. RALEIGH, Phoenix 2-speed gear ..	11 10
3 h.p. ARIEL... £10 10 | 2 1/2 BRADBURY	10 10
3 h.p. HUMBER 10 10 | 2 1/2 h.p. WERNER	9 10
3 h.p. PEBOK... 10 10 | 2 h.p. HUMBER	8 10
2 1/2 h.p. JAP..... 8 0 | 2 1/2 h.p. MINERVA	9 10

Extended Payments arranged. 200 Motor Cycles
actually in stock. Best show and biggest bargains
in Halifax. Full list free.

FOUR 5 1/2 h.p. REX-DE-LUXES.

1907 models, fitted with magneto, Roc clutch, twin
tyres, spring forks, spring seats; cost £50; ideal
sidecar machines; handle starting; £27 10s. each
or exchange.

TRICARS.

5 h.p. ASTER, open frame, two speeds ..	£15 15
5 h.p. QUADRANT, two speeds, coach built	19 19
10 h.p. REXETTE, two speeds, open frame	29 10
5 1/2 h.p. REXETTE, two speeds, open frame	27 10
6 1/2 h.p. HUMBERETTE Two-seater Car, three speeds, reverse, artillery wheels, three lumps, Stepney wheel	49 10



RUBBER AND CANVAS.

Correct angle. Non-stretching. Very clean.
3 in. 9d., 3 in. 11d., 3 in. 1/2, 3 in. 1/5.
Approval. Sample free.

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SPEED PULLEY.

14/- each.

Special Terms to the trade.
Standard makes can be had with ut
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The screwed flange is securely held in any position
by a simple yet ingenious contrivance that distin-
guishes it as the most improved pulley made.

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Scientifically made from selected parts of hides.
An efficient belt at a popular price. Outlasts two
rubber belts. Correct angle, perfect drive, non-
stretching. We send on approval on receipt of P.O.
3 in. 9d., 3 in. 10d., 3 in. 1/5, 3 in. 1/1.
Special Terms to the trade.

Booth's Motor Exchange,
CORONET WORKS, WADE ST., HALIFAX.
Telephone 1987.

MOTOR BICYCLES FOR SALE.

1 1/2 h.p. Werner, lightweight, vertical en-
gine, low frame, perfect running order,
tyres good, accessories; sacrifice £4 10s.—117,
Duckworth Street, Darwen.

HALIFAX.—As the largest dealers in Rex
Motors we can offer the following
shop-soiled machines; 1908 Rex, magneto,
featherweight, £19 19s.; 1908 3 1/2 h.p. magneto
Rex, ball bearing engine, £27 10s.; 1908 twin
Rex, £29 10s.; 1908 3 1/2 h.p. Rex de Luxe, Roc
clutch, two-speed, £31 10s.; also a few brand
new, offers wanted.—Halifax Motor Ex-
change, Westgate, Halifax.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire
Derby, Stafford, Shropshire, Mont
gomery, and Merioneth.

2 1/2 h.p. Minerva, equal to new; £10 for
quick sale, worth double.—38, St. Pau
Street West, Burton-on-Trent.

TRIUMPH, 1906, magneto, 1908 spring forks
footrests, butt-ended tubes, fine condi-
tion; £22, bargain.—Hall, Richard Street
Northwich.

6 h.p. 1908 N.S.U., climb anything; cos-
t £54 four months ago; any trial; like
new; £28 cash.—Dallaway, Fruiterer, Cape
Smethwick.

MINERVA, 3 1/2 h.p., springs, Brown and Bar-
low, Premier, footboards, horn, stand
carrier, and tools, perfect as new; £29.—
Trott, Shrewsbury.

TRIUMPHS, 1909, any make taken in ex-
change; liberal allowances; make ap-
pointment to see me at Stanley Show.—
Parker, Melbourne, Derby.

MOTO-REVE, latest model, not run 10
miles, absolutely new condition; cos-
t £41; extra Clincher tyres, accessories; take
£30.—Lamervue, Lloyd Street, Llandudno.

5 h.p. Vindec Special, just overhauled, in
perfect condition, Truffaut forks, new
Shamrock Excelsior on back, horn, tools
spares, etc.; £29.—W. Bunney, Prenton, Birk-
behead.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland
Northamptonshire, and Warwickshire.

ZENITH Bicar, Palmer tyres, Fafnir 4 h.p.
engine; great bargain, £15 10s. — 12
Bull Ring, Birmingham.

2 1/2 h.p. Excelsior, good going order, large
stand; £7 10s. cash, or best offer.—H
White, Fenny Compton, Leamington.

1908 Triumph, 3 1/2 h.p., new in August
scarcely used, lamp, and all spares
price £35.—Guyver, Stratford-on-Avon.

BRADBURY, 3 h.p., spray carburetter
Clincher A Won tyres, low built; grea-
bargain, £10 10s.—12, Bull Ring, Birmingham

2 1/2 h.p. Excelsior, vertical, spray, working
order; £7 10s.; typewriter part ex-
change.—Henson, 16, James Street, Grantham

EXCEPTIONAL Offer.—3 1/2 h.p. Rex, guaran-
teed perfect, condition as new; bar-
gain, £15.—67, King Richard Street, Coven-
try.

5-6 h.p. Twin Rex, M.O.V., splendid condition
3 in. Whittle belt, spring forks, and seat
£25, or exchange 7-8 h.p. Minerva. — G. H
Hooke, Monumental Works, Erdington.

LOYDS' 2 1/2 h.p., in good condition, new
non-skid tyre, Brooks saddle, and three
batteries, with numerous accessories; £10.—
Buxton, 604, Bearwood Road, Smethwick.

TWIN-CYLINDER Rex, magneto ignition
Amac carburetter, handle-bar control,
spring forks, cantilever saddle, perfect run-
ning order; exceptional bargain, £19 10s. —
Lloyd, Victoria Terrace, Leamington.

F.N., 5-6 h.p., latest model, five weeks old
perfect, not run 400 miles, 2 1/2 in. tyres
rubber studded back, spring saddle, stand
Rushmore model, lamp, tools, all spares
£45, lowest.—West End House, Geddington
Kettering, Northants.

1908 3 1/2 h.p. Triumph, T.T., handle-bar con-
trol, Clinchers, Dermatine, and two
spare belts, lamp, and generator, also spar-
lamp, Cowey speed indicator, spare valv-
and cover (Palmer), in perfect order; an-
trial or dismantlement; can be seen an-
nounced by appointment.—J. W. Willson, Burgh
R.S.O.

MOTOR BICYCLES FOR SALE.

7-8 h.p. Minerva Motor Cycle, 1908, and Ariel sidecar, accumulator ignition, Continentals, Lomax non-skid, numerous spares; living up motoring: £30 the lot.—Vic. Johnson, Osborne Road, Erdington, Birmingham.

23 h.p. Brown, in thorough good order, low 24 frame, 26in. wheels, Ducu non-skid, Clincher A Won front, girder, vertical, M.O.V., Longuemare, plain coil, long handlebars, stand-carrier, start cold half-turn of pedal, the best cash offer; for exchange, 12 h.p. Minerva, inclined, in sound running order, F.N., Dunlops, will take two decent push bikes, no rubbish; also enamelling oven will take three frames), with lamp, also one large De Dion coil, plain, sound, will take leather jacket, or good motor gas lamp, or anything useful.—Downs, Holbeach.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

23 h.p. Kerry, reliable, splendid condition; £14.—Gus. Brown, St. John's Street, Bedford.

FOR Sale, 1907 Quadrant, spring forks, fine condition; £24, or near offer.—Box No. 3,624, The Motor Cycle Offices, 20, Tudor Street, C.

21 h.p. Brown, good condition, new Palmer tyres, splendid hill-climber, tools, etc.; £12, must sell.—Gifford, Hadderham, Cambs.

EXCELSIOR, 4 h.p., Longuemare, long bars, low, 2in. new tyres, perfect condition, very powerful: £11 15s., bargain.—Gordon, Bassingbourne, Royston, Cambs.

21 h.p. Minerva, magneto, spring forks, 21 faultless throughout, very fully quipped, with every refinement, requires nothing spending on it; accept £20.—Young, Upwell, Cambs.

TRIUMPH, 1907, Nala two-speed, and Autophaeton two-wheeled sidecar, coachbuilt; 40 guineas, or sell two-speed and sidecar separately, condition as new.—Sid Spaul, Castle Hill, Norwich.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

26—Minerva, 2 h.p., spring forks, spray, Dunlop tyres, rubber belt, long handlebars, numbers, in good running order.—Apply, Page, 14, High Street, Bewdley.

h.p., £16.—Single Buchet, in Chater frame, brass torpedo tank, two accumulators and switches, spring forks, new Palmer and hamrock tyres, footboards, comfortable and reliable.—27, Thornwood, Treharris, Glam.

23 h.p. Ariel, M.O.V., splendid condition, 24 enamelled French grey, Dunlops, Brown and Barlow carburetter, new 20 amp. E.P.R. accumulator, footrests, spring forks, long handlebars, P. and H. lamp, thoroughly overhauled; rare bargain, £15. — Sankey, Kingsland, Herefordshire.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

EX Featherweight, 2½ h.p., magneto, new; 21 guineas.—Sansom, Lynchford Road, Barnborough, Hants.

h.p. Triumph, magneto ignition, splendid condition; £25.—Willway and Sons, Ltd., St. Augustine's, Bristol.

h.p. Vindec, 1908, two speed, and Montgomery sidecar; particulars; £43. — Freig, Penside, Nailsworth, Glos.

OTTO Motor Cycle, 2½ h.p.; bargain, £6 10s.; good going order.—W.L., 139, Adelaide Road, St. Denys, Southampton.

21 h.p. Minerva, built with B.S.A. frame, 22 Palmer tyres (unpunctured), splendid condition; £18 cash.—Eyre, Zeals House, Zeals, Wilts.

21 h.p. Minerva, pair non-skids, spare belt, lamp, and horn, in splendid condition, reliable; £15 10s.—P. H. Breeze, 74, High Street, Aldershot.

h.p. Fafnir Engine, B.S.A. frame and fittings, Dunlops, just overhauled; £9, a bargain.—W. H. Breeze and Son, 74, High Street, Aldershot.

Now is the Time to Buy.

FOUR 3½ h.p. QUADRANTS.
Brand new, 1908 machines, magneto ignition, £48 or exchange.

FOUR 5½ h.p. MAGNETO TWIN REXES.
Spring forks, cantilever seats, £22 each or exchange.

FOUR 3½ h.p. RE ES.
Vertical engines, spray carburetters, 22in. frames, £10 each or exchange.

VALUE FOR MONEY.		
5 h.p. Four-cylinder HOLDEN		£16 0
5-6 h.p. 1907, magneto, TWIN REX, black and gold		£22 0
4½ h.p. Four-cylinder DURKOPP, spring forks		£23 0
5-6 h.p. REX-DE-LUXE, twin tyres, clutch		£24 0
3 h.p. CLYDE, magneto, M.O.V.		£16 0
3 h.p. TRIUMPH, 25in. wheels		£15 0
5½ h.p. TWIN REX, magnificent goer		£19 0
5½ h.p. TWIN REX and Sidecar		£23 0
5-6 h.p. REX-DE-LUXE, magneto, Rocclutch		£27 0

FOUR 5½ h.p. REX DE LUXE
1907 models, fitted with magneto, Roc clutch, twin tyres, spring seats, spring forks, grand sidecar machines, handle starting, £27 or exchange.

£3 DOWN Secures any of the following Machines. Balance 5/- per week.		
3½ h.p. ROVER, M.O.V., belt drive		£12 0
4 h.p. ANTOINE, vertical, M.O.V., spray ..		£12 0
3½ h.p. ARIEL MINERVA, M.O.V., spray ..		£12 0
3½ h.p. BRADBURY, 26in. wheels		£12 0
3½ h.p. WADDINGTON, vertical, spray ..		£10 0
3½ h.p. MINERVA, M.O.V., spring forks ..		£14 0
3½ h.p. CLARENDON, M.O.V., spray		£12 0
3 h.p. MINERVA, M.O.V., spray		£11 0
3½ h.p. REX vertical, a flyer		£10 0
3 h.p. CLARENDON, M.O.V., spray		£10 0
3½ h.p. 1906 REX, 26in. wheels		£15 15
3½ h.p. ARIEL, M.O.V., 26in. wheels		£14 0
3 h.p. FLEET, Ariel, 26in. wheels		£12 0
2½ h.p. KERRY, spray, 26in. wheels		£10 0
2 h.p. MINERVA, M.O.V.		£7 10
3½ h.p. CENTAUR, belt drive		£12 0
3 h.p. WHITELEY, vertical, spray		£10 0
3½ h.p. "DUX," M.O.V., spray		£10 0
3½ h.p. 1905 REX, 26in. wheels, M.O.V. ..		£13 0
3 h.p. M.M.C., extra low built		£12 0
3 h.p. EXCELSIOR, spray carb.		£10 0
2½ h.p. SINGER, magneto		£10 0
2½ h.p. R. and P., vertical, 26in. wheels....		£9 0
2 h.p. QUADRANT, spray		£7 10
2½ h.p. WHITELEY, Longuemare		£9 0
2½ h.p. CLEMENT-GARRARD, fine goer ..		£10 0
3 h.p. FAFNIR, vertical, spray		£10 0
3 h.p. HUMBER, spray		£10 0
2½ h.p. PHENIX MINERVA, 26in wheels		£10 0

ENGINES, ETC.
3½ Standard £4 10 4½ Simms £7 10
2½ Quadrant £3 3 3½ Quadrant Sets £2 19
3½ Quadrant, new £6 19

CAMEL BELTING.
Rubber and Canvas V Belting. Absolutely the BEST belt on the market. ¾ in., 9d ; ¾ in., 1/- ; ¾ in., 1¼ ; 1 in., 1½ per foot. Any length cut Fasteners 6d. each.

BARGAINS—TRICARS, &c.		
4 h.p. BAT, spring frame, 26in. wheels....		£15 0
5 h.p. REXETTE, two speeds		£22 0
4½ h.p. QUADCAR, water-cooled, two speeds		£12 0
TRICAR FRAME, o en, for wheel steering		£3 10
DRUMMOND 3½in. Treadle Lathe		£11 11
LYCETT'S Lightning Stands		4/9 per pair.

CONTINENTAL TYRES		CLINCHER COVERS.	
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ALBION WORKS, SQUARE ROAD, HALIFAX.

MOTOR BICYCLES FOR SALE.

1908 Triumph; £25; seen in London.—Apply Hogg, Fort Blockhouse, Gosport, Hants.

QUADRANT, 3½ h.p., late 1907, little used, excellent order, spares, new Premier searchlight, spare tyre; £25, bargain.—Jones, Underdean, Newnham, Glos.

31 h.p. Vindec Special, 1908 finish, Simms-32 Bosch magneto, spring forks, variable pulley, new front tyre, spares, splendid condition; trial by appointment; £25, or offers.—Bishop, Morris Garage, Oxford.

MINERVA, 2½ h.p., good order, smart, Longuemare, Whittle, Palmers, cut-out, rim brake, exhaust lift, stand, carrier, B100, accumulator ignition; £10; want 1907 3½ h.p. Minerva.—H. Caudwell, Blewbury, Berks.

£22 10s.—1½ h.p. F.N. lightweight, in splendid order, hardly soiled, new March this year, many spares; reason for selling, owner bought car; inspection invited.—Apply, Rose and Co., cycle agents, Castle Road, Southsea.

6 h.p. Antoine Twin, Oppermann three-speed gear, strong back wheel, with Grose non-skid and band brake, all in good condition; offers wanted, or exchange for good water-cooled 6 or 8 h.p. engine and radiator, etc.—Tapp, Park Street, Bristol.

TWO-CYLINDER 6 h.p. Berkeley Engine Motor Cycle, Chater-Lea frame, accumulator ignition, footboards, long bars, just been re-enamelled French grey, private owner; £30, or near offer; will exchange for single-cylinder machine, with magneto ignition, and slight cash adjustment.—Apply, Bishop, Morris Garage, Oxford.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

HAMPSTEAD.—6 h.p. Jap twin, very low, new condition, all accessories; bargain, £18.

HAMPSTEAD.—4½ h.p. F.N., 1908 model, magneto, and spring forks, new condition; £25.

HAMPSTEAD.—3½ h.p. 1908 Triumph, magneto, and spring forks, run 900 miles only; £32; guaranteed.

HAMPSTEAD.—4½ h.p. F.N., 1908 model, good condition, magneto, and spring forks, all accessories; only £27, as new.

HAMPSTEAD.—4½ h.p. F.N., latest model, like new; cost £55 three months back; all accessories; £28.

HAMPSTEAD.—3½ h.p. 1908 handle-bar control Triumph, magneto, and spring forks; only £30.

HAMPSTEAD.—3½ h.p. 1908 Triumph, like new; only £35; with all accessories, guaranteed.

HAMPSTEAD.—Book your orders for 1909 Triumph, or other makes. We allow good price for your old ones; £38 for 1908 Triumph part payment.

HAMPSTEAD.—3½ h.p. 1908 T.T. Triumph, magneto, and spring forks, all accessories; only £34.

HAMPSTEAD.—5-6 h.p. Twin Rex, 1907, new condition, good going order; only £13.

HAMPSTEAD.—Two F.N.'s, 1½ h.p., 1908, lightweight, new condition, magneto, and spring forks; £18 and £20.

HAMPSTEAD for new machines, F.N.'s, 5-6 h.p., late models from stock; exchanges entertained; £30 allowed on old ones.

HAMPSTEAD. — 1908 Lightweight N.S.U., magneto, only shop-soiled; £18, with all accessories.

HAMPSTEAD.—3½ h.p. N.S.U., late model, magneto, new condition, guaranteed perfect; only £15.

HAMPSTEAD. — Sole agents for Griffons, Triumphs, Vindec, Minervas, F.N.'s, N.S.U., Browns, Rexes, and Rocs. We allow £10 upwards for your old machines, any condition, in part payment for new models, any make. Write, call, or telephone, 26/8, P.O.—Motor Works, 5 Heath Street, Hampstead.

IF You Want good bargains in second-hand or new motor cycles you cannot do better than come to 5, Heath Street Motor Works, Hampstead.

MOTOR BICYCLES FOR SALE.

1 h.p. Minerva, new January, 1908, condition perfect, as new, spares, lamp; will ride to prospective buyer, or consider part exchange.—Motorist, 27, Pitfield Street, London, E.C.

1 h.p. 1908 Vindec Special, Truffault spring forks, magneto, enamelled cream, only ridden a few times, and in new condition, perfect order; bargain, £35.—Pond, 349, West End Lane, N.W.

BARGAIN.—3½ h.p. Minerva, perfect running order, fast and reliable, footboards, long bars, tyres good, spares; nearest offer to £12; bought car.—Porter, 102, Rectory Lane, Tooting.

1 h.p. Humber, handle starting, free engine, Samson non-skid tyres, with decar, for sale, cheap, taken for debt; offers; starts like car.—Barber, 17, Galena Road, Hammersmith, W.

MOTOSACOCHE, splendid condition, not ridden 100 miles, tyres fitted with non-skid bands, spares, etc.; seen by appointment; cash £20.—2, Kinfauns Villas, Whitten Road, Twickenham.

AP Lightweight, 2½ h.p., not run 500 miles, everything in new condition, fast, wonderful little hill-climber, very reliable; complete with all accessories.—S., 11, French Place, Shoreditch, London.

1908 Triumph, 3½ h.p., just delivered. Autoclipse and generator, special Brooks extra tool case, non-skids, etc., very complete, cannot use owing to illness.—Offers to 6, Great Marlborough Street, W.

h.p. Trafalgar, twin Peugeot, spring forks, 2½ Palmer cords, shop-soiled, 25; 3½ h.p. White and Poppe ditto, £15; 3½ h.p. Durkopp, £12; 2½ h.p. Jap, very low and light, £13.—Seen, 39, East Street, W.

1907 Genuine Rex, 3½ h.p., very low built, splendid hill-climber, take sidecar anywhere; £16 guineas; complete with pump, hooter, all accessories; ready for any journey.—Pembroke House, 22, The Avenue, Bruce Grove Station.

1908 N.S.U., magneto, 3½ h.p., practically brand new, not ridden 200 miles, magnificent machine, many refinements, Shamrock rubber studded cover, full kit, spares; try trial; £34.—Hoffman, 61, Chiswell Street, Salisbury Square, London, E.C.

1 h.p. Rex Motor Cycle, perfect running order and in first-class condition, fast and reliable Palmer tyres, Rich detachable spare tube, spare belt, tools, lamps, etc., and many spares; any trial by appointment. S. Lambert, 14, Tit Street, Chelsea, S.W.

TRIUMPH, 1908, 3½ h.p., magneto, special saddle, new Shamrock belt, tyre, unratched, non-skid back, all tools, spares, including contact breaker, horn, rubber plates, absolutely as new; only wants seeing; 34 guineas.—64, Chestnut Avenue, Forest Gate, London, E.

1 h.p. Minerva Twin and sidecar (flexible or rigid), R.O.M. synchroniser, spring forks, Brooks B105, N.S.U. two-speed gear, tyres, Palmer cord back wheel, security lights, excellent order, very little used; £39, no offers.—Garaged Brock's, Church Road, Stanmore, Middlesex.

1907 5 h.p. Rex, not done 3,000, 24in. Continentals, front retreated, back steel added, unpunctured, Acetyphote adjustable pulley, three belts, stand carrier, comfortable rubber covered footboards, with are pedalling gear, Jebrons, Janes, horn, spares, tools, smart, reliable, fast, in splendid condition; £20.—Crow, Nottingham Road, London.

1908 Moto-Reve, not run 500 miles, bargain, £20; also 3½ h.p. Brown engined, Water-Lea No. 6, fitted magneto and accumulator, built to order, cost over £50, only used trial runs, guaranteed, speed 50 miles per hour, smart machine, a sensation on the road, £30, full particulars and photo of; sidecar for same, £5; owner giving up motor.—Jeweller, 331, Barking Road, East London.

1908 5½ h.p. N.S.U., with N.S.U. two-speed gear, complete with new tyre back wheel, and spare unused re-covered tyre, spares, lamp, spares, etc., B. and B. handle-controlled carburetter, also Montgomery 1 Modele de Luxe sidecar, hardly used, with spare basket, all in perfect condition; never buying car; great bargain, £40.—can be seen and tried Sycamores, Harpenden, Herts.

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MOTOR BICYCLES FOR SALE.

31 h.p. 1908 Minerva, round tank, fitted with Brown and Barlow handle-bar controlled carburetter, tyres and machine in all-round good condition; £17 10s. lowest, splendid bargain.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

MOTOSACOCHE, nearly new, all accessories, special Palmer tyres, Rich tubes; must clear; exchange, or best offer over £19; Wolf featherweight engine set, complete, new, fit any roadster cycle, £12 12s.—Anglo-Saxon Co., 31, Newgate Street, E.C.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

TRIUMPH, 1907, perfect, new tyre and belt; £30.—Varcoe, St. Austell, Cornwall.

2½ h.p. De Dion, splendid condition, thorough working order; £8, or offer, worth double.—Wilcocks, Trebartha, Launceston.

SECTION X.

Scotland.

3½ h.p. Triumph, 1908, perfect condition; £35.—Mitchell, 86, Main Street, Lochgelly.

1½ h.p. F.N. Lightweight, 1908, magneto, spring forks, etc., splendid condition, numerous spares; £20.—Brown, 3, Woodfield Terrace, Ayr.

FOR Sale, Triumph, 3½ h.p., new, just delivered from works, magneto, all spares.—Particulars from McQuiston, Motor Agent, Ayr.

3 h.p. N.S.U., magneto, 1908, new in spring, renewed tyres, 24in. wheels, very low and smart; cost £37; what offers (cash)?—Oswell, 9, Queen Street, Jedburgh, N.B.

3 h.p. Fafnir, excellent condition; exchange 140 "English Mechanics," 40 "Motor Cycles," and "Modern Electric Practice."—Morris, Toolworks Cottages, Fraserburgh.

EDINBURGH.—Vindecs, Quadrants, Rexes, Adlers, Moto Reves, Ariels, Zeniths, Minervas, Griffons, Nortons, N.S.U., Advances, Rocs, etc., in stock, and to be seen at Alexander's Motor Exchange, Edinburgh.

FOR Sale, 5½ h.p. twin magneto Rex motor cycle, with numerous spares, £24 10s.; Millford duplex steering sidecar, £4 10s.; both splendid condition, forming powerful, fast, and safe combination; together £28 10s.: trial run; also Ariel couplers, 30s.—Mearns, 8, Buchanan Terrace, Paisley, or Pollokshaws.

EDINBURGH.—Great sale of 1908 motor cycles just returned from our stand at Scottish National Exhibition. Send at once for special list, with our greatly reduced prices. Don't miss this opportunity to secure an up-to-date motor at a bargain price. — Alexander's Motor Exchange, 110, Lothian Road, Edinburgh.

TRICARS FOR SALE.

STAMFORD HILL.—Phoenix Trimco, Minerva engine, fine condition; £12 10s.

STAMFORD HILL.—6 h.p. Riley, twin w.c. engine, Chater-Lea open frame, coach-built tricar, two speeds, overhauled; £47 10s.

STAMFORD HILL.—5 h.p. Twin Hamilton, Mills-Fulford forecarriage, splendid cane body, excellent condition; £20.

STAMFORD HILL.—5 h.p. twin Kerry, R.O.M., Millford front wicker body, grand condition; £28.

STAMFORD HILL.—4½ h.p. M.M.C., water-cooled, chain drive, free engine, cane body, powerful and reliable; £20.—128, High Road, Stamford Hill.

6 h.p. Riley, little used, perfect; £55.—66, Queen Elizabeth's Walk, Stoke Newington, N.

5½ h.p. Quadrant Tricar, two speeds, lamps, accessories, splendid order; £25.—98, Potternewton Lane, Leeds.

TRICAR, 4 h.p. Rex, coach-built body, Clincher tyres; sell great bargain, £15 10s.—12, Bull Ring, Birmingham.

RALEIGHETTE Tricar, two speeds, water-cooled, average 20 miles an hour; £38.—Stimpson, Stratford-on-Avon.

A QUANTITY of second-hand tricars from £10; inspection invited.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TRICARS FOR SALE.

REX Tricar, 3½ h.p., in excellent condition, all new, 2½ in. Palmer tyres, spares, etc.; 18.—2, Colenso Road, Seven Kings, Essex.

You Want Bargains in second-hand tricars you can get them at Wauchope's, Shoe Lane, Fleet Street, London, E.C.

TWIN - CYLINDER Rex Tricar, in perfect condition; any trial; seen any time; 22.—Jennings, 268, Hornsey Road, Holloway, London.

1 h.p. Triumph Tricar, water-cooled Faf-2 air engine, two-speed gear; £15.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

1 h.p. Excelsior Convertible Forecar, unpunctured, front wheel, coach seat; 20, near offer. — Henshaw, Wheelwright, Lockport.

1 h.p. De Dion, Chatér-Lea, water-cooled, 2 two speeds, free, new condition, cane recarriage; £35.—Walker, 53, Pinner Road, Uxley, Herts.

6 h.p. Phoenix Tricar, open frame, coach-built, wheel steering; £32 10s.; opportunity.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

REX 4 h.p. Tricar, coach-built, new engine, two carburettors, Chapman fan, better than new; cost £90, take £25.—Rector, Histon, Northampton.

RILEY, 6 h.p., perfect, three speeds and reverse, lamps, and tools; £60, or 3½ p. Triumph and cash.—F. Guest, 134, High Street, West Bromwich.

STER Tricar, open frame, wheel steering, bucket seat, coach-built, nearly new; 20, or exchange. — Stevens, 4, Goldhawk Lane, Shepherd's Bush.

NE 5-6 h.p. Rexette, just overhauled, new copper radiator, perfect condition, take to anywhere; trial given; £40.—Jackson, Clegg Street, Oldham.

PEN Frame Tricar Chassis, complete with wheels, tyres, Hans Renold chains, two-speed gear, brakes; £8 17s. 6d. the lot. Booth's Motories, Halifax.

REAT Bargain—3½ h.p. tricar, Dunlops and Clincher tyres, in good running order; £10 10s., or nearest offer.—J. Smith, n Street, Waltham Abbey.

0-12 h.p. Lagonda, in absolute new condition throughout, not run 1,000 miles, special machine; cost £142, sacrifice £55.—R. se, Leawood, near Matlock.

h.p. Twin Rex Light Tricar, Whittle belt drive, very fast and powerful, cantiver seat; £15.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

WHEN at the Show call and inspect 200 varieties of small motor vehicles; others entertained.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

INGER Tricar, 9 h.p., not driven 1,000 miles; cost £150, accept for immediate sale £55; owner going abroad.—Dray's Motor Garage, High Street, Hythe, Kent.

6 h.p. Twin Autoine Tricar, in thorough going order, fan-cooled, guaranteed perfect; £20 cash, no offers, an absolute bargain.—White, 178, London Road, Croydon.

RICAR, 6-8 h.p. w.c. engine, Chater pattern E. frame, two-speed gear box, coach-built seats, built this season; any trial; others wanted.—84, Evelina Road, Nunhead, E.

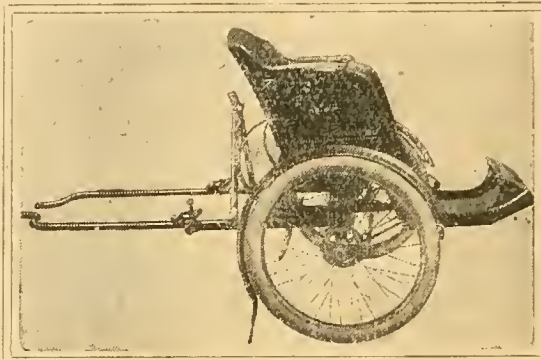
REXETTE, 8-10 h.p., water-cooled, three-seater, wheel steering, two speeds, car sprung, Dunlop car tyres, steel non-skid, hill-climber; £45.—37, Church Street, Mansfield.

OBART, 4½ h.p., two speeds, water-cooled, foot clutch, coach-built, new studged tyre on back, runs and starts like car, perfect order; £30.—77a, Akerman Road, Hixton, S.W.

h.p. Peugeot Twin-cylinder Tricar, only three months used, belt drive, variable alloy, footboards, spare tyre and tube, five mps, condition as new.—Penman's Garage, Stle Douglas, N.B.

AGONDA, 10 h.p., water-cooled, three speeds, and fitted with car tyres, enamelled dark green, and is in first-class condition; this machine only wants seeing, for it is a very rare bargain at £45.—Seen at Pond's, 349, West End Lane, London, N.W.

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TRICARS FOR SALE.

5 h.p. Twin, two-speed, belt drive, footboards, good tyres, running order; cash £18, or exchange with cash for good light car.—Wright, baker, Holbeach, Lines.

TRICAR, De Dion, water-cooled, coach body, chain, two-speed, free engine, footboards, and wings, perfect, but wants tuning, sprung chassis; price £17.—C/o Walker, 231, Westbourne Grove, W.

8 h.p. Rexette, two-speed, water-cooled, twin-cylinder engine, steel studged back tyre, recently re-painted; £39, or exchange powerful magneto bicycle and cash.—Lieut. Hart, R.N. Barracks, Portsmouth.

5 h.p. Aster Engined Tricar, water-cooled, two speeds, chain drive, handle starting, open frame, splendid condition throughout; photo; £25, or £10 and modern motor cycle.—P., 266, Buxton Road, Macclesfield.

COACH-BUILT Tricar, fitted two-cylinder water-cooled White and Poppe engines, clutch, gear box, three speeds and reverse, foot and side lever brakes, wheel steering, 700 by 85 car tyres, chain drive; £50; car wanted.—Goddard, Brickfields, Southall.

h.p. Riley Tricar de Luxe, latest type, in new condition, been very little used, fitted with Rushmore head lamp, side lamps, electric back, two aprons, tools, and spares; cost £150 this year, cash 65 guineas.—Holt, Pinhoe, Munster Road, Teddington. Seen London.

5 h.p. Mototri Contal, water-cooled, two speeds in back hub, chain drive, exactly B. H. Davies's specification, sprung front, rigid back, coach-built, same as used in Pekin-Paris trials, car tyres all wheels; cost over £100. £45, or good motor cycle and cash.—Longford Villa, Uddington.

HALIFAX—5½ h.p. Spring Frame Rexette, £35; 8-10 h.p. Rexette, £47 10s.; 4½ h.p. water-cooled Bradbury, open frame, £35; 4½ h.p. Stevens, two-speed, £30; 4½ h.p. Stevens, water-cooled, two-speed, £27 10s.; Rex two-speed tricar, £18 10s.; coach-built Rex tricar, £13 10s.—Halifax Motor Exchange, Westgate, Halifax.

CENTURY Tricar, 6½ h.p. Aster engine, w.c. Renold silent chains, coach-built sprung seats, two speeds, free engine, 700 by 85 tyres, spare new Clincher cover, large Salisbury Flare, as new, cost pound, also large brass side lamps, enamelling, plating excellent, luxurious, reliable, just overhauled; £27 10s.. bargain.—Gordon, Bassingbourn, Royston, Herts.

9 h.p. Riley Tricar, 1908 model, Riley red finish, 700 by 80 Dunlop fronts, large non-skid on back, leather extensions to all guards, luggage carrier over back wheel, large horn, with flexible, small acetylene headlights, with separate generator, electric back lamp, spares, etc., run about 1,700 miles, in splendid running order; £75.—1,233, The Motor Cycle Offices, Coventry.

SIDECARS AND FORECARS.

SIDECARS.—A quantity all makes from 21 10s.—Rey, 5, Heath Street, Hampstead.

SIDECAR, fit any machine, no further use; £3 15s., bargain.—Cross, 116, Archway Road, N.

MONTGOMERY £10 10s. Sidecar, only been used three times; £7.—785, High Road, Leytonstone.

PHOENIX Forecar on sale, side stays; £4.—Fishwick, Knutsford Road, Alderley Edge, Cheshire.

WOLF Forecar, upholstered, side stays, 26in. wheels, two brakes, mudguards, complete, less tyres; bargain, £2 5s.—Philpott, Rangeworthy, Gloucestershire.

MILLS-FULFORD Sidecar, 26in. castor wheel, upholstered in dark green, and in new condition, fitted with toolbox, at the bargain price of £6.—Seen at Pond's, 349, West End Lane, London, N.W.

RIGID Sidecar, 26in. wheel, new wicker seat, upholstered, £3; also forecar attachment, new wicker seat, 26 wheels, band brakes, Dunlops, £3 5s.—Stevens, 4, Goldhawk Mews, Shepherd's Bush.

STAMFORD HILL.—Famous rigid sidecars, instant delivery, none better, fit your machine, £4 18s. 6d.; sound second-hand sidecar, £3 5s.; Mills-Fulford, £4; forecar, side stays, band brakes, £4 10s., wing guards.—128, High Road, Tottenham.



THE MOTOR CYCLE



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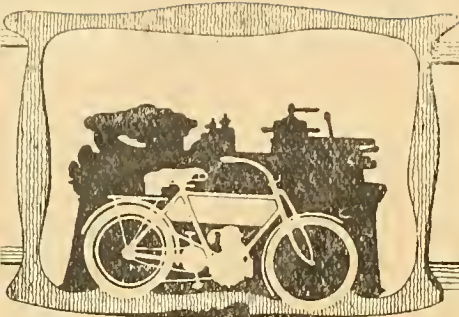
Carburation.

A CORRESPONDENT writes an interesting letter to the "Letters to the Editor" column this week regarding carburation, and suggests that motor bicycles should be provided with carburetters fitted with two jets, one with a large hole to give the utmost power for hill-climbing and another smaller one for use at ordinary touring speeds in level country and for slow running in traffic. Most motor cyclists know that machines which are ridden in hill-climbing competitions are usually provided with as large a jet as it is possible to use to obtain the greatest amount of power from the engine. But a large jet is not suitable for average touring conditions, yet on steep hills would be distinctly advantageous. The suggestion made by our correspondent could be very well carried out somewhat on the lines of the device described by "Ixion" in "Occasional Comments" on May 13th last, and which could be fitted easily to any existing carburetter without entailing any great amount of structural alteration. With the device in question the same float chamber can be used, and all that is necessary is another jet and smaller inlet pipe with a practically fixed air supply. This can be so adjusted that it will run a motor cycle at almost any desired maximum speed up to, say, twenty-five miles an hour, and when an exceptional hill is encountered the auxiliary carburetter jet would be uncovered and the extra air brought into play, giving a much greater range of speed and power. The large jet could also be used for starting. Failing this arrangement being satisfactory, the carburetter would have to be divided into two separate chambers with separate additional and fixed air supplies and throttles—an arrangement

that would be hardly as good, because it would be necessary to part with existing carburetters. The same result might be arrived at with a variable jet, but the manipulation of a variable jet would not be so simple, because varying the supply of petrol is always a much more sensitive method of controlling the mixture than varying the air supply.

Riding Position.

WE cannot pass over the exhibits at the Stanley Show without making reference to one item in connection with the design of motor bicycles, which appears to us to be a retrograde movement, and that is the importance of distribution of the weight. We think it is a generally accepted axiom that the more the weight can be centralised between the two wheels the less liability there is for the machine to side-slip on greasy surfaces, and the more comfortable it is to ride. Now it is not always easy to obtain this desired position for the rider without making a very low frame and somewhat curtailing the tank capacity. In fact, a considerable amount of ingenuity is required to provide for a low saddle position, a fair petrol capacity, and easy removal of the cylinder or cylinders. To overcome these difficulties we noticed one or two machines at the show on which a low riding position has been obtained at the sacrifice of the central position for the rider. This has been done by attaching the saddle to a pillar extending from the top tube, bringing the rider nearly over the centre of the rear wheel. With the saddle so placed the road vibration from the driving wheel is much more noticeable, and if a skid does take place our experience is that it is more difficult to counteract than when one is seated between the wheels.



Roadster Motor Bicycles at the Stanley.

By B. H. DAVIES.

NOTHING struck me more forcibly at the Stanley Show than the unobtrusive nature of the 1909 improvements on the highest grade machines. These machines have already attained such a degree of perfection that unless some startling innovations such as the Silent Knight engine, revolutionise the trade, the makers of the half-dozen best machines will be hard put to it to discover what their travellers "talking points" for 1909; and even at last year's show most well-known machines displayed few fundamental differences from '08 models, although the modifications all make for increased comfort and efficiency.

Piston and Carburetter Improvements.

Two of the less obvious but very valuable improvements concern the piston and the carburetter. I do not know how far the domed heads now fitted on all pistons, such as the Triumph and Rex, are going to be of real benefit, but I am quite certain that the L.M.C., Rex, and Triumph devices for reducing wear of the cylinder walls will result in greatly prolonged maintenance of power. The practice of fitting one ring on the lower end of the piston actually provides an extra bearing for the piston side upon, at a point where such a bearing was very needed. In the past I have often found considerable wear in the upper part of the bore after as brief a distance as 5,000 miles. With these three pistons the amount of wear after 20,000 miles will not be excessive, and, in addition, it will be evenly distributed through the entire range of the piston's stroke. I heard several riders complaining that *two* rings ought to have been retained at the top of the piston to prevent leakages through the slots of the rings, but they

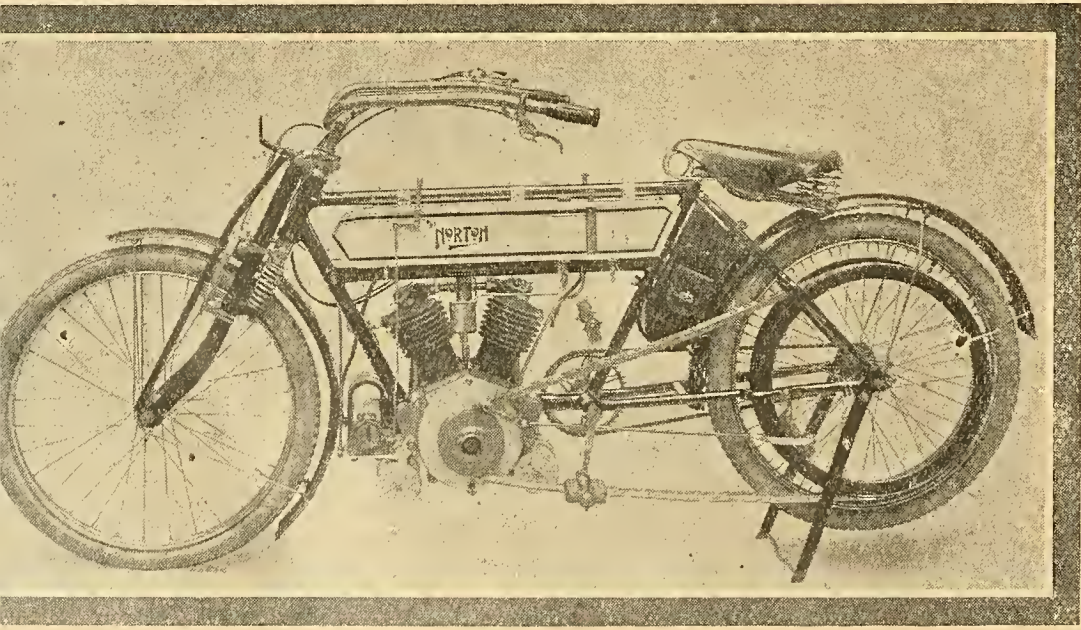
had evidently not noticed that the rings are step-cut, and one step-cut ring is as good as two obliquely-slotted rings any day. This design of piston will be widely copied on cars.

Turning to carburetters, handle-bar control is uniformly standard for the first time, and, generally speaking, great strides have been made in carburetter construction. The Brown and Barlow and the A.M.A.C. share public favour almost evenly, and are found on practically all the roadster machines staged. Both alike are extremely accessible, give a high degree of maximum power combined with excellent flexibility, and are free from the multitude of "twiddly bits," which disfigured ancient carburetters and caused frequent trouble by falling off or getting out of order. Personally, I prefer the B. and B. type of handle-bar control (which gives a sweeping motion of the levers in the horizontal plane) to the A.M.A.C. device, which affords a radial movement in the vertical plane; and I notice the Rex Co. have fitted levers of the B. and B. type to the A.M.A.C. carburetters on their 3½ h.p.

Triumph and Rex Notions.

The Triumph has a peculiarly smart notion in the way of a revolving spout to the petrol tank drain tap. Turned towards the rear of the machine, the petrol flow is cut off, but when the spout is turned forward it comes just over the compression tap, and the petrol cock is then automatically open. The Rex Co. have a device serving the same end, but their drain tap stands just over the compression tap, and will be fitted with a fixed spout. It is hard to guess where the Triumph people are going to find any more improvements for 1910; their machine is just about perfect. Much the

same applies to the Rex, who are among those sensible firms who are returning to a lower compression. The demands of a minority of amateurs, those who thirst for speed up hills, have led to the infliction of an ultra-high compression engine on the rest of us. Such engines easily suffer from pre-ignition, are difficult to start, gum up very readily, knock badly at the least provocation, and are not at all flexible when slowed down around corners or on up-grades. The Rex Co. will, no doubt, continue to supply high compression engines to special order, but their standard tourist engine is low compression and very flexible. The Triumph Co. meet this difficulty by listing racing and roadster patterns with different compressions.



h.p. twin-cylinder Norton of up-to-date design. This machine has handle-bar control, Druid spring forks, separate silencers, adjustable pulley, and rubber-studded tyres.



Two views of the 32nd Stanley Show at the Royal Agricultural Hall, Islington, N., showing a few of the stands on the ground floor on which complete motor cycles were staged.

Roadster Motor Bicycles at the Stanley—

I noticed on the new Rex an ingenious timing gear with only two pinions, an excellent front wheel mudguard, enclosed front fork springs, connecting rods beautifully machined all over, quick detachable front wheel, a driving fit gudgeon pin with $\frac{1}{1000}$ in. taper, oil pump inside tank, and last, but not least, hinged brake clips on the rear chain stays, allowing the back wheel to be removed without damage to the enamel. The Rex, in common with several other machines, has now a horizontal quadruple coil in the petrol feed pipe, reducing the chance of a broken pipe to the minimum.

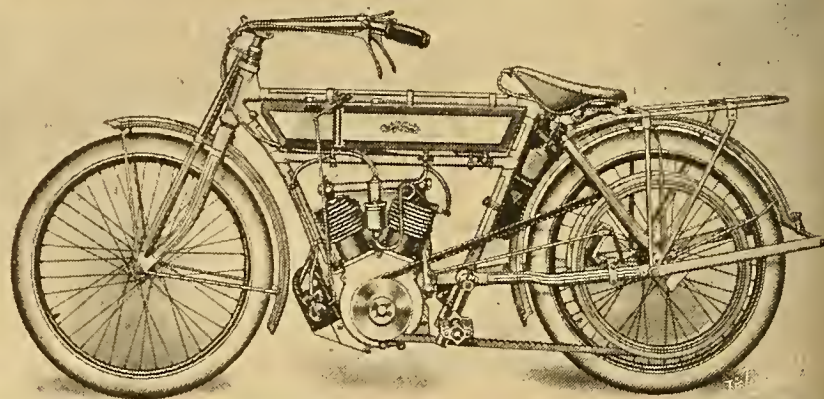
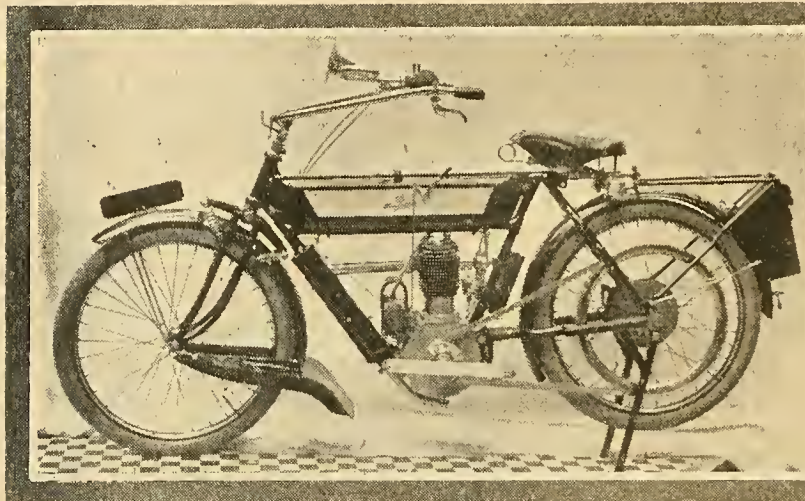
The Flat Valve Quadrant Engine.

The Quadrant Co. have something really good in their new engine—the first motor cycle engine, I believe, to imitate the flat-faced valves so long in use on the Mercédès cars. Anyone who has owned or managed an engine of this type will be aware how long the flat faces remain gas-tight. Another detail I much liked on the Quadrant was their specially adapted

ordinary plugging up long rises, thanks to an excellent flywheel system, and the 1909 type promises to reduce this precious characteristic, besides being completely equipped with refinements as any motor in its class.

The Roc is much the same as ever. I particularly noticed the m.o.v. twin-cylinder engine, which many riders infinitely prefer; the duplex tanks, rendering petrol supply troubles impossible; the new Cee spring fitted at the base of the front forks to cushion shocks at any angle; and the brass-studded metal to metal band brakes, an ingenious notion for securing a gentle operation.

At three stands I was unable to interview the man in charge, and detected few alterations unaided, viz. N.S.U., Minerva, and Brown. All this trio looked good as ever, and all hold magnificent records in public tests. In particular, I was glad to see the Minerva people have returned to the magneto on their twin cylinders, while their 8 h.p. is distinctly a lightweight at 180 lbs. The 4 h.p. N.S.U., with double crank



Two handsome single-g geared pedalless motor bicycles at the Stanley Show.

The new 3½ h.p. Humber, which has a live axle, so that the engine can be started when jacked up by means of a handle. Note the new design mud-flap, position of toolcase, and Brooks padded-top saddle.

The 1909 15 h.p. twin-cylinder Tourist Trophy Vindex, which, like all other models of the same make, is finished in Vindex grey. The carburetter is now fitted between the cylinders.

B. and B. carburetter. The control is ingeniously reduced to a single lever, as the piston throttle works an air slide in due proportion to its own movement. The objection to such single lever controls is that no fixed air opening can possibly suit all weather conditions; hence the air opening on the Quadrant is fitted with an external slide carrying a button. At the start of a run this button is set by hand to increase or reduce the aperture controlled by the piston, so here we have a carburetter which is fairly accurate under all conditions, provided the hand button is once correctly set to suit the weather. In other respects, the Quadrant is thoroughly up to date, and promises to resume the high position it attained in 1906.

The L.M.C. machine is practically unaltered from this year's type, but if the engine exhibited as having covered 18,000 miles is a fair example of the way these engines wear, they must be hard to beat, for it was in splendid condition throughout. The automatic spring pulley recently illustrated in *The Motor Cycle* is another feature of the exhibit.

An Old Friend with a New Face.

The Bradbury is an old friend I welcome again in a very up-to-date form. I have not ridden a Bradbury for some years, but the early types possessed the steadiest engines on the market, capable of extra-

shaft bearings and dimensions of 82 mm. bore and 105 mm. stroke, will have a big vogue.

Four Unique Novelties.

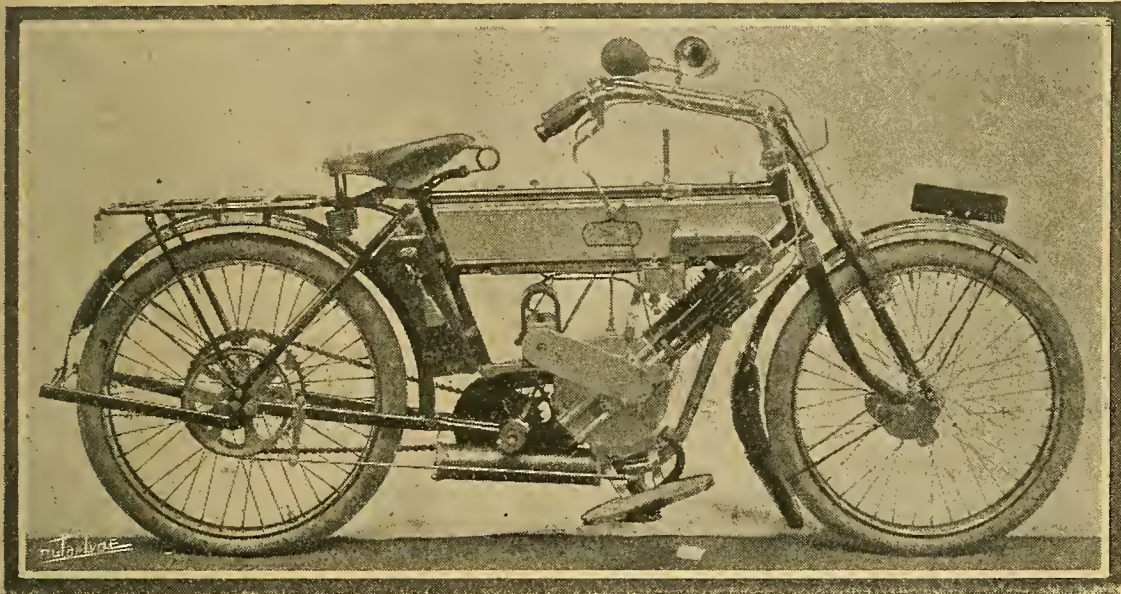
The Norton piston lubrication should be studied being quite unique.

The Vindex exhibit was hailed with delight by the riders who have been demanding a 9 h.p. of lightweight and the highest class; previous 9 h.p. machines have usually been too weighty for most of us. The exhibit comprised three novelties—all unique, and all essentially desirable. The first was an automatic inlet valve, adjustable for lift and strength of spring, and devoid of cotter, three desiderata obtained by threading the cup on a screwed stem, and employing a locknut. The handle-bars are fitted with a double adjustment so that they are adjustable for angle of slope as well as for height. And, finally, the silencer is really good. The portion of the exhaust pipe contained in the silencer is slotted instead of perforated, so that the area of emission is double the inlet valve area, which makes for silence and efficiency. In addition, half of the circumference of the silencer, namely, that half on which the gases impinge as they issue from the pipe, is lined with asbestos card, so that metallurgical "ring" is done away with. In other respects the Vindex are as practical and refined as we should

Roadster Motor Bicycles at the Stanley—

expect from a firm which has as one of its directors one of the keenest and hardest riders on the road.

The Bat machines remain practically unaltered, the 6-7 h.p. T.T. type being one of the lightest of its power on the market. The Bat firm have a special reputation for tuning up machines thoroughly before delivery, and



A machine which performs very consistently in all competitions is the $3\frac{1}{2}$ h.p. two-speed P. and M., the 1909 edition of which we illustrate. It was one of the few chain-driven bicycles at last week's Show.

for meeting the requirements of individual customers. As a sample of what they can do in this line, they staged a twin intended specially for sidecar work, with a P. and M. gear driving a huge counter-shaft belt pulley set well forward of the engine, and with a final belt transmission.

Two-speed Gears and Light Frames and Wheels.

The Phelon-Moore is a little lighter, and now has the low gear outside, with the starting handle mounted on it, so that a handle start is an easy matter, in spite of the magneto ignition. I hear some riders condemn this machine as heavy. The public must understand that the strength of all parts must be increased if a two-speed gear chain drive is to be safely fitted, and that if a two-speed gear and chain drive were fitted on a high-grade $3\frac{1}{2}$ h.p. light roadster serious troubles would soon be encountered—*experto crede!*

The F.N. four-cylinder evinces no alterations, and does not call for any.

The Premier is the best and prettiest first machine I have ever inspected. One would imagine the firm had ten years' experience behind it. It is in all respects a first-grade light tourist. The makers offer a very liberal guarantee, viz., that every machine sent out will do from four to forty miles per hour on the flat, and carry a second passenger up a one in seven grade.

As the James has already been fully described, I will leave it with the single remark that I never thought I should live to see a motor bicycle on which the wheels and tyres were as accessible as those of a car.

A Machine Bristling with Good Points.

The Humber Co. are returning renegades, but there is more pride than penitence about the aspect of their exhibit, and Johnny Crundall is obviously glad to be returning to his first love. Everyone hastened to have a look at it, so I will only remark on one or two points. The valve-lifter is operated by light steel rods, in preference to flexible wires. The tank and feed pipe are

in duplicate. An excellent point is the foot lubricating pump, and I only wonder no one has brought this out before, as it dispenses with all need to remove the hand from the grips, and there is no fiddling two-way cock. At the same time, I should prefer to see the oil tank removed to a position where it could not be damaged by a side-slip. The toolbag is neatly stowed away in the angle between the bottom of the carrier and the top of the mudguard, where it is perfectly accessible and cannot interfere with luggage capacity. The machine bristles with good points, and a greatly improved edition of a well-designed two-speed hub makes a most attractive extra.

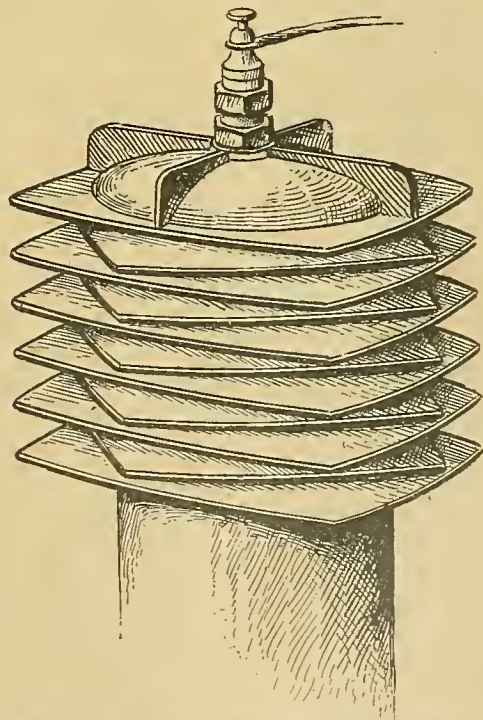
One of the most attractive newcomers to the Stanley was the Zenith motor bicycle, which readers should carefully distinguish from the sprung frame Zenette. It is simply a standard, high-grade, light-weight $3\frac{1}{2}$ h.p. tourist roadster, with the Gradua gear as a special feature. Riders are familiar with this gear, which consists of an expanding engine pulley, the belt slack being taken up by revolving a hand wheel, which wheel by means of a gear and slides causes the rear wheel to vary its distance from the engine. The device affords no less than 164 different gears, and therefore the Zenith is probably the most efficient hill-climber on the road.

I noticed one grievous fault on many machines staged, namely, a return to the ancient, inefficient, and very troublesome external band brake; and one common improvement, the substitution of the excellent Druid spring fork for various harsh and heavy devices formerly popular. Finally, one is glad to see cream and grey enamels, which do not show dust and mud, gradually replacing the standard black, which only looks well when it is perfectly clean.

THE LIGHT-WEIGHTS.

Three popular lightweights—the Motosacoche, the Moto-Rêve, and the Douglas—presented a less juvenile appearance at Islington than when I last saw them. They are each twelve months older, and not one of them but has

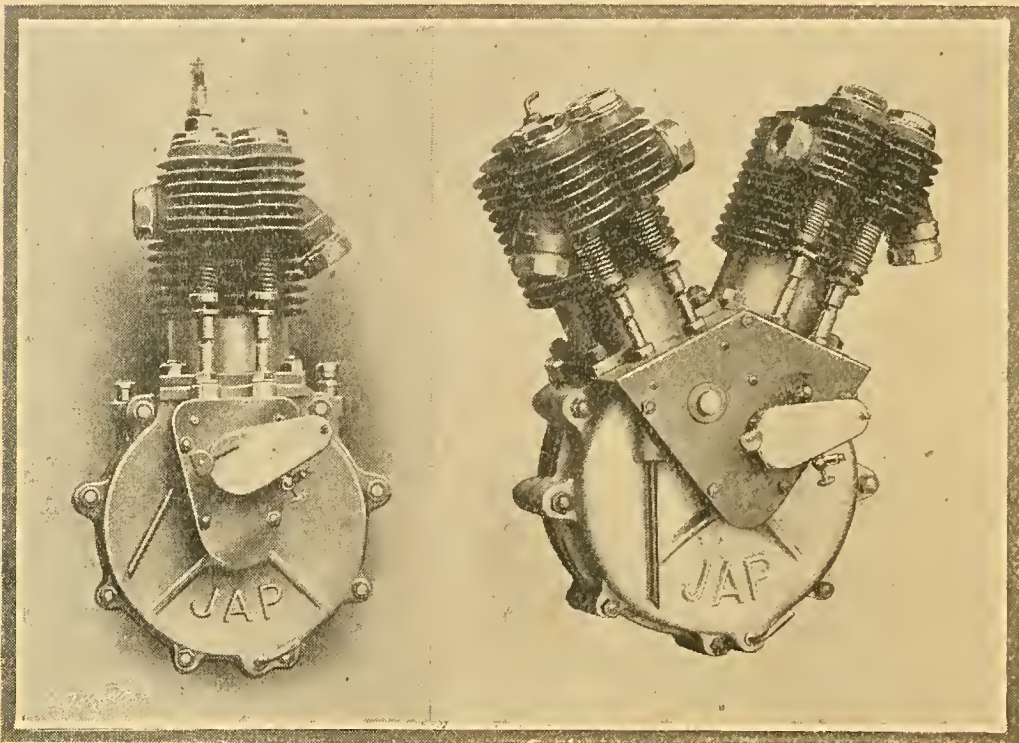
learnt a good deal in that time. An extra shade of strength in tyres or rims here, a freshly designed brake there, and other details prove that they have been ridden hard and jealously watched in the riding, and I have no hesitation in saying they are a magnificent



The novel arrangement of the radiating fins on the James engine.

Roadster Motor Bicycles at the Stanley—

trio, destined to make many new friends in 1909. I have a lot of absolutely new lightweights to deal with, so I shall give our old friends short shrift for the nonce. I only wish to draw attention to the twin-cylinder Motosacoche pattern, which only weighs 5 lbs. more than the $1\frac{1}{4}$ in return for its additional h.p., and



Two new J.A.P. engines for 1909. (1) A 4 h.p. single-cylinder engine, and (2) a twin-cylinder V type engine, cylinders 85 x 85 mm. with mechanically operated valves at the side.

to say that the lady's Motosacoche, plus a strong pedal cycle gear in the rear hub, will fill a gap that has been empty since motor cycles first came in. My old friend the Moto-Rêve looks more workmanlike than ever in a grey finish, and with the addition of a Watawata belt, zin. tyres, and a handle-bar control of the extra air will take a lot of beating. The Douglas is also improved, and, while considerably reduced in weight and showing a greatly improved frame, remains the most powerful member of its class.

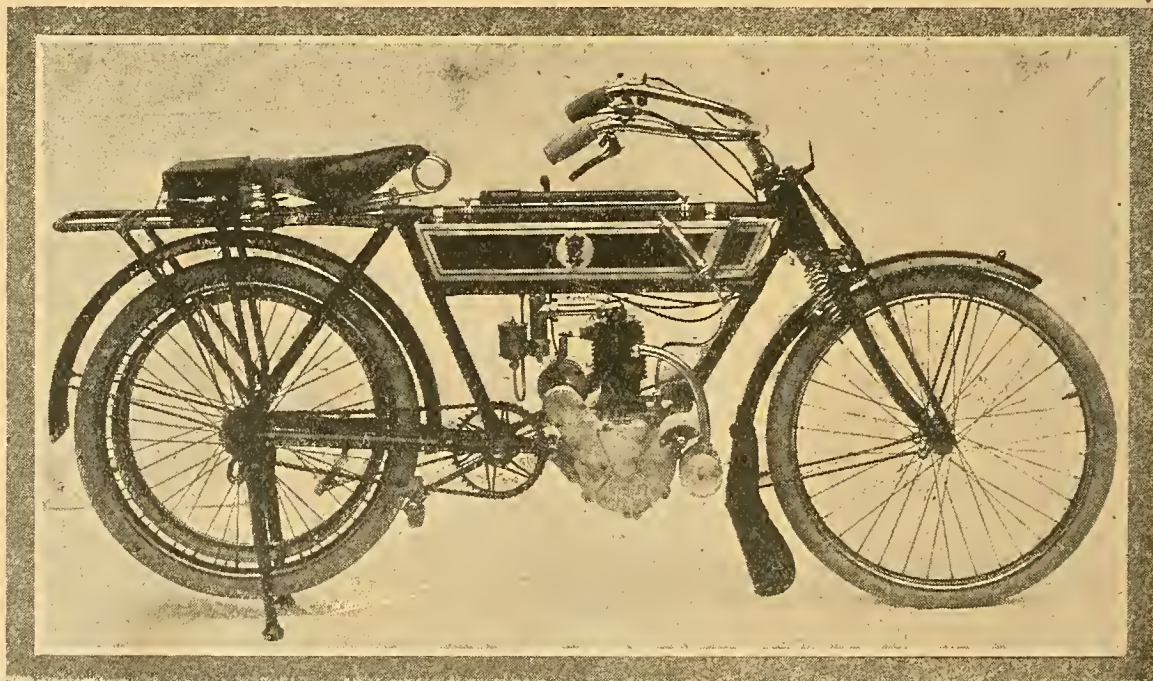
My eye was early caught by what looked to me suspiciously like the ideal lightweight—the last word in its line. I mean the $2\frac{1}{4}$ h.p. F.N. True, it is 40 lbs. heavier than some of its little sisters, for it scales 120 lbs., but even a Dursley-Pedersen man would not call that too heavy. It is a sturdy little youngster throughout, and if I want a lightweight to travel at motor cycling speeds, I do not desire to find a lot of push-bicycle fittings masquerading as motor stuff, so that I am not sure the slight increase in weight is not purely meritorious. What I particularly rejoiced in was the weatherproof transmission and the two-speed gear. We might suspect a shaft drive that issued from a factory that had previously clung to the belt, but the F.N. people have shown us that they know how to make a safe, smooth, and efficient drive of this type. and here

it is in miniature. There will be no accusation of belts slipping in wet weather urged against this machine. My heart was wholly won when I examined the neat little leather to metal cone clutch and the sliding two-speed gear, affording ratios of 6 and 10 to 1. I might add that this gear is foolproof. The gear lever has a trigger, and is immovable until the trigger is pressed up towards the gear handle. But this trigger takes out the clutch. *Voilà tout!* Other interesting items in the specification are a universal joint, to meet frame torsion, and a complete handle-bar control. The only point I disliked was the utilisation of the left footboard to apply the brake, but that is the merest detail. No doubt when familiar with the machine no one would be likely to apply the brake in stepping on board with the engine under weigh. I take off my hat in sincere admiration to a genuine lightweight that can climb any hill, and is ignorant of all transmission troubles.

Equally novel, and deserving the name "freak" in a strictly Pickwickian sense, devoid of aspersion, was the $2\frac{3}{4}$ h.p. L.M.C. Previously I have only seen air-cooled motor cycles with cylinders as smooth as the palm of my hand and japanned a neat black all over in my milder nightmares. But a 105 lb. machine that can take a 10 stone rider up Birdlip will have to be reckoned with, so the L.M.C. may prove its worth very shortly, when next year's trials come round.

The Wolf was shown in several forms, the biggest being a 4 h.p., which only scales 116 lbs., and the smallest a seventy-pounder $1\frac{1}{2}$ h.p. The Wolf is one of those machines which has not so far been conspicuous in open competition, but enjoys an enormous popularity among those who know it. The staging of so many models doubtless denotes the inauguration of a more ambitious programme, and we shall probably hear more of its performances next year. The machines are certainly well made and attractive.

I was again pleasurably surprised to encounter an up-to-date edition of the $2\frac{1}{2}$ h.p. J.A.P. engine, which



Another newcomer. The $2\frac{1}{2}$ h.p. Corah-J.A.P. lightweight bicycle, fitted with Ruthardt magneto, B. and B. handle-bar controlled carburetter, and spring forks. (See page 947.)

Roadster Motor Bicycles at the Stanley—

gured on a Bat, Matchless, and Corah lightweight. The Bat weighs 100 lbs. (By the way, it is curious that the weight of a motor cycle always works out exactly in round figures; it shows how these engineers can only dream in the metrical system.) This weight includes the famous Bat spring frame (a fitting which a lightweight needs far more than a heavier roadster), large tanks, sturdy fitments throughout, and 2in. tyres—the minimum section permissible, to my mind. The engine alone is sufficient to guarantee satisfaction with these machines. I managed to miss the Corah, probably because there was such a wealth of good things on the

Service stand, but I like the weight (100 lbs.), I like the power (2½ h.p.), it is a J.A.P. engine also, and I applaud the tyres (2in.) I have no hesitation in saying we shall find a little fleet of lightweights well up with the van in the next 1,000 miles trial. The Moto-Rêve, Motosacoche, and Douglas are sure to be there, probably represented by three riders apiece, as I hear of several competition riding amateurs to whom the sporting side of a small engine appeals. Then if the F.N., Matchless, L.M.C., Bat, Wolf, Corah, and N.S.U. desire public laurels in addition, we shall see great excitement; and I should not dare to tip an out-and-out winner.

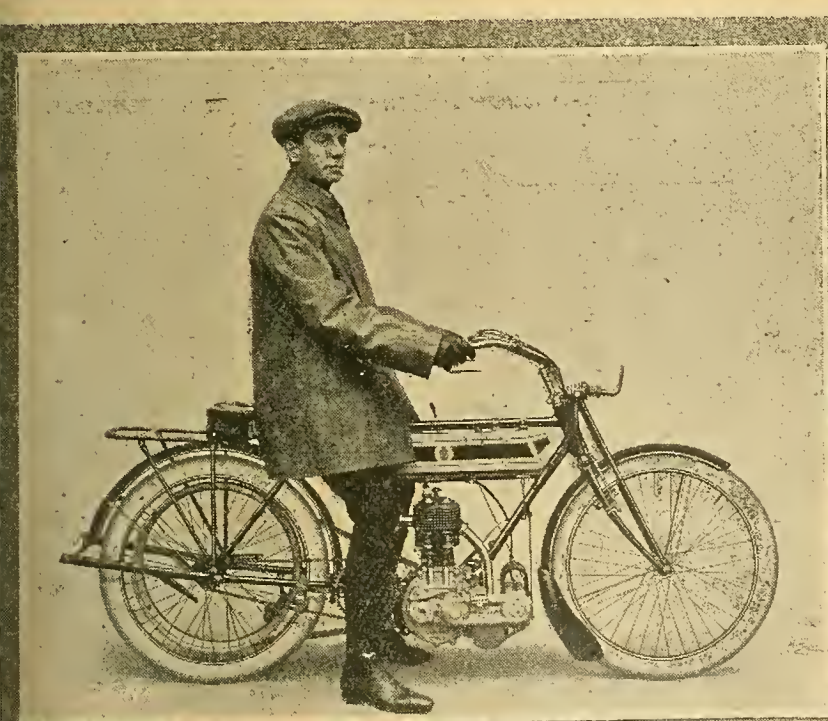
THE MONKEY-ON-THE-STICK POSITION.

UNDER the above heading *The Bicycling World and Motor Cycle Review* of America recently published a leaderette on the riding position adopted by motor cyclists, pointing out the absurdity of placing the saddle over the back wheel and fitting long handle-bars to suit. This is an old subject, and one which we dealt with three or four years ago, when the practice was indulged in to a small extent in England. But low frames have been standard on British machines for quite three years, and even the most casual observer notices how much more attention British makers pay to the rider's

attitude (the italics are ours), has stated that he never saw a lot of motor cyclists who were so thoroughly tired, though they had no sand to contend with. He attributed their condition solely to their unrestful and unscientific saddle position. He himself had assumed a 'happy medium,' and, without intending conceit, he believed his comparative freshness was due to the fact."

A more groundless statement one could not imagine, for it is a fact that the American motor cycle in the End-to-end run was one of the two or three machines which was not designed for a really low saddle posi-

WHICH IS THE MORE NATURAL RIDING POSITION?



An End-to-end competitor on a typical British machine, giving a natural and comfortable riding position. An American journal tells its readers that the English riders were "done up" at the end of each day's run, owing to the "unrestful" riding position they adopted.

comfort than the average foreigner does. Consequently the following extract from the journal referred to will, we predict, cause many a hearty laugh in English motor cycling circles:

"When they could be induced to tell the whole truth, even some of the experts who participated in this year's endurance contests and who aped the monkey on the stick admitted that they were never so wearied or so badly 'done up.' The American who competed in the British six-day contest, in which practically all of the participants affected the silly



The American competitor instanced by the New York journal, photographed at John-o'-Groat's. This rider is said to have been fresh at the end of each day's run, owing to his natural riding position. (See the accompanying article.)

tion, and consequently a special saddle pillar extending over the back wheel had to be adopted to give a low riding position. Nearly all the English competitors used machines designed in the first instance to give an armchair-like and comfortable position, and a natural position can only be obtained by the use of footrests. We leave readers to draw their own conclusions from the accompanying illustration of one of the British competitors in the End-to-end Trial shown alongside the American competitor who is stated to have given utterance to the remarks quoted.

An Analytical Abstract of all Motor Cycles
Exhibited at the Stanley Show, 20th-28th November, 1908.

By H. Hewitt Griffin, Statistician.

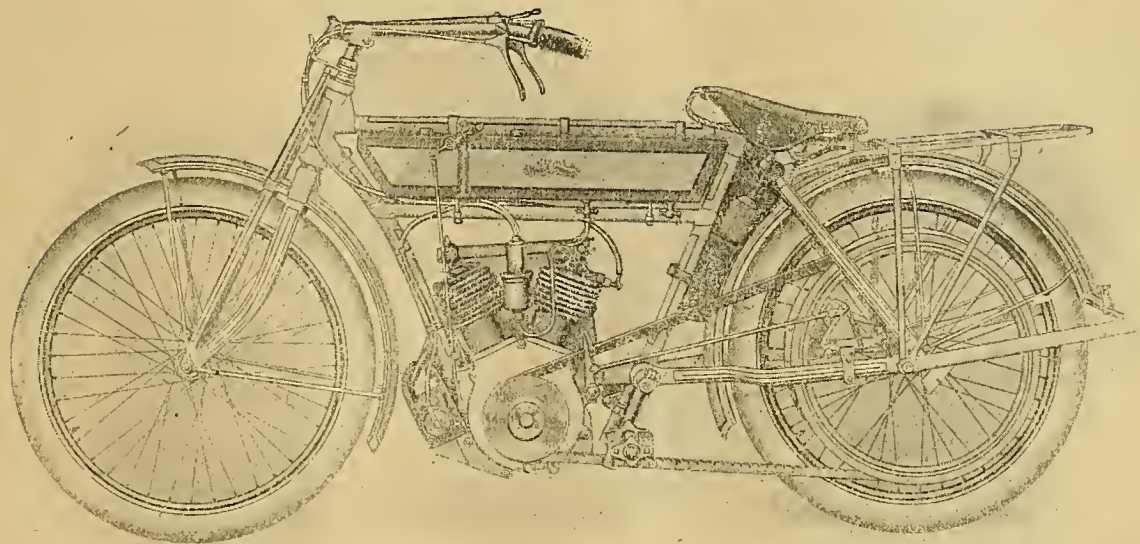
NAME OF MACHINE.	Number and Description.				Cylinders.		Transmission.			Forks.		Frame.		Valves.		Ignition.		Engine Gear.	
	Motor Bicycles Passenger Motor Cycles				Single.	V	Others.	Belt.	Chain.	Gear.	Spring.	Ri id.	Sprinc.	Rigid.	M.O.I.V. A.O.I.V.	Bat-tery.	Mag-neto.	Fixed.	Vari-able.
	With Pedals.	No Pedals.	Tricars.	Side-cars.															
(1) N.S.U.	16	-	1	1	8	10	-	18	-	-	8	10	-	18	14	-	18	16	2
(2) Bat	-	12	-	1	4	9	-	13	-	-	13	-	13	-	5	-	13	11	2
(3) Rex	4	7	1	1	13	4	-	13	-	-	13	-	-	13	13	13	-	8	5
(4) Triumph	13	-	-	-	13	-	-	13	-	-	13	-	-	13	13	-	-	13	-
(5) Douglas	12	-	-	-	12	-	-	12	-	-	12	-	-	12	-	-	12	12	-
(6) F.N.	7	2	-	2	4	-	12	3	-	8	8	3	-	11	4	-	11	9	2
(7) Motosacoche ..	10	-	-	-	9	1	†7	10	-	-	5	5	-	10	2	2	8	10	-
(8) Moto-Rêve	10	-	-	-	-	10	-	10	-	-	4	6	-	10	-	-	10	10	-
(9) Vindec	8	-	-	-	2	6	-	8	-	-	6	2	-	8	8	-	8	2	-
(10) Humber	-	8	-	-	8	-	-	8	-	-	8	-	-	8	-	-	8	4	6
(11) Brown	7	-	-	1	6	2	-	7	1	-	1	7	-	8	8	2	6	7	-
(12) Phänomen	6	-	-	1	8	6	-	7	1	-	8	-	-	8	-	-	8	2	-
(13) Wolf	7	-	-	-	7	1	-	7	-	-	2	5	-	7	7	3	4	7	-
(14) Minerva	7	-	-	-	3	4	-	7	-	-	7	1	-	7	7	1	6	7	-
(15) Roc	-	5	-	2	5	2	-	7	-	-	7	-	-	7	-	-	7	-	7
(16) Phelon & Moore ..	6	-	-	-	6	3	-	6	6	-	6	-	-	6	-	-	6	-	6
(17) Matchless	5	-	-	1	5	-	-	5	-	-	4	1	-	1	1	1	5	2	-
(18) Zenith	-	5	-	-	3	-	-	4	-	-	4	1	-	4	1	3	4	1	-
(19) Lloyd	4	-	-	-	3	-	-	4	-	-	3	1	-	4	1	-	4	6	-
(20) Norton	4	-	-	-	2	-	-	4	-	-	4	-	-	4	2	-	4	4	-
(21) Quadrant	4	-	-	-	4	1	-	4	-	-	4	-	-	4	4	-	4	3	-
(22) Midget	-	3	-	-	3	-	-	3	1	-	3	2	-	3	3	-	3	2	-
(23) Chater-Lea	2	-	-	1	3	-	-	2	-	-	1	-	-	2	-	-	2	2	-
(24) Bradbury	2	-	-	-	2	-	-	2	-	-	2	1	-	2	2	2	2	2	-
(25) Oakleigh	-	2	-	2	2	-	-	2	-	-	1	-	-	2	2	-	2	2	-
(26) Arno	-	2	-	-	2	-	-	2	-	-	2	-	-	2	2	-	2	2	-
(27) Elgin	2	-	-	-	2	-	-	2	-	-	-	2	-	2	-	-	2	2	-
(28) Osborne	-	1	-	-	1	-	-	1	-	-	1	-	-	1	1	-	1	1	-
(29) Premier	1	-	-	-	1	-	-	1	-	-	1	-	-	1	1	-	1	1	-
(30) Sinclair	-	1	-	-	1	-	-	1	-	-	-	1	-	1	1	-	1	1	-
(31) Clissold	1	-	-	-	1	-	-	1	-	-	-	1	-	1	1	-	1	1	-
(32) Bransom	-	-	-	1	1	-	-	1	-	-	-	1	-	1	1	-	1	1	-
(33) Alldays	1	-	-	-	1	-	-	1	-	-	-	1	-	1	1	-	1	1	-
(34) James	-	1	-	-	1	-	-	1	-	-	-	1	-	1	1	-	1	1	-
(35) L.M.C.	1	-	-	-	1	-	-	1	-	-	-	1	-	1	1	-	1	1	-
(36) Corah	1	-	-	-	1	-	-	1	-	-	-	1	-	1	1	-	1	1	-
(37) Ariel	1	-	-	-	1	-	-	1	-	-	-	1	-	1	1	-	1	1	-
(38) Max	-	1	-	-	1	-	-	1	-	-	-	1	-	1	1	-	1	1	-
TOTALS ..	142	48	2	13	125	62	20	190	9	8	155	52	17	190	117	90	178	147	60

* Tradesmen's carrier not included. † Cylinders horizontally opposed. ‡ Four cylinders. a One lady's. b Includes a light four-wheeled runabout. c Two-stroke engines.
d Lady's. e Self-propelled trailer. The machines in the above table are all complete motor bicycles or passenger motor cycles. In addition, several sidecar and fore-
car attachments were exhibited by Messrs. Mills and Fulford, W. Montgomery and Co., and Oakleigh Motors.

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THE · MOTOR · CYCLE · OF · MERIT.

1909 MODELS and PRICES.



Model G, Light Tourist, 5-6 and 7-9 h.p.

PRICES.

Model H, 3½ h.p.

Direct Drive	£48 10 0
With Two-speed Gear and Free Engine Clutch ..	£58 10 0

Model F, 5 h.p. and 7 h.p.

5 h.p. Direct Drive	£54 0 0
7 h.p. Direct Drive	£56 10 0
5 h.p. with Two-speed Gear and Free Engine Clutch	£64 0 0
7 h.p. with Two-speed Gear and Free Engine Clutch	£66 10 0

Model G, Light Tourist, 5 h.p. and 7 h.p.

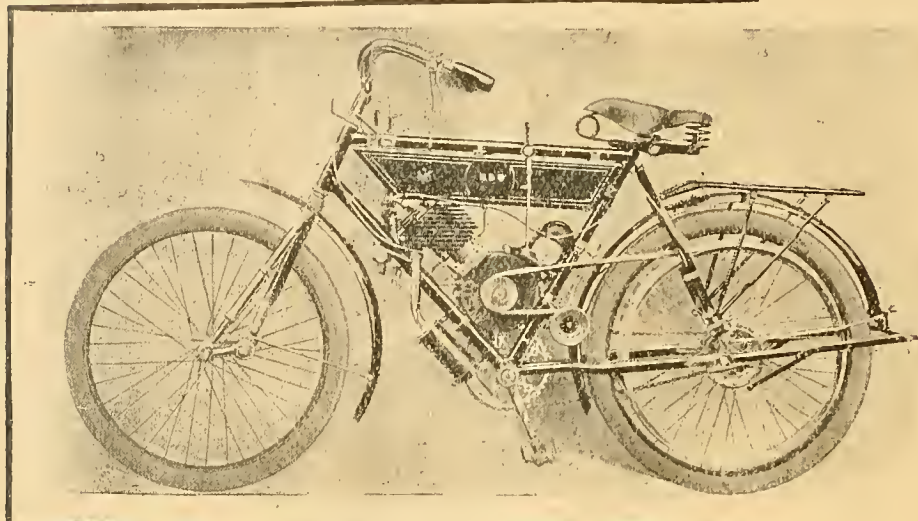
5 h.p. Direct Drive, only	£54 0 0
7 h.p. Direct Drive, only	£56 10 0

EQUIPMENT.

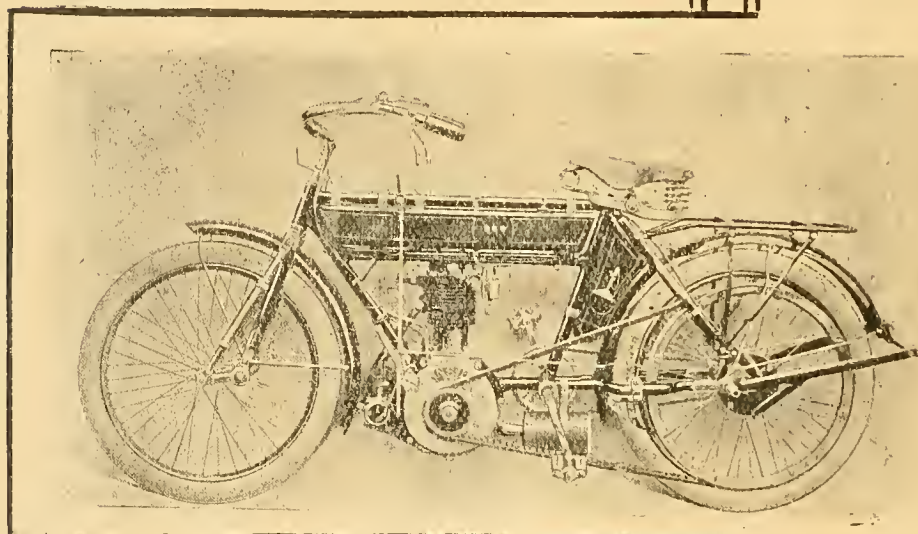
All machines (except Model G) equipped with Truffault Suspension forks, Bosch magneto ignition, Brooks B105/4 hog-skin padded top saddles, Dunlop, Michelin, Peter Union, or Clincher "A Won" tyres, 1in. Shamrock Gloria belts, "Vindec" adjustable pulleys, stands, carriers, toolbag, and tools, petrol gauge in tank, adjustable handle-bars and handle-bar control to the carburetter.

Preliminary descriptive list sent free upon request.

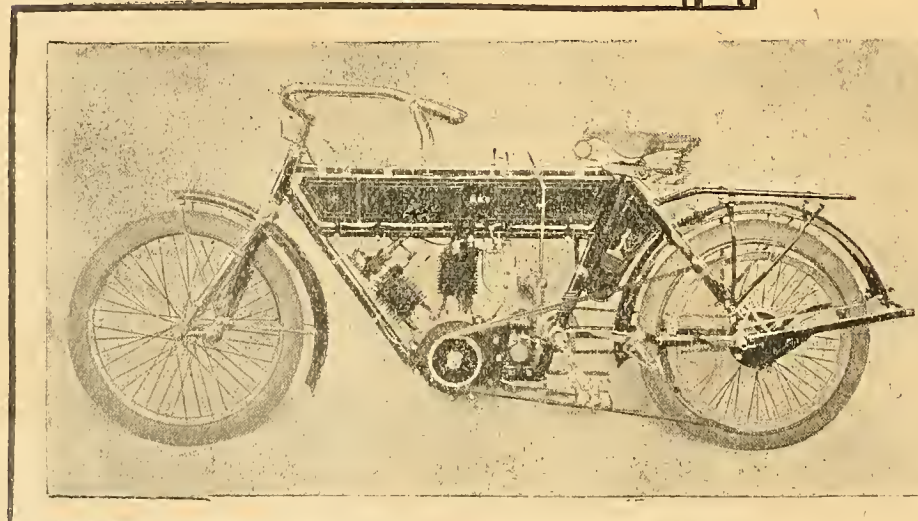
VINDEC MOTOR CYCLE CO.,
13-15, Wilson Street, LONDON, E.C.



1½ h.p. LIGHTWEIGHT.



4 h.p. MODEL DE LUXE.



6 h.p. TWIN CYLINDER.

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1½ h.p. The Popular Light-weight.

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3, 3½, 3¾ h.p. Single
Cylinders.

4 h.p. Model de Luxe
Single Cylinder.

4 h.p. and 6 h.p. Twin
Cylinders.

1½ h.p., 4 h.p. (Single Cyl-
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(Twin). These are four
special speed types

In addition to the super-
lative value in every N.S.U.
model, each machine is sup-
plied fitted with Stand,
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Plates, Tool-kit, Footrests,
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for front wheel. There are
only the lamp and horn to
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By "IXION."

Finality.

Finality is a word one hesitates to write in connection with any progressive and highly competitive industry, but a friend of mine met me at the Stanley and complained there were no 1909 alterations. He had not a very trained eye to aid him in his search, but my own close inspection revealed a host of valuable innovations; but the majority of them were of a type that would not reveal themselves to a casual glance. For example, the new pistons on the Rex and Triumph might easily have been overlooked, and yet they will spell greatly increased efficiency for 1909. If we may not use the word finality with any real accuracy, we may at least say this much: the 3½ h.p. tourist roadster has settled down into accepted outlines, and will not experience any radical alterations until some genius comes along with a revolutionary invention. The twin-cylinders are in a less fixed state of development, but are becoming gradually lighter, while the lightweights are still very much on the move, and, as judged by the more prominent samples, have touched a very high mark indeed. They are incredibly neat and efficient.

Colour Finishes.

I for one was very pleased to see a slight but well-marked tendency to renounce the standard black and silver finish. We all know that nothing can look smarter on a show stand—it is the frock coat and top hat of the motor cycle—but we do not go for pedestrian tours in silk hats and frock coats; neither should the motor bicycle face touring conditions in review order. I was greatly taken with the various grey and cream finishes exhibited on several stands, notably the Vindec and Moto-Rêve, and if less brilliant on a show stand than the regulation black, silver, and aluminium, it was considerably more workmanlike. I for one am almost decided not to ride a black and silver finished machine if I live to buy a 1909 model.

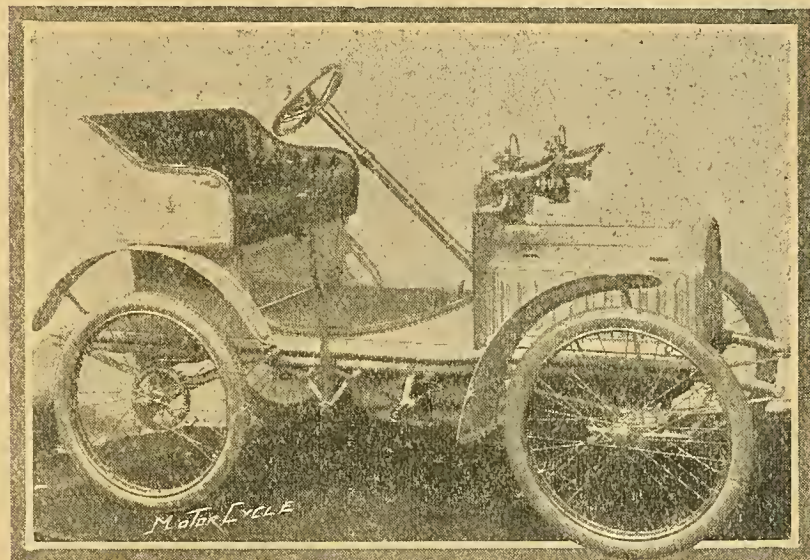
Slump.

I fancy even the most virulent of the anti-motor dailies will have to summarily dismiss its ill-informed babblers, who constantly prate of motor cycling as a momentary and already declining craze. There were over two hundred complete motor cycles at the Show—a fact which in itself proves a healthy demand. One great firm made its bow in the trade—the Premier Cycle Co. Another—the Humber—after several years of abstention, during which it has won great success in more ambitious fields, returned to the fold as a shame-stricken recanter of former doubts, long since proved foolish and unworthy. And, finally, quite a number of riders say their last year's mounts were good enough for anything, and they are far too grateful to sell them, so that quite an unparalleled bulk of the 1909 business is being done with men who have never previously owned a motor cycle of any kind. There is no branch of the motor industry on such a healthy footing at the present moment as the motor cycle trade.

The Tricar of the Future.

I thought the most significant point elicited at the recent A.C.U. discussion of the tricar question was the satisfaction which two of the speakers expressed with the very simplest and lightest type, the actual

pattern they had used being a 2¾ h.p. Excelsior motor bicycle with a Mills and Fulford forecar bolted on to it. Mr. Pemberton had run one of these for five years, and since fitting a Phoenix gear to it had no other complaints than its discomfort, especially with the chair empty. Mr. Davies early abandoned his similar machine in favour of a more complicated type, but he frankly said that a machine of this type, plus better springing, larger tyres, and an emergency gear, made a very sporting little passenger machine indeed. Pending the standardisation of an up-to-date tricar, three-wheeler enthusiasts might do a good deal worse than bolt a good sub-sprung forecarriage on to any sound two-speeded bicycle. Readers who only possess experience of the early forecar with a rigid frame should remember that the addition of extra springs over the front axle goes a long way to solve the problem of comfort for both riders, and very largely insulates the mechanism from vibration. Machines of this type will never be greatly boomed in the long-distance trials, because they are not speedy enough to make up time after a puncture, and therefore need

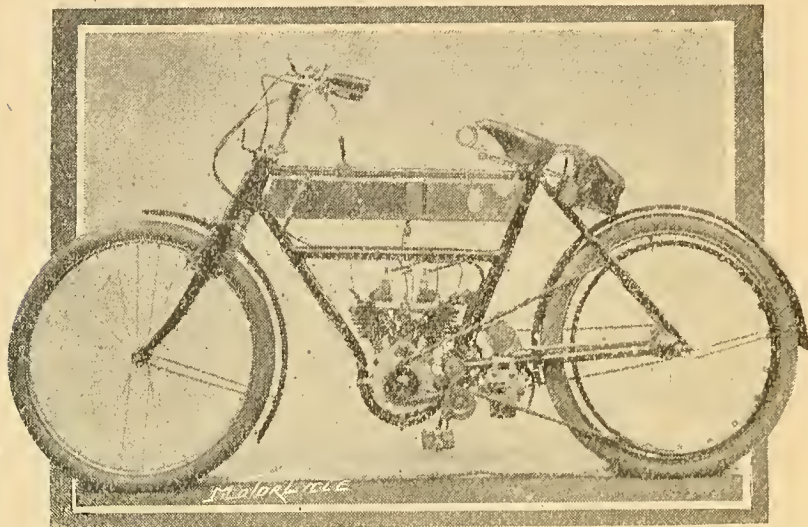


The Vindec Runabout, propelled by a 7-9 h.p. Peugeot twin-cylinder air-cooled engine through an epicyclic two-speed gear and V belt drive. With 2½ in. tyres, its total weight is stated to be 400 lbs.

an absolutely clean sheet if they are to emerge with credit from a six days' trial run on the legal limit principle. Herein they are eclipsed both by the motor bicycles and the powerful tricars, which can claim a perfect score even if they meet with a dozen stops of half an hour each, provided no two stops occur in the same control. But these little tricars are very cosy, very reliable, and very cheap to run, and their only two failings are that the passenger has to be dropped on exceptional hills of the Sunrising calibre, and that they cannot make up time and regain a 20 m.p.h. average after a half-hour repair stop. Hooydonk is one of the few men living who has repeatedly got a machine of this type through the long trials, and he does it by eliminating practically all stoppages and by lightning repairs or adjustments when the occasional stoppage overtakes him. One of *The Motor Cycle* staff is now running a tricar of this type, and is having great times with it, though a single puncture might destroy its chance of a gold medal if he were rash enough to enter it in the six days' trial next year.

STANLEY SHOW GLEANINGS.

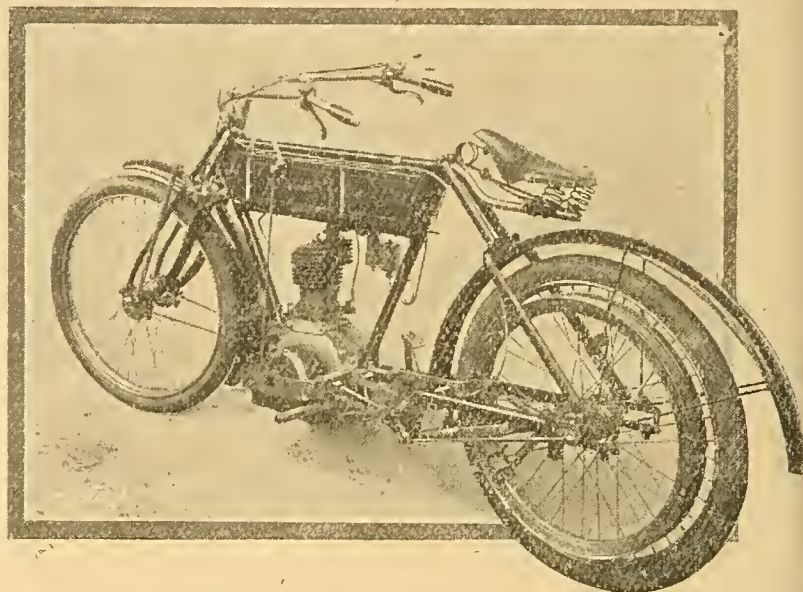
EVERY year there are a few late arrivals at the show, and one finds some firm or other which, through stress of work or other causes, is unable to be ready on the opening day of the exhibition. Taking it as a whole, that part of the Stanley Show which is of interest to our readers was practically complete at the time of our visit on the opening day, but a further inspection of the stands revealed the following items:



A Twin-cylinder Lightweight Motosacoche. The engine has mechanically-operated inlet valves.

The Osborne Motor Mfg. Co. showed a new type of spring fork. The front wheel spindle is mounted in a pair of eccentric sheaves, which work in straps on ball bearings fitted to the fork and girder ends. The wheel spindle is placed considerably out of the centre of the sheaves, so as to allow it to travel round the requisite degree. To each of the sheaves are fixed pins at an angle of about 160° between lines drawn from the centre of the spindle to the centre of the sheaves. These pins are connected to a pair of side links which run upwards, and are connected to a pair of arms (forming one piece) swinging on the fork crown. These forks struck us as being well designed and devoid of all side play. An improved form of Osborne four-speed pulley, which obviates the necessity of using a jockey pulley, was also shown. This pulley works in the following manner: The back wheel is mounted in bearings working in specially constructed slides, which replace the ordinary fork

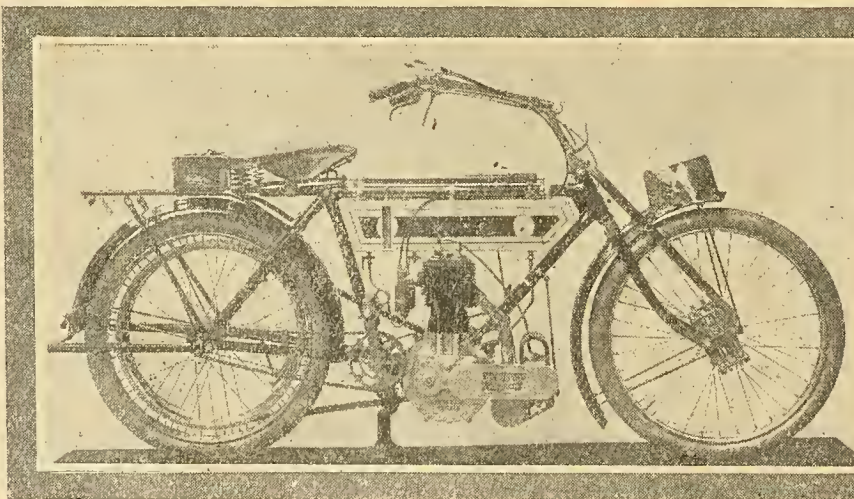
ends. The bearings are connected to the ends of two side links, which are connected at the other ends to a pair of arms, formed with a pedal carried in a specially constructed bracket. There is a ratchet on the left-hand fork end or slide which locks the wheel in the required position after it has been moved. To put it clearly, the back wheel is extended when the pulley groove is expanded, and *vice versa*. Both the



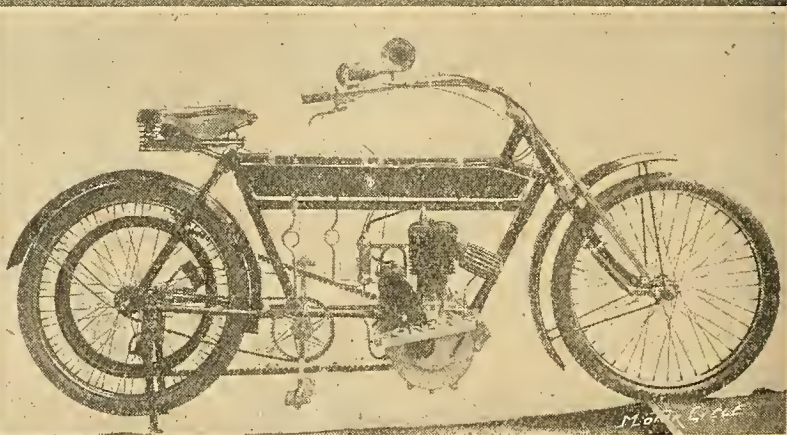
A $3\frac{1}{2}$ h.p. Osborne Motor Bicycle fitted with the same make of four-speed and free engine pulley. To do away with the necessity for a jockey pulley, the above machine has been fitted with a sliding back wheel to take up the slack of the belt.

pulley and rear wheel are operated by independent movements, but their manipulation is very quickly learnt.

S. Hall and Sons exhibited the F.R.S. lamps of all types. The latest of these is carried in a U bracket clipped round the handle-bar stem. This lamp, it will be remembered, has a hinged door back and front, so that the interior can be readily cleaned; a burner which can be moved nearer to or further from the reflector, so regulating the distance the beam of light is thrown; a couple of folding legs, so that the lamp can be stood in an upright position on the ground; and a ventilating cowl, which precludes all back glare. On the same stand the F.R.S. automatic generator and the F.R.S. front wheel stand were also shown.



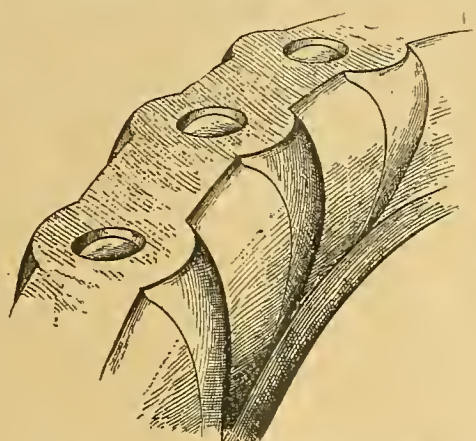
The new pattern $3\frac{1}{2}$ h.p. Bradbury, with 87 x 87 mm. ball bearing engine. Other up-to-date features will be observed from the illustration.



A $3\frac{1}{2}$ h.p. Arno exhibited at the Stanley Show. The cylinder dimensions are 90 x 85 mm. The ribbed silencer is an iron casting.

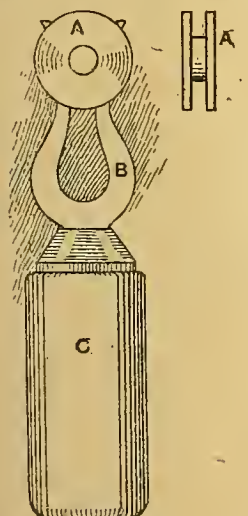
Stanley Show Gleanings—

All motor cyclists will welcome the news that Kempshall tyres are to be made in all sizes for motor cycles, for they have gained such a big reputation for their excellent non-slipping qualities on cars. A. W. Wall, Ltd., were not slow to see what an attraction these tyres would be on their stand, and consequently fitted a number of them to their Roc motor cycles. If the Kempshall tyre proves to be as effective on motor cycles as it is on cars, and at the same time is as resilient as an ordinary tyre, it will very quickly spring into popularity.



The new Kempshall motor cycle tyre, which, it is said "never slips, always grips." It was shown on the Roc stand at the Stanley Show.

The Corah lightweight was one of the absentees from the Service Co.'s stand at the time of our first visit. This is a well designed and attractive machine, with 2½ h.p. J.A.P. engine, 70 × 76 mm., weighing complete 105 lbs. It has handle-bar control, B. and B. carburetter, and Ruthardt gear-driven magneto. The frame is low, the height of top tube being only 28 in. from the ground. The saddle is fitted on a horizontal tube which is telescoped into the end of the top tube. The spring front forks are the lightweight Druid girder pattern, and the handle-bars are nicely shaped to give the rider an easy comfortable position. The brakes are a pedal operated belt rim brake on rear wheel and a Bowden hand operated rim brake to front wheel. The wheels are 26 in. × 2 in., with standard Continental tyres, and wide, firmly attached mudguards are provided. The machine is sold complete with stamped steel stand built with the frame, carrier over rear wheel, and tool case. An illustration of the Corah lightweight is published on page 942.



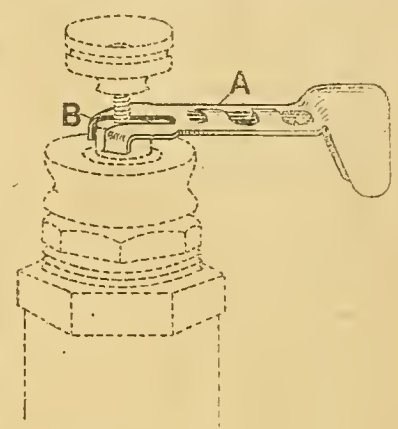
A. Sparking plug adapter.
B. Spring prong connection.
C. Insulating fibre.

A neat sparking plug terminal on the stand of the City Ignition Co. is shown in the annexed line sketch. An adapter is supplied with each connection, which is tapped to fit the central wire of the plug. When the adapter is in position the prong of the connection is sprung on it, the prong fitting in the groove turned in the adapter. A fibre insulator is screwed on over the cable after the latter is attached to the connection. On the

same stand a novel expanding pulley gear was shown, known as the Mantell Leaver gear. In the case of similar change speed devices, the Osborne and Zenith firms avoid the use of a jockey pulley by extending the rear wheel of the machine to keep the belt at even tension when the pulley groove is expanded or contracted, but with the Mantell Leaver gear the engine

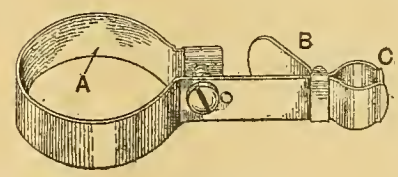
pulley is mounted eccentrically to the engine shaft, and a pinion on the engine shaft meshes with an internally toothed ring on the inner periphery of the pulley. As the pulley is expanded or contracted to alter the gear, the operating lever swings the whole device farther or nearer to the rear wheel without altering the tension of the belt.

Messrs. Brown Bros. showed a simple and effective form of electrical terminal made by Rouse Bros., which should be specially useful for motor cycle work. These terminals are made of heavy gauge copper, and have an open end with turned down lips, so that the terminal can be slipped into position without removing the nut altogether, and so the risk of losing the latter is reduced to a minimum. The turned down lips, moreover, prevent the terminal coming off if the nut should shake slightly loose. Milled screws can be reversed, so that the milled edge locks against the upturned lip.



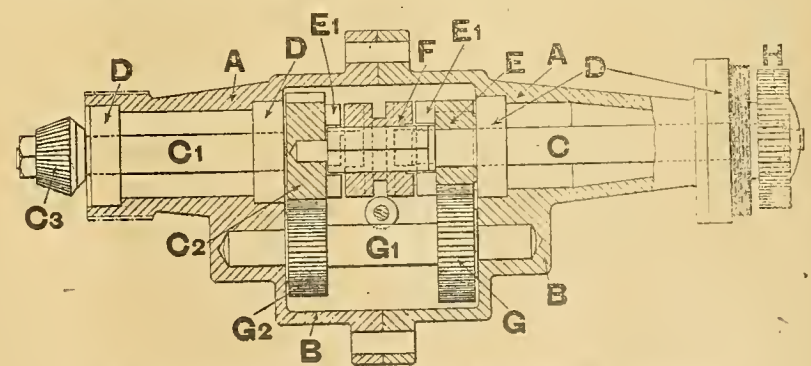
A. Copper terminal.
B. Terminal hooks.

One of the many interesting Tee-Bee specialties is a spring clip for holding a high-tension wire. It is first attached to the tube underneath the tank, and in this position it is handy for holding the sparking plug wire when testing the ignition. Tee-Bee specialties were exhibited by Templeton Bros.



A. Band clip.
B. Lever for spring grip.
C. Spring grip for cable.

The change-speed gear box fitted to the four-cylinder F.N., which was shown on the stand of the F.N. Motor Agency, is placed between the bevel and the spur gear transmission, and surrounds the propeller-shaft. The gear box itself forms the right-hand chain stay of the frame, and replaces the ordinary round propeller casing. The box is divided vertically in the centre, the two halves being connected by bolts and



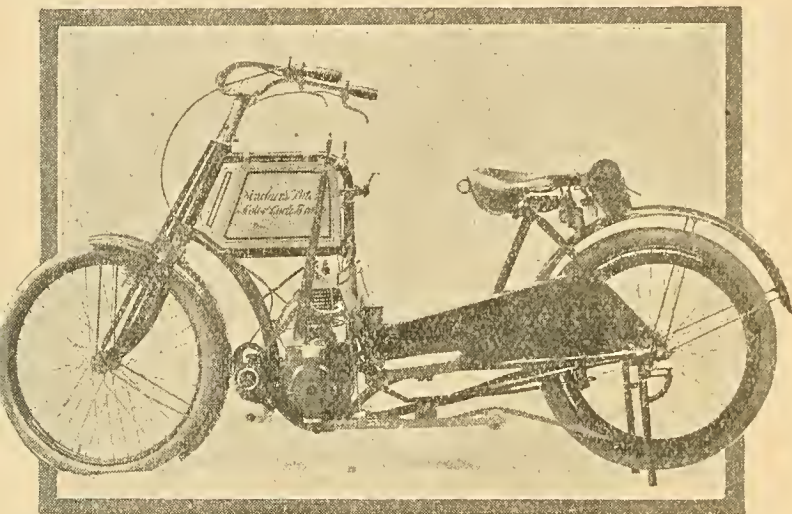
The Two-speed Gear shown fitted to a Four-cylinder F.N. at the Stanley Show.

A. Top half of gear box.
B. Bottom half of gear box.
C. Front half of propeller-shaft.
C1. Rear half of propeller-shaft.
C2, G, G2 and E. Gear pinions.
DD. Bearings.
E1. Dog clutches.
F. Sliding dog clutch.
C3. Bevel pinion.
H. Driven spur wheel.
G1. Counter-shaft.

nuts. Power is conveyed from the engine-shaft to the spur wheel H in the usual manner. The wheel H is keyed to the shaft C, on which is a pinion D constantly in mesh with another pinion G on the counter-shaft G1.

Stanley Show Gleanings—

The pinion G_2 on the counter-shaft being always in mesh with pinion C_2 on the left-hand propeller-shaft C_1 . C_3 is the bevel driving pinion fitted to all four-cylinder F.N. motor bicycles. F is a sliding dog clutch on a square on shaft C , and dog teeth E_1 are formed on the faces of the pinions E and C_2 . When the clutch F is in the position shown in the sectional line drawing, the engine and the shaft C revolve without moving the road wheel. This is the free engine position. To engage the low speed, clutch F is moved to the right, and dog teeth on F and E being thus interlocked, pinion G and shaft G_1 and pinion G_2 revolve, also turning pinion C_2 and shaft C_1 , but at a slower speed than shaft C . The low speed ratio is about 10 to 1, giving ample power for all hills even when a sidecar is used. We understand that the fitting of this gear does not necessitate any structural alterations to the frame, and it can be fitted to any four-cylinder F.N. in a few hours.



A new pattern motor cycle frame (Sinclair's patent), suitable for a lady or a gentleman. It was described on page 921 last week.

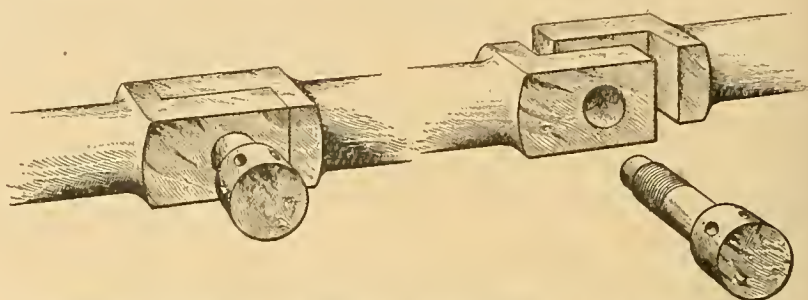
A FOUR-WHEELED PASSENGER MOTOR CYCLE.

A PASSENGER motor cycle which attracted an unusual amount of attention at the Stanley Show was one exhibited by Messrs. Collier and Sons, Ltd. This was a twin-cylinder Matchless bicycle coupled to a two-wheeled Lowen sidecar, both specially built to the order of Mr. E. Körber, a Northern motor cyclist.

The combination is shown in the accompanying illustration. The engine is a 7 h.p. J.A.P., 76 × 95 mm., automatic inlet valves, Bosch magneto ignition, J.A.P. carburetter, handle-bar controlled, Dunlop tyres, 26in. × 3in. back and 26in. × 2½in. front wheels, 1½in. belt transmission, Nala gear giving ratios of 4 and 8 to 1, free engine, and new design Matchless spring forks. The whole bicycle and sidecar frame are enamelled French grey with green lines. The sidecar is 30in. wide inside, and the back 22in. high, coach-built, and finished dark green, and has two special luggage compartments and a Cape cart hood. Extra braking power is obtained by fitting a dummy belt rim on the right of the bicycle driving wheel, the usual foot brake acting on this. Before handing the machine over to Mr. Körber, Mr. C. R. Collier has promised to test it with passenger up a steep hill with a gradient not less severe than Birdlip.

Mr. Körber tells us that he has already planned a 1,600 miles zig-zag tour through Scotland with his

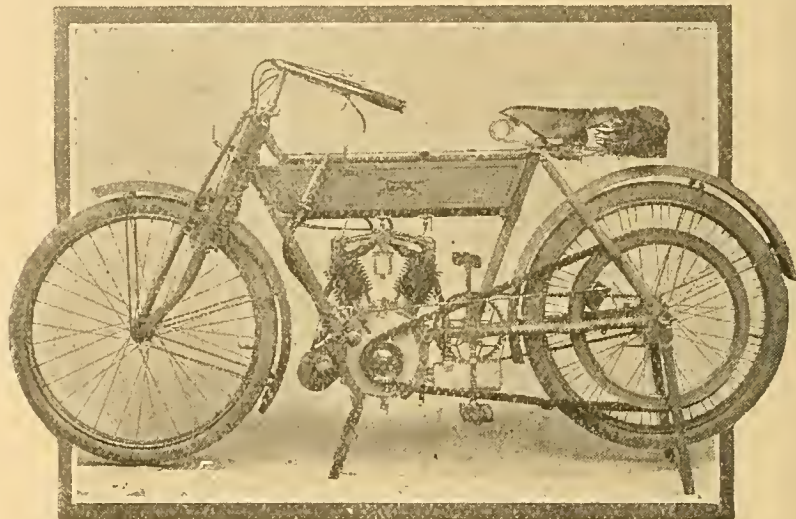
In describing the Service Company's exhibit we inadvertently omitted to mention the Advance Motor



The Chater Lea instantly detachable sidecar fittings, which will bring the rigid type of attachment more into prominence.

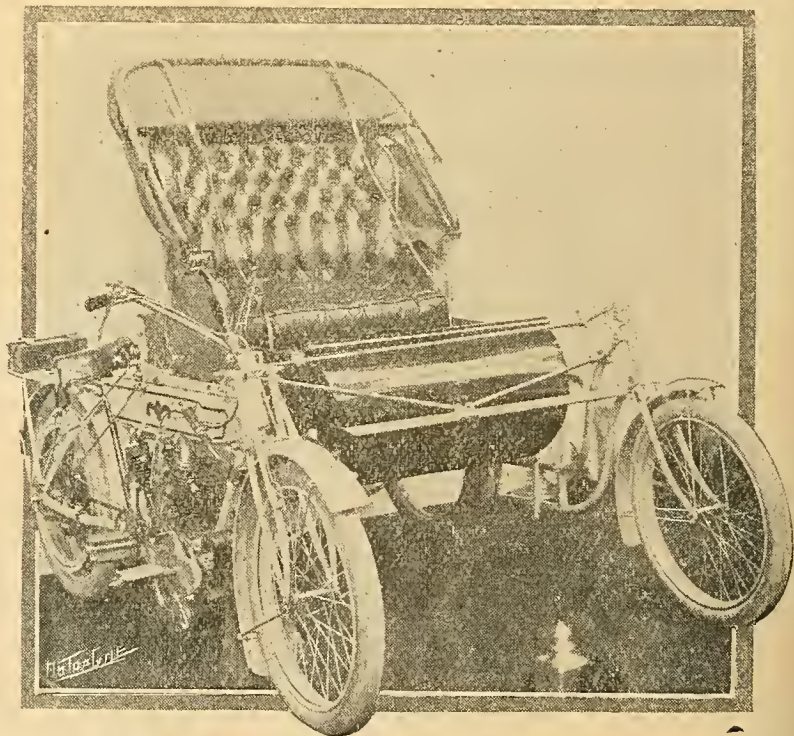
Company's extensible belt fastener, designed to work with adjustable pulleys, and a new lamp generator bracket forming part of the petrol tank clip.

This company was practically the first to place this last named handy device on the market.



A Twin-cylinder Wolf Bicycle with Ruthardt magneto, exhibited at the Stanley Show. Two legs attached to the crank case cradle, support the front wheel clear of the ground.

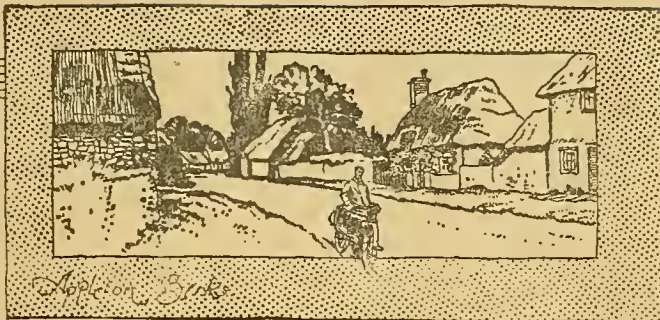
wife and child (five years), embracing all the most interesting places, next May and June. We hope to be able to record some of his experiences on the tour.



A 7 h.p. Matchless Bicycle and Lowen Sidecar exhibited on Messrs. Collier and Sons' stand at the Royal Agricultural Hall last week.

CURRENT
CHAT

Sydney R. Jones



SPECIAL FEATURES

MOTOR BICYCLES AT THE
STANLEY.

RIDING POSITION.

TIME TO LIGHT LAMPS.—Dec. 2nd, 4.53 p.m. ; Dec. 5th, 4.51 p.m. ; Dec. 9th, 4.50 p.m.

Another Club for Birmingham.

We are informed by Mr. A. Manning-Lomax that another motor club is being formed in Birmingham. The majority of the members will be motor cyclists. It is for students of the Birmingham University.

Insufficient Warning.

Several motor cycle drivers summoned for exceeding the speed limit at Bromley complained that the notices were insufficiently prominent. There have been other complaints, and it is intended to improve the signs. The plain white discs have been taken for a tyre company's advertisement.

The Number of Motor Cycles in London.

During the third quarter of the present year the London County Council received application for the registration of 373 motor cycles, bringing the number of motor cycles registered in London to 9,211. No fewer than 4,102 changes of ownership were dealt with during the same period.

More Motor Cycles at the Stanley.

Elsewhere in these pages we publish a statistical table of the number of motor cycles which were on exhibition at the Stanley Show last week. This table has been prepared by Mr. Harry Hewitt Griffin, who is well known as a careful compiler of show statistics, and one whose figures may be relied upon as absolutely accurate. An examination of the grand total of motor cycle machines of all kinds reveals the fact that there were 207 complete motor cycles, excluding three carriers and one or two machines used for demonstration purposes. In addition, there were several detached sidecars which have not been included under any of the headings. The figures of the last two years show a decided increase, as in 1906 there were only 167.

Auto Cycle Union Notes.

The Auto Cycle Union annual dinner and presentation of prizes will be held on Saturday, January 30th, and will be preceded in the afternoon by a council meeting. The venue of the dinner and council meeting will be announced in a forthcoming issue.

The A.C.U. Formula.

In applying the formula $\frac{W}{C \times T}$ to

motor cycle engines of different types, the A.C.U. Competitions Committee consider that for two-stroke engines the capacity C should be multiplied by a factor 1.2. For a water-cooled engine the capacity C should be multiplied by a factor 1.1; thus for a water-cooled two-stroke engine the factor would be 1.32.

New A.C.U. Quarterly Trial Regulations.

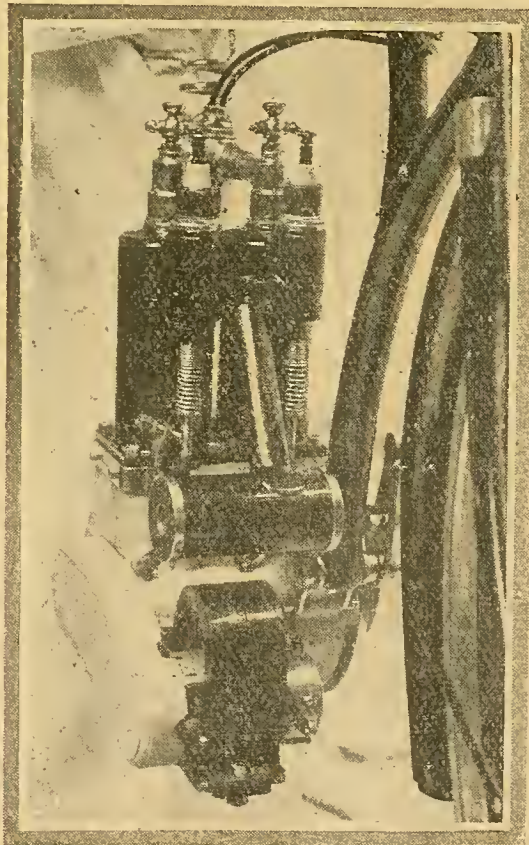
During the luncheon stop no lubricating oil may be poured into the tanks, oilcans must not be used on the machines, and the belts may not be removed from the pulleys. All repairs to tyres will be counted as stops. In short, from start to finish no repairs or adjustments of any kind may be effected.

The Local Centre Scheme.

The A.C.U. General Committee has been discussing the scheme for the formation of local centres throughout the country, and it was finally decided to hold another meeting to discuss the matter on Monday next, the 7th inst. In the meantime, a copy of the draft rules have been forwarded to all members of the committee who are requested to read them carefully, and forward any suggestions to the secretary in time for the next meeting.

The L.M.C. Lightweight Twin-cylinder Engine.

The cylinders of this engine have no radiating fins, and it will be noticed that the motor is not central with the frame, the object



for this being that the cylinders are thus free to receive a good cooling draught. Though the inlet valves are situated in the crown of the cylinders, means are provided, in case of a leakage, to prevent the valves from falling on to the top of the piston.

Two New Magnetos.

Particulars and illustrations of two new motor cycle magnetos are in the press, and will appear in these pages in next week's or the issue following. Their chief point is their small size and consequently light weight.

Business at the Stanley Show.

Good business was reported on all hands at the Show, and nearly all the motor cycles on exhibition were ticketed "Sold" by the middle of the week.

Last Week's Weather.

The weather last week could not be termed typical November weather, for it was quite mild, and on most days the sun made its appearance. Under these pleasant conditions, trial runs were given to intending purchasers by several of the exhibitors, who had trial machines outside the Hall.

Some Advantages of a Good Variable Gear.

We recently described and illustrated Powell's new two-speed hub gear, and for demonstration purposes Mr. A. D. Powell took his 80x80 mm. Fafnir engined bicycle with Millford sidecar down to the Royal Agricultural Hill. We tried the sidecar seat to see what could be done with the gear in thick traffic, and all readers who know the corners at The Angel, Islington, and King's Cross will agree that to thread in and out of the traffic at these points one must have a good two-speed gear. To thread a way through London traffic many sudden stops and starts are necessary, and there must be no hesitation about the engagement of the low gear when an opening presents itself. We were quite pleased with the ease with which Mr. Powell was able to manage the bicycle in traffic, simply by the aid of the low gear and clutch. There was no jerk or jar, and there was no necessity to engage the low gear as gently as one would expect with so small an engine, propelling two persons and a sidecar.

The Silver Cup in the Quarterly Trials.

Our readers will remember that the A.C.U. Competitions Committee offered at the beginning of the year a silver cup for the best aggregate performance in the three 1908 quarterly trials. The speeds accomplished on the two test hills (Dashwood and Gore Hills) were to be taken into account, as well as the rides accomplished without a stop. The trophy has been awarded to Mr. W. G. McMinnies, whose performances on a 3½ h.p. T.T. Triumph were by far the best. He qualified on each occasion of the 125 miles run for a non-stop certificate and twice made the fastest time on Amersham and Gore Hills.

Winter Week in Switzerland.

Those of our readers who have taken an interest in Mr. Douglas Fawcett's articles describing winter conditions in the Alps, will be interested to hear that the Touring Club de France is organising a great winter week in the district of Grenoble, Albertville, and Chamonix, between January 23rd and 30th, 1909. Full particulars can be obtained from the headquarters of the T.C.F., 65, Avenue de la Grande Armée, Paris.

Picking Up Speed Quickly.

Although out for his second motor cycle ride only, Charles Collins, of Smethwick, was fined £2 and costs at Acock's Green last week for travelling at an alleged speed of thirty miles per hour on the Birmingham - Coventry Road. Mr. Collins writes that he had been chatting with a friend at Yardley, during which time the engine of his machine had got cold. On restarting he ran twenty yards with his machine, jumped on, and had travelled only 100 yards or so when the police stopped him and accused him of riding at a speed of thirty miles per hour. If their accusation be true, we can only say Mr. Collins is the owner of a really good motor cycle of which he is no doubt proud.

A New Mudguard.

It is not often that one hears of improvements in mudguards, but the Maughan device sold by the Service Co., and shown on their stand, is a distinct novelty. It is well-known that the properly constructed front mudguard adequately protects the rider and the machine from dirt, but at the same time it keeps a draught of air off the cylinder. The Maughan mudguard, however, has a ventilating arrangement which, although it causes the air to impinge on the radiating fins, prevents mud and wet from reaching the rider.

The Stanley Show.

The line sketch of the Norton piston ring published on page 920 of last week's issue unfortunately depicted the ring as rather thick in section. The depth of the ring is correct, but on closer examination we find that the width of the ring does not exceed that of the ordinary type allowing for the depth of the special oil grooves.

Concentrating the Motor Cycle Exhibits.

Taking it as a whole, the Stanley Show was by no means disappointing as regards motor cycle exhibits, though

arrange this. For our part we can see no good reason why it should not be done.

A 'Varsity Competition Last Saturday.

That enthusiastic body, the Cambridge University Motor Cycle Club, held another competition on Saturday last, in the shape of a petrol consumption trial. The winners in the two classes—single and multi-cylinder—accomplished really excellent performances, Mr. N. H. Joy, successful in Class 1, riding at the rate of 167.79 miles to the gallon. Reckoning petrol at 1s. 2d. per gallon, this works out at twelve miles for a penny—something like cheap travelling. Mr. V. F. M. Oliver won the multi-cylinder class, his mileage per gallon being 109.47, notwithstanding that his mount was one of 5½ h.p. A word of credit is due to the officials, for the results of the contest were worked out the same afternoon, and forwarded to us by Mr. J. M. Oakey, the hon. press secretary.

The Paris Salon.

The eleventh exhibition of motor cars, motor cycles, cycles, and accessories was opened on Saturday last at 10 a.m. The Paris Show, as it is more commonly described on this side of the Channel, is held in a superb hall called the Grand Palais in the Champs Elysées, the West End of Paris. The floor of the hall is almost entirely devoted to motor car exhibits, the motor cycles being found in the galleries. A fully illustrated description of any machines or accessories of interest to motor cyclists will be published in our next issue. This will be written by members of the staff who have made a purpose journey to Paris to describe the exhibition. This year a great deal of the expensive, but beautiful illuminations have been discarded.

FUTURE EVENTS.

- Nov. 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.
- Dec. 12—Motor Cycling Club Annual Dinner.
- „ 10.—Essex M.C. Paper by Mr. H. G. Cove on "Motor Cycles, Accessories, etc."
- „ 16—Motor Union General Committee Meeting.
- Jan. 7—(Provisional) Essex M.C. Paper by Mr. H. M. Wyatt on "Magnetos."
- „ 16-23—Motor Cycle Show at Madison Square Garden, New York.
- 20—Auto Cycle Union Annual Dinner, preceded by the Council Meeting.
- „ 23—Essex M.C. Annual Dinner.

infinitely more might be done by the management to throw the motor cycle exhibits together. We should strongly advise the organisers to give greater attention to this important question. We heard many expressions of opinion on this subject last week, and several exhibitors of motor cycles said that they could not understand why the management could not so arrange the stands that the motor cycle exhibits were kept together. Our advice to motor cycle makers is to organise and approach the Stanley Show Committee as a body in time for next year's show, and request that steps be taken to

THE SIDECAR,

IN ITS RELATION TO THE BICYCLE AND THE TRICYCLE.

By DOUGLAS LEECHMAN.

IN adding an attachment like a sidecar or a forecar to a bicycle one necessarily converts the two-wheeler into a three-wheeler, and it is interesting to consider how far the machine loses its original character and acquires that of a tricycle by the alteration. In this article I propose to confine my attention to the sidecar part of the subject, and in doing so I shall generally use the term sidecar as indicating the complete machine composed of the bicycle and the attachment.

Strictly speaking, all sidecars are tricycles, as they exhibit the essential feature of three wheels, which the word tricycle (*tri* = three and *kuklos* = wheel) imports. And in this connection it is interesting to remember that in the past quite a number of tricycles have been constructed with two wheels at one side and one at the other, some of them being driven on one side only.

The Rudge rotary tricycle, with its single large driving wheel on one side and two small steerers on

the other, is a conspicuous example. The Grosvenor was another, and for a time it was the fashion to build the double driving front steering tricycles open fronted, the steering wheel (otherwise arranged central) being set in front of one of the driving wheels, and thus reducing the wheel tracks from three to two. Unless the wheels are all in line (like a curiosity exhibited at one of the cycle shows) or all abreast, a three-wheeled machine is properly described as a tricycle. One of the radical distinctions between a bicycle and a tricycle is that the former is supported by a base line, while the latter rests on a base area.

The base line support involves the necessity of balancing the bicycle to keep it upright, and the art is not easily acquired. I have only heard of two men who succeeded in riding a bicycle at the first attempt, but the almost invariable experience is that the beginner's natural inclination is to steer away from the side to which he feels himself falling, instead of

The Sidecar.—

steering towards it, and so bringing back the line of support under the centre of gravity of the machine and rider.

By "raking" or inclining the head of the bicycle the steering axis is brought in front of the point of contact between the front wheel and the ground. This gives a trailing action to the front wheel, which inclines it to run straight, and assists materially in the riding of the machine. If the weight is divided unevenly relatively to the central plane of the bicycle, it is necessary to lean the bicycle somewhat to one side in riding in order to keep the centre of gravity over the base line, but the lateral inclination of the machine causes the steering axis to meet the ground at a point to one side of the base line, which interferes with the trailing action and gives the steering a bias to one side. In rounding corners, however, it is quite right, and, indeed, necessary, for the rider to incline the machine sideways. If he did not do so the bicycle, instead of getting round the curve, would fly off at a tangent. The rider counteracts the centrifugal force, which tends to throw him outwards by a centripetal force created by leaning himself and his machine inwards towards the centre of the curve. The two forces thus balance the machine and rider on the base line, but if the road surface is slippery the inclination of the "body" may overcome the friction between it and the ground, and the lineal support will lose its characteristic and exchange it for an even more base support consisting of handles, pedal caps, knuckles, knees, and other points very ill-adapted to the purpose.

A Tricycle is Steered, Not Balanced.

The fact that the wheelbase of a tricycle has width as well as length requires that the machine, as ordinarily constructed, shall be steered otherwise than by balancing, notwithstanding that in the Crippler and De Dion types of tricycle the steering wheel, fork, head, and handle-bars are of the same design and construction as employed on bicycles. This being so, the natural inclination of the front wheel to trail in a straight path is preserved, but the actual steering is done as in a carriage, a traction engine, or a bath chair, *i.e.*, by setting the steering wheel at an angle to the others—without leaning the machine sideways. A novice can generally steer a tricycle without the least trouble, but the practised bicyclist often has to overcome the habit of steering by lateral inclination. True, a tricyclist leans in when going round corners to overcome the centrifugal force, but he leans relatively to the machine, not with it. It is ever so much easier for a bicyclist to learn to ride a tricycle than for a novice to learn to ride a bicycle. Tricycles having two wheels at the back very rarely side-slip, and when they do it is merely a matter of sliding sideways, not of upsetting.

Now the effect of connecting a sidecar to a bicycle all depends upon how the connection is made. If the connecting device is such as to still allow the bicycle to balance on its base line, the complete sidecar will retain the steering and other characteristics of the bicycle. The application of half the weight of the passenger attachment to one side of the bicycle will affect the steering to a certain extent, but this may be counteracted by adjusting the connections so that the side wheel is set at a particular angle. Where the

connection is made in such a way that the framework of the attachment is united with that of the bicycle to form a rigid whole, the bicycle is deprived of its unstable equilibrium in favour of stability of the tricycle, the complete machine then assuming the usual characteristics of the three-wheeler as to steering and otherwise.

The Sociable Sidecar.

But a rigid framed sidecar is not only a tricycle; it is a particular kind of tricycle, which early received the very suitable name of "the sociable." As a rule, the riders sat side by side between the two driving wheels, but, if I remember rightly, two sociables—the Rover and the Markham—were built with small driving wheels, and the riders sat one over each, but the disposition of the riders as on a sidecar is, I think, new. Mechanically, the steering to right or left of a tricycle may be considered as a motion about a vertical axis passing through the centre of gravity, or, more properly, the mass centre. When the load consisting of the rider is concentrated about that axis, as in the case of a single tricycle, the friction required between the front wheel and the ground, necessary in steering to overcome the moment of inertia acting about the mass centre, is comparatively small. But when there are two riders, as in a sociable or sidecar, the load is distributed at a considerable distance from the mass centre, and the moment of inertia, acting at a corresponding leverage, requires a much firmer grip of the steering wheel on the road, if the machine is to answer to the helm. This friction can be supplied by bringing the riders further forward, so as to increase the weight on the steering wheel.

A Tip for Rigid Sidecar Users.

Riders of sidecars that do not take corners well should considerably improve matters by leaning forward at such times, but with the weight properly distributed there should be no need for this. But where the rear wheels of the sidecar are coaxial the passenger seat must not be placed too far forward or the weight will come too near the oblique side of the triangular wheelbase, when leaning forward at a curve might cause an upset. If the seat is set forward, the wheelbase should be set forward also, by advancing the position of the side wheel, but this, when the axis of the wheel is fixed at right angles to the length of the machine, would only exaggerate the original difficulty of negotiating curves, as the "lead" of such a wheel, with its direction fixed parallel to the rear or driving wheel, would make turning towards the side wheel almost impossible.

We see, therefore, that the attachment of a sidecar to a bicycle produces a machine partaking very largely of the nature of a sociable tricycle, but that, if the connection is by means of freely moving joints, the bicycle action is retained in large measure.

On Tuesday last week A. W. Gamage, Ltd., Holborn, opened their Christmas bazaar, which eclipses all previous year's bazaars as regards novelty, interest, and magnificence. At the luncheon given to the press, at which Mr. A. W. Gamage presided, some copies of Gamage's sportsman's diaries were distributed. These diaries are thoroughly up-to-date, since the last in the list of motor cycle records is that of Collier's famous hour ride in October this year at Brooklands. Motor cyclists interested should write for details.

**Sheffield and Hallamshire M.C.C.**

The above club is holding the annual dinner and concert tomorrow (Thursday) at Hudson's Restaurant; dinner at 8 p.m. sharp.

A general meeting will be held at the club's headquarters Thursday, December 10th, at 8 p.m., to discuss the affiliation question. To be or not to be!

Essex M.C.

On the 29th ult. a very successful run to Witham took place, a large number of members turning out. The run next Sunday is to the George Hotel, Bishop Stortford. On Thursday, the 10th inst., Mr. H. G. Cove is giving a paper entitled "Motor Cycles and Accessories; Novelties and Criticisms at the Stanley Show." The paper will be given at the Great Eastern Hotel, Liverpool Street, and all motor cyclists are cordially invited. The annual dinner of the club has been definitely fixed for January 23rd.

Motor Cycling Club, Ltd.

The annual dinner of the M.C.C. will be held on Saturday, December 12th, at the Trocadero, London, at 6.30 p.m., when the prizes won in this year's competitions will be handed over to the successful riders. The *Motor Cycle* fifty one silver challenge cup was won outright by the Coventry Motor Club this year, and Mr. V. A. Holroyd (Coventry) has been invited to attend to receive the trophy. Tickets for the dinner can be obtained from Mr. A. Candler, Lime Grove, Shepherd's Bush, W.; price 7s. 6d.

Middlesbrough and District M.C.C.

The annual general meeting of the Middlesbrough and District Motor Cycling Club was held in the Grand Hotel, Middlesbrough, when Mr. Stanley L. Gjertsen (hon. sec.) read the annual report. The balance sheet, submitted by Mr. G. R. Sanderson (hon. treasurer), showed an expenditure of £69 8s. 5½d. There was an overdraft at the bank of £1 5s. 8d., as against a credit balance of £2 4s. last year. A party of members visited the Stanley Show last week.

Nottingham and District M.C.C.

The first whist drive of the above club took place at headquarters, the Welbeck Hotel, Nottingham, on Thursday last, November 26th, and, as is usual with this club's events, was very successful. Mr. J. Elliot Littlewood (chairman of committee) acted as M.C., ably assisted by Messrs. F. W. Hance, F. Mitchell, and R. S. Whaley as stewards. Mrs. Elliot Littlewood presented the prizes, the winners being Mrs. J. H. Scothern (first lady) and Mr. Dean (first gentleman), the consolation prize going to the hon. sec., Mr. C. Aubert Spring.

Cambridge University M.C.C.

The following are the results of a petrol consumption trial held by the above club on Saturday last, the 28th ult. The course, which was thirteen miles in length, had to be covered twice. The route was from Quays to Newmarket toll gates, from there to Six Mile Bottom, and back to Quays via Alburgham:

SINGLE-CYLINDER MACHINES.

Name.	Machine.	Petrol used. Ounces.	Miles per gallon.
H. Joy (2½ Minerva)	...	24½	167.79
R. N. Minchin (3½ Triumph)	...	31	134.19
B. Stapler (3½ Triumph)	...	33	126.06
M. F. Hedges (3½ Triumph)	...	37½	110.93
H. McCormick (3½ Triumph)	...	40	104
W. Hutchinson (3½ Triumph)	...	46½	89.46

TWIN-CYLINDER MACHINES.

Name.	Machine.	Petrol used. Ounces.	Miles per gallon.
F. M. Oliver (5½ Rex)	...	38	109.47
P. Dickson (5 Vindec)	...	39½	105.31
J. H. F. Colenso (6-7 Bat)	...	41½	100.24
H. Stephenson (5 Vindec)	...	53	78.49

Walthamstow M.C.

The second annual dinner of this club will take place on Saturday next, the 5th inst., at the City Arms, St. Mary Axe, E.C. A good attendance is expected, as an excellent concert has been arranged by the committee, and an enjoyable evening can be counted on by visitors. Dinner will be served at 6.30. Tickets of the hon. secretary, J. W. Percival, 13, Church Hill, Walthamstow.

Impromptu runs will be made every Saturday during the winter months, at three o'clock, from headquarters (weather being favourable).

Barnsley and District M.C.C.

On the 13th ult. a meeting of motor cyclists was held at the Victoria Hotel, when a new club was formed, to be known as above. The club owes its birth to the members of the motor section of the Barnsley Victoria Cycling Club. For some time it has been felt desirable to run an entirely separate and distinct section, so the new venture was launched. The affairs of the motor section of the B.V.C.C. will accordingly be wound up in due course.

The headquarters are as before, viz., the Victoria Hotel, Barnsley. The members' yearly subscription has been fixed at 5s. The president is Mr. E. H. Longley, and treasurer Mr. C. B. Fallas. Prospective members are invited to communicate with the hon. secretary, Mr. F. Scorch, 49, Park Road, Barnsley.

Richmond and District M.C.C.

The annual dinner of the above club was held on Tuesday evening, November 24th, at the Trocadero Restaurant, the vice-president, Dr. W. M. Paul, in the chair.

After dinner, Dr. Paul presented the various cups and prizes to the winners of the contests during this year, and he said they very much regretted that their president, the Marquis de Mouzilly St. Mars, was unable to take the chair at this dinner, and he was sure the members would join with him in thanking him for presenting the magnificent cup to the club. He also expressed his thanks to the captain of the club for his kind presentation of another cup. He said he would like to say a few words with regard to urging the members of the club to consider the other users of the roads, and to drive with every care and consideration, and felt that it was the opinion of the members of the club that strong measures should be taken with any member who disregarded this wish of the club.

The captain of the club, Mr. A. Carpmael, jun., returned thanks, and said that he was pleased to hear that the club appreciated his action in giving a cup for competition, and he hoped that this would be an incentive to keep the members of the club together. During the course of his speech he made a strong appeal to the members to drive with extra care and consideration for the future, saying that there was no doubt a very strong feeling had arisen amongst some of the public against motors and motoring, and that, although he felt strongly this had been caused by the reckless and inconsiderate driving of a very small number of drivers, yet he thought that unless something was done very soon to alter this adverse feeling, there was great risk of very repressive measures being passed. The Captain then went on to point out how natural it was that people who live close to a main road, near large towns, who were not motorists, and perhaps had never been in a motor, should not love motors, and objected to having a continuous stream of fast traffic going past their doors, and he hoped members would try to remember this, in order that it might make them drive in such a way as to cause as little annoyance as possible to others.

THE NEW PENNY EDITION OF "THE AUTOCAR."

Readers of "The Motor Cycle" who are interested in motor cars are reminded of the new Penny Edition of "The Autocar," now obtainable of all Newsagents and Booksellers every Friday Morning.

Questions

and Replies

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E. C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

Various Interesting Queries.

?

I have a 3½ h.p. Triumph with Brown and Barlow carburetter, handle-bar control, and magneto ignition. (1.) What distance should the break between the platinum points be to get the best results? I can just get a worn sixpenny piece between. (2.) Are the Jebron iridium contacts as good as platinum, and will the two work together (iridium and platinum)? (3.) In running I get the best results with throttle half open, full air, and spark fully advanced. If I open throttle still more I don't get any better results. Does the engine get sufficient air, and if not how shall I increase the supply?—J.M.

(1.) Within limits the break is not important, but the makers recommend that it should be .5 mm. (2.) The contacts mentioned are quite good. Platinum and iridium would work together, but platinum being a softer metal it would be quickly flattened by iridium; better to have both contacts of same metal. (3.) It looks rather as if a bigger choke tube would remedy the matter. This can be obtained from the makers of the carburetter.

A Novice's Queries.

?

My cycle is a 4 h.p. two-cylinder N.S.U. (1.) How many hours non-stop ought I to ride without overheating, provided everything is in order (the gear is 4 to 1)? (2.) What are the signs of overheating? (3.) What is the damage done by overheating? (4.) Is a fan of much use? (5.) Is a deposit inside cylinders very bad?—R.A.

(1.) You should be able to ride the machine indefinitely if everything is in good order. (2-3.) The signs of overheating are strong smell, intense heat of the engine, excessive knocking, pre-ignition, that is to say, the engine continues to fire after the current is switched off. Possible damage done by overheating is seizing, unequal expansion, and decomposition of lubricating oil, while pre-ignition may result in a strained or broken connecting rod. We trust you are not under the impression that overheating must occur. Provided the engine is driven well within its power and is properly lubricated, overheating will not occur. (4.) A fan is of some use, but in your case a fan will not be necessary if the engine is running all right. (5.) Excessive deposit on the piston and cylinder heads tends to overheating and will cause pre-ignition. They should be scraped every 1,000 miles or so.

The Slipping of Belts.

?

I have quite taken a fancy to the O.T.A.V., but what bothers me is—(1.) How does it get round corners? The makers claim that there is no need for a differential on account of the belt slip. I cannot see it. I have used a 7-9 h.p. Peugeot motor bicycle with Phoenix forecarriage for two years, geared 4 to 1, with Whittle belt, and there is not the slightest sign of belt slip. Another thing, the belt they fit does not seem strong enough. (2.) Do you think 26in. by 2¼in. Clinchers are strong enough? I fancy the car would be much better with 2½in. tyres. Please let me know what you think about this vehicle.—W.A.K., Derby.

Our experience of the voiturette enquired about is very limited, therefore we regret we cannot give you any very definite information. The makers will

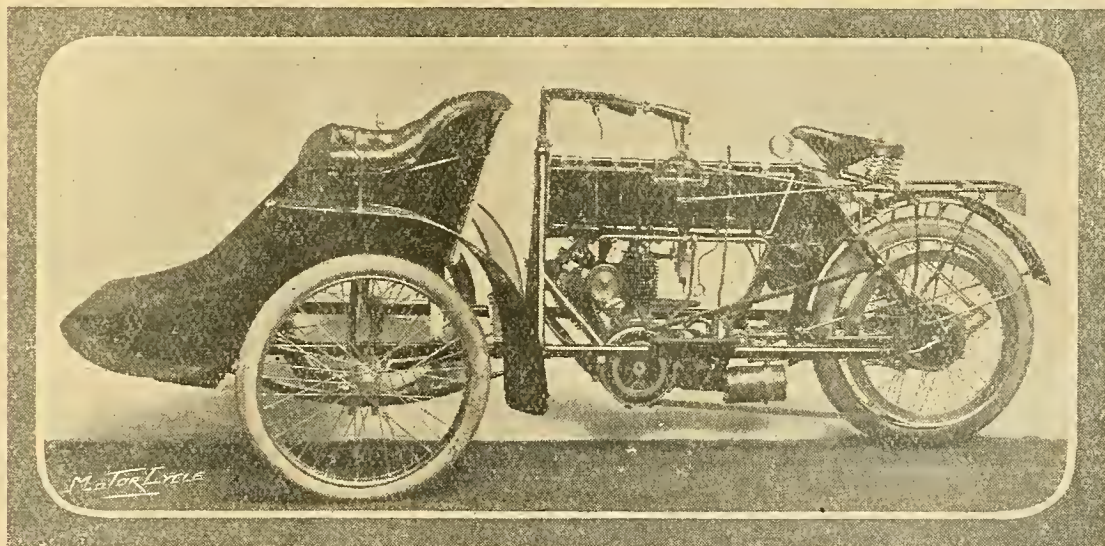
Both wheels are in this manner driven at unequal speeds. Probably there is no slip at all on the driven wheels, i.e., the belt rims on back wheels, and all the slip takes place at the driving pulleys. (2.) 2½in. tyres would wear better and be more comfortable than 2¼in.

Starting by Handle with Magneto.

?

I have just bought my first tricar—a second-hand 9 h.p. Riley with twin-cylinder V engine. I am proposing to do away with the accumulator ignition and fit high tension magneto. Do you think that I should find any difficulty in starting with the magneto? Will the ordinary cycle size magneto do? If not, why not?—G.H.T.

You would find considerable difficulty in starting with a magneto unless the engine was fitted with a half compression release. It would be best to con-



A twin-cylinder fan-cooled N.S.U. Tricar with front springing. The new N.S.U. epicyclic two-speed hub gear is embodied on this tricar, and the ratios of gears are so arranged that an exceptionally large engine pulley can be used. It was exhibited at last week's show.

give trial runs to anyone interested, and our advice is to write them and ask them if they have a voiturette running in your district, or if they would send one for a trial run with a view to purchase. (1.) Although you cannot detect any slipping of the belt with your motor bicycle and forecarriage, there is a certain amount of slip taking place, particularly when engine is picking up speed. That is why a belt drive is more elastic than a chain. When the O.T.A.V. voiturette is turning a sharp corner the belt takes the place of a differential gear, because the belt on the inner wheel (which has to travel slower at the corner than the outer one) slips over the driving pulley.

sult the makers with regard to the half compression release and easy starting. The ordinary motor cycle size magneto ought to run the engine quite satisfactorily, but it probably would not start the engine as well as one made specially for motor car engines and with larger magnets. The reason is that with the motor cycle size the armature and magnets are so calculated as to produce a sufficiently hot spark for starting at a given speed, a speed which is very seldom reached when starting a car engine with a handle. It would probably be best to retain the accumulator ignition for starting, and then switch over to the magneto for general running.

Machine Stops on Hills.

[?] I have a $3\frac{1}{2}$ h.p. 1907 Triumph which takes hills at a good speed, but which almost invariably pulls up near the top. On dismounting I find smoke issuing from the carburetter; after a few seconds rest the engine restarts, only to repeat the performance on the next hill. Have taken down engine, and found no deposit worth speaking of on piston or cylinder. Compression is also good. I should be glad if you could suggest a 6 h.p. two-seated car?—R.M.T.

he failure to climb hills may be due to your driving. Do you close the air over gradually as the speed of the machine falls off? If you do the trouble is due to poor compression owing to worn parts, or the gear is too high for your weight. The smoke issuing from the carburetter occurs in all instances when engine is hot and inlet valve happens to be raised, and the throttle open. It is from the hot oil in the engine. It would be best to have the engine overhauled, fit new exhaust valve spring, and lower the gear too high.

Cost of Running a Passenger Machine.

[?] (1.) I cannot make up my mind whether to go in for a new motor bicycle and second-hand sidecar or a small second-hand two-seated car, say 6 h.p. Leaving comfort out of the question it is purely a matter of which would be the cheapest to run that will decide me. I should be very glad to have your opinion as to which is cheaper to run. I may add that at present I know nothing about motors of any sort. (2.) The combined weight of self and passenger would be about eighteen stones, and I am told that in using a sidecar the back tyre of a bicycle wears out very quickly; in fact, one man tells me that I should probably require a new back tyre about every 700 miles. Is this so? (3.) If it is not so, how many miles do you think back tyre would run? (4.) Another man estimated cost of running bicycle and sidecar at about 2s. 6d. per 100 miles, including petrol, oil, and wear and tear. What would you estimate? (5.) Would you also be good enough to give me a rough idea of the cost of running per 100 miles a 6 h.p. two-seated car?—R.M.T.

(1.) By far the cheapest vehicle to run would be a first-class two-speed motor bicycle with sidecar. If you are about to begin motoring you should have a medium-powered motor bicycle of certainly not more than $3\frac{1}{2}$ h.p. You should ride this for several weeks and then start with a passenger machine. (2.) Certainly there is more wear on the back tyre owing to the increased weight and strain. (3.) It is impossible to say how far the back tyre would last, but we should estimate a $2\frac{1}{2}$ in. cover at about 1,000 miles with passenger attachment. (4.) Your friend's estimate was about right. The cost of keeping up a 6 h.p. car would be quite three times this, and the licensing and registration would be £3 2s. for the car against £1 for the motor cycle.

Interested in Electrically Driven Tricycles.

[?] Would you please inform me if the electric tricycle illustrated in your issue of the 4th ult. can be seen in England—if not, the address in Germany? Further, could such an accumulator be charged at home by battery, and how long does it take to charge?—J.H.P.

We have received a number of enquiries similar to yours. The electric tricycle is sold in London by Mr. A. Straus-Collin, Bush Lane House, Cannon Street, E.C. The makers are the Berliner Elektromobil-Fabrik, Charlottenburg, Berlin. We have had no experience whatever with this vehicle, but we have been promised a trial run as soon as a sample of it reaches here from Germany. The accumulators are very much larger than those used for ignition purposes, and would take a considerable time to charge even from a dynamo.

Tuning Up for Hill-climbing.

[?] My machine with 85 by 85 mm. engine fails up any gradient steeper than 1 in 12, and even then only gets up by rushing. Compression is very good, gear $4\frac{3}{4}$ to 1, Longuemare E carburetter 6-jet, magneto. In spite of the small jet, starting is very easy, and I can give all extra air when started. Level of petrol correct. Valves and magneto are timed right, and all levers set correctly. Valves lift sufficiently, that is about 2 mm. In fact, it is a problem which has proved too difficult for me to solve. On the level and down hill machine is fairly fast, but not as good as it might be.—M.F.J.

Which valves do you refer to when you say they lift sufficiently, i.e., about 2 mm.? 2 mm. is nothing like enough for the exhaust valve, which should lift about $\frac{1}{4}$ in.—approximately 6 mm. The inlet valve, if automatically operated,

should open about $\frac{1}{4}$ in. If you are correct in stating that the lift of the valves is but 2 mm., the cams must be worn badly, or the clearance between valve and tappet is more than 1-32 in. Increasing the openings of the valves will make a wonderful difference. Also try a slightly larger jet and air adapter. This should give more power in hill-climbing.

Taking a Motor Bicycle to the Tropics.

[?] I am taking a motor bicycle to the tropics—Straits Settlements. It is a 3 h.p. Quadrant, surface carburetter. (1.) Are there any special tyres recommended for the tropics? I have an idea that Dunlops make a special one. (2.) Would a Whittle belt be all right, or is rubber better? (3.) Are any precautions necessary with regard to the treatment of accumulators while out there? Any other information which you think would be of use would be very acceptable.—R.W.H.N.

(1.) The Dunlop Tyre Co. make a tropical cycle tyre, and we believe also a tropical motor cycle tyre. We should advise you to write them and other tyre makers to become enlightened on this point. (2.) The leather belt mentioned would, we think, suit your purpose excellently. (3.) The safest precaution would be to use a magneto, not that accumulators would give more trouble abroad than in England, but you might have difficulty in getting them charged. If you can get a magneto fitted to your machine we think you would find it would be well worth the expense entailed.

Cooling the Engine Down Hill.

[?] When coasting down hill what is the best way to cool the engine? I always, when circumstances allow, switch off, give it full throttle, and do not raise the exhaust. I am told I am wrong, and that it would cool better by cutting off the gas and raising the exhaust, but in that case I imagine it would only draw comparatively hot air through the silencer. My informant further said that cold air was more cooling than mixture through the throttle. Is any motor cycle fitted with a device which would make such an operation possible?—F.B.

Your informant is incorrect, because it is impossible to draw cold air into the engine by closing the throttle and lifting exhaust valve. As you say, only hot air is drawn in through the silencer. Opening the throttle and air levers and merely switching off the ignition must cool the engine much more effectively, as the temperature of the gases is very much lower even than the air that would be drawn in, provided there was a sufficiently large opening in the inlet pipe independent of the throttle. Another good way would be to put a slide in the inlet pipe between the throttle and engine, so that cold air only will be drawn in when coasting. This would be more economical than drawing unconsumed gas through the engine.

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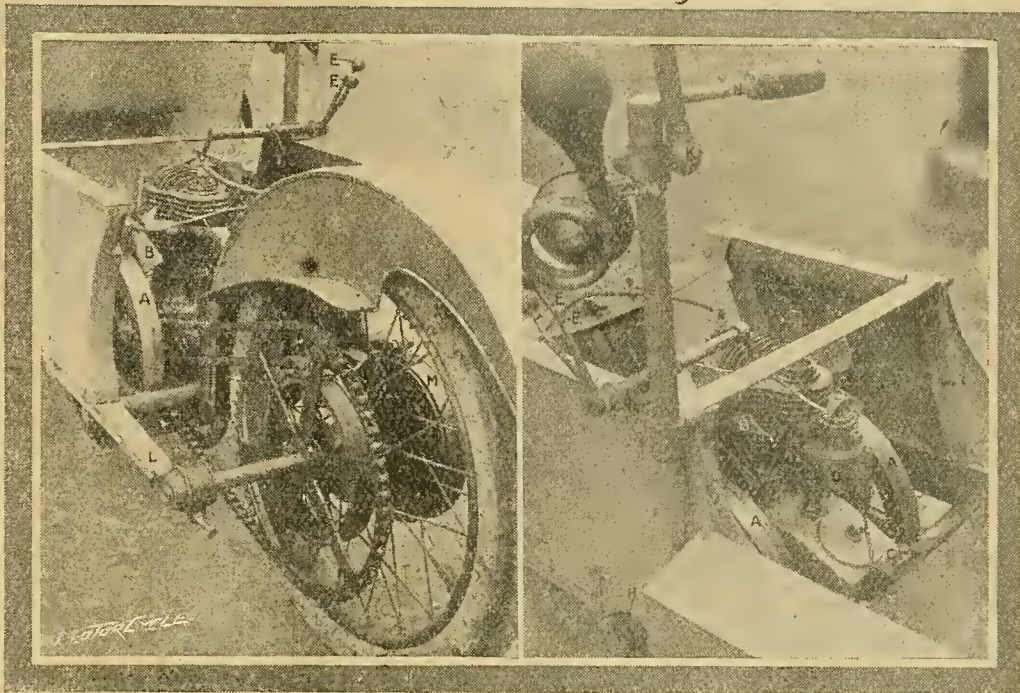
A Light and Inexpensive Tricar.

AUTO-CARRIERS, Ltd., 158, Norwood Road, West Norwood, S.E., who are fully alive to the possibilities of the light and inexpensive tricar, have introduced a vehicle of this type which promises to be a distinct success. One of the great advantages which it possesses is that the front seat can be very easily detached, and, as our illustrations show, a carrier box can be put in its place. The engine is a 5-6 h.p. (90 × 102 mm.), the valves are fitted fore and aft, and the inlet valve is mechanically operated. There are two large flywheels A A with heavy peripheries, and these flywheels allow the engine to run extremely slowly. They drive two fans B B, one on each side of the combustion chamber, by friction wheels which bear on the peripheries of the flywheels. The forward end of the crank chamber forms an oil reservoir, and it is only necessary to fill this at the beginning of the day's run. A small push button C at the end of this chamber is intended to be depressed by the heel when it is required to give the engine an extra supply of oil. The carburetter D is of the automatic type, and as the float is annular it is very compact and takes up very little room. The two control levers E E, throttle and spark advance, are situated on the side of the vehicle, as shown in the illustration referred to above. The frame is a distinct departure from standard practice in the construction of tricars. It consists of ash members reinforced by side panels of birchwood, while the engine is carried in a small cubical frame supported in clips from the ash side members. The springs L are bolted on to the end of the frame, and the general springing arrangement follows the lines of the Lanchester and Oldsmobile cars.

Accessibility of the Engine and Parts.

The accompanying illustrations show the accessibility of the vehicle. The back seat is easily removed, and exposes the engine and carburetter, while the removal

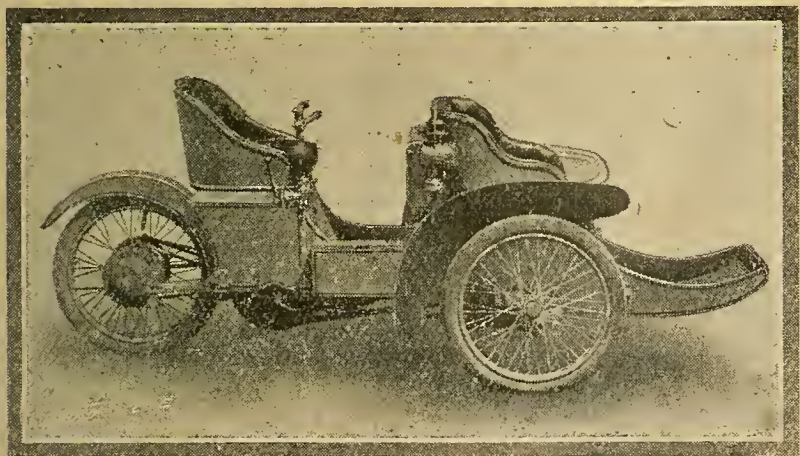
of the epicyclic type. A large band brake M controls the low speed, and an internal expanding clutch the high speed, both being operated by a horizontal lever N shown. The steering is by means of a tiller K, which has to be lifted vertically to allow the driver to take his seat. On the road the engine runs very



Rear view of the A.C. Tricar, showing the air-cooled engine, transmission, and hub gear.

sweetly, picks up quickly, and is capable of propelling the machine at a good speed. Being wide the tricar takes the corners very well indeed, and is no mean hill-climber. Fitted with a $3\frac{1}{2}$ to 1 top and a 7 to 1 low gear, the tricar is sold subject to its climbing Jasper Hill, near the Crystal Palace, with two people up. This hill has a gradient of 1 in 5. Tyres of ample size are supplied, so that purchasers should have no trouble in this respect.

To put it briefly, the Auto-carrier tricar-impressed



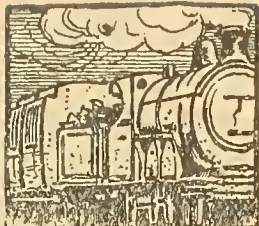
The Auto-Carrier tiller-steered Tricar, with air-cooled engine.

of the heel board renders everything still more easy to get at. The contact breaker H is shown outside the body and at the base of the steering column. Accumulator ignition is fitted, but magneto can be had if desired. The transmission is by means of a single chain from engine to back wheel, and the two-speed gear is

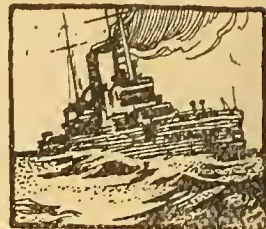


The A.C. Tricar for business purposes.

us most favourably, and reflects great credit on its designer, Mr. John Weller, who has had considerable experience in designing various types of motor vehicles, and who, as early as 1903, designed and built a motor bicycle.



LETTERS TO THE EDITOR



All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

The Editor does not hold himself responsible for the opinions of his correspondents.

Simplifying Starting by Handle.

[3692.]—In your issue of November 11th "Essex" asks for a suggestion for fitting an exhaust valve lifter near the saddle, in order to facilitate starting by handle on a machine fitted with a Roc clutch. Perhaps the following suggestion will be of some use to your correspondent. Braze or clamp a piece of lin. tubing to the saddle pin and fit to this tubing a Bowden valve lifter lever similar to the one fitted to the handle-bar. Both wires can work the same valve lifter as fitted to the engine. Operating one lever will probably cause the other to move, but this will not matter. There would be no difficulty in fitting tubing and lever in a convenient place behind or under the saddle, and if strong tubing were used it would serve as a very good place to hold the machine up by whilst turning the handle.

CYRIL ROSE.

Multiple Jet Carburetters.

[3693.]—You published recently a very interesting and lucid article by "Ixion" on the ideal carburetter. I wonder if he has considered the advantages of having more than one induction chamber and jet. We all know that for hill-climbs a larger jet is generally fitted, since the "best all round" jet does not give the maximum of power. Would it not make the average touring machine better if it had a two-jet carburetter, one jet adjusted for getting this maximum power? The other jet might be made very much smaller, as it would only have to provide gas for running on the level and in traffic. In other words, we would be able to make our machines at once better hill-climbers and quieter in traffic. The average motor cyclist, especially if he rides a single-cylinder machine, will give anything for a few more m.p.h. up his favourite test hill, whilst the great B.P. would look with more favour on motor cycles if they were quieter.

At the same time, if one could adjust the main air inlet to the induction chamber for the small jet, very slow riding in traffic would be easier and less anxious, since one would not be so frightened of the engine stopping. Carburetters, too, that allow of admitting fresh air to the cylinder, when the throttle is closed, will no doubt be more popular in the near future.

I do not think that this double jet idea need necessitate any complication or delicate mechanism. Such a carburetter as the B. and B. with barrel throttle and extra air inlet from the side might be quite easily adapted. Of course, we can now get handle-bar control with this type.

I have thought for some time that this two-jet idea is one which would lead to considerable advance in motor cycle design, and note with pleasure that it is now being taken up on quite a number of cars. But what does "Ixion" think?

H.M.

A Suggested Conference of Motor Cyclists.

[3694.]—The thought has occurred to me lately that the officials of motor cycle clubs have not sufficient opportunities for thoroughly discussing the various important items that form the programmes of our various clubs during the year.

With that idea, I beg to suggest to your readers, especially those connected with motor cycling organisations, the holding of an annual conference of motor cyclists when the secretaries and other club officials could meet and talk over their programmes for the coming year.

I know many of your readers will agree with me when I say that there are many things in club life that could be greatly improved, and I am certain that such a conference would do a great deal of good if the officials of the older motor cycle clubs could be induced to give their ideas of

running a club. They could also give many a wrinkle on the running of a successful competition, they having, I am sure, bought their experience, and their advice would be of untold benefit to the rapidly increasing number of new clubs which are springing up all over the country.

The idea of a meeting on these lines being held during the winter especially commends itself to me, owing to the fact that the A.C.U. is about to inaugurate the centre scheme during next year, and if this conference was held, I am sure that those gentlemen who are so keenly interested in the union of motor cyclists, such, say, as Mr. F. Straight, Mr. Rees Jeffreys, and Mr. J. H. Hall, would be only too glad of an opportunity to place their views before a representative gathering of motor cyclists affiliated and unaffiliated.

Should the idea of a meeting on the lines I have indicated commend itself to your readers, I shall have the greatest pleasure in doing what little I can to bring about a successful gathering, and to that end I should like to suggest that steps be taken to hold a conference in a city where good railway and hotel facilities are available, say Leeds or Manchester, during either January or February, the meeting to extend over two or three days.

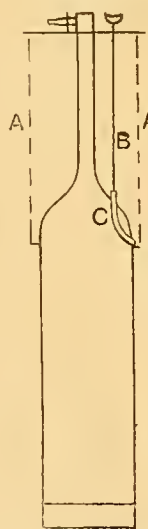
T. H. STRAKER,

Hon. sec. Hull and East Riding A.C.C.

Acetylene Gas Generators.

[3695.]—Replying to "J. F. L.'s" letter [3641], I do not go with him when he says that water can be kept for any time in the Autoclipse generators after the light is extinguished. I have tried it myself, and find that the carbide decomposes, no matter what one does. My idea for improving the Autoclipse generator is as per sketch. When water is turned on it makes the generator automatic in the usual way. The water could then be carried in the generator without any likelihood of carbide being wasted. This is what I intend to have done with my generator. May I also mention that I think the majority of burners fitted to motor cycle lamps are very much too small. I have changed mine in the two lamps which I always carry, one to a 14 litre burner and the other to a 21 litre burner, and find that I have now plenty of light, and the beam of light shows me the road about 100 yards ahead, which before I changed the burner it would not do. Being an all-weather rider I quite agree with "Ixion," and not with Mr. Hart-Davies, about wearing of gauntlets and rain getting inside. I always wear my sleeves tucked inside my gauntlets, and have never found the rain trouble me, as I ride with my elbows lower than my hands. Having tried both ways I can speak from experience, and consider it dangerous to ride with sleeves outside gauntlets, as I found that the sleeves caught in handle-bar and brake lever, which once or twice nearly gave me a bad fall.

D.H.O.F.



- A A. A brass cylinder soldered to top of diving bell
- B. A needle valve.
- C. A pipe to allow water to flow down to bottom of bell.

Road Dangers at Night.

[3696.]—I was very pleased to see that someone had taken up that most serious of all points in our traffic regulations, night road dangers, and hope it will be kept up and something done. The other day a man in the Eastern Counties was summoned for driving a vehicle (to wit, a donkey and cart) without a light. The night was a bright moon-lit one, his lamp had just burnt out, and he being a poor man, and having more candles at home and not much cash on him, refrained from buying one; besides, it was a by-road with

little traffic. He was fined. A few days ago—one very dark night—I was on the Norwich road and narrowly missed running into the back of a hay waggon (a slow moving vehicle); it had one lamp on the front, stuck up in the centre of the load, so not a glimpse of it could be seen from behind. A little further on I ran into a drove of bullocks and was thrown off. On my return journey I was passed by a motor car (a fast moving vehicle), which carried a rear light visible for 200 yards. This is my point: As the police and bench convicted a poor man like the owner of the donkey-cart in question, is it not feasible that a contractor or farmer could afford a penny and a 1s. 6d. lamp out of the cartage of many loads of hay to carry a rear light? Also, if a farmer can afford to buy forty head of stock and send two men home with them, surely he could afford a 1s. 6d. or 1s. lamp, or even two, and compel each man to carry one. A motor car is compelled to carry a rear light, and it is a fast moving vehicle not likely to be run into from behind. Can anyone explain the consistency of our byelaws? I am no correspondent and hate writing letters, but if I thought writing would do any good I would gladly give up the next six months' spare time to it, and I hope my fellow readers of *The Motor Cycle* will not let the matter drop.

I recently encountered another danger when riding on a straight length of road just after lighting-up time. Suddenly, without any warning, two horses wandered on to the road at right angles from a farm gate, and I only just missed them. I stopped for explanations, and found that it was usual for the horses to go to water, and return themselves alone, every night, summer and winter, about six o'clock, the horse pond being situated a hundred yards down the road.

AH 441.

Carburettors on Twin Engines.

[3697.]—The average carburetter on a twin is not capable of giving nearly enough air. On my own machine, a 5-6 h.p. Peugeot, Longuemare carburetter, 7 spray, 22 choke tube, all the extra air I could give it was through two slots half an inch long by a sixteenth wide; with this open it was not the slightest use opening the throttle more than two notches, as it gave such a rich mixture that the engine quickly overheated with throttle further open. I have now cut a slot in the side of the spraying chamber (3in. by 7-16in.) controlled by a revolving shutter, and several 5-32in. holes in the inner barrel which holds down the choke tube, so that now it can get enough air. I hope next year we shall see larger extra air ports. and the main air intake made adjustable.

AS 46.

Advantages of Belt Transmission.

[3698.]—In answer to letter 3665 concerning the relative advantages of belt over bevel gear transmission, it is not altogether surprising that "M. D." finds no shock, excessive tyre wear, etc., with his four-cylinder F.N., and in case other readers may require some explanation of the reason I should like to ask "M. D." to think for a moment. It would be practically, if not mechanically, impossible for a single-cylinder machine to have such a positive drive. With the four-cylinder F.N. there is an almost continuous pressure forcing the back wheel round, due, of course, to the four cylinders and two impulses for each revolution of the engine-shaft, whereas for two revolutions of a single-cylinder engine one only gets one impulse. Just imagine the jerk one would get in starting up with no give on the driving mechanism. Again, when climbing a hill, if by any chance one had to slow up when near the top or on a severe brow, when restarting, the teeth of the bevel wheel would certainly shear off. No doubt the present-day singles have a wonderful degree of flexibility, but if gear transmission had been practicable I think there is no doubt it would have long ago been adopted.

E. LEIGHTON.

Tandem Motor Bicycles.

[3699.]—Whilst your correspondent Mr. B. H. Davies has a wide experience of motor cycles, I think he can have had little or no experience with tandem motor bicycles. He practically admits so. This type of machine is very nearly extinct, for obvious reasons.

As regards cost, economy, reliability, speed, and hill-climbing this type cannot compare with a standard single with

rear tandem passenger attachment, such as is marketed by Chater Lea, and was shown on a Bradbury at the Stanley years ago.

As the pioneer rider of this type I have naturally been interested to notice its increasing popularity. As a sporting and touring machine no other form of passenger attachment can touch it. Years ago the writer carried out a successful tour with a passenger in this way, the machine being a 2 h.p. Minerva.

For speed, economy, and hill-climbing, a first-class 3½ h.p. machine suitably geared will carry a rider and passenger at increased speed on the level and up hills better than a machine of double and more power with a sidecar. It simply calls for a stronger back tyre and more care on greasy roads and at corners. Whatever advantage there would be in a tandem proper I for one entirely fail to see. Apart from the cost, such a machine is entirely unsuitable for driving solus; then there is the matter of storage and intricate steering.

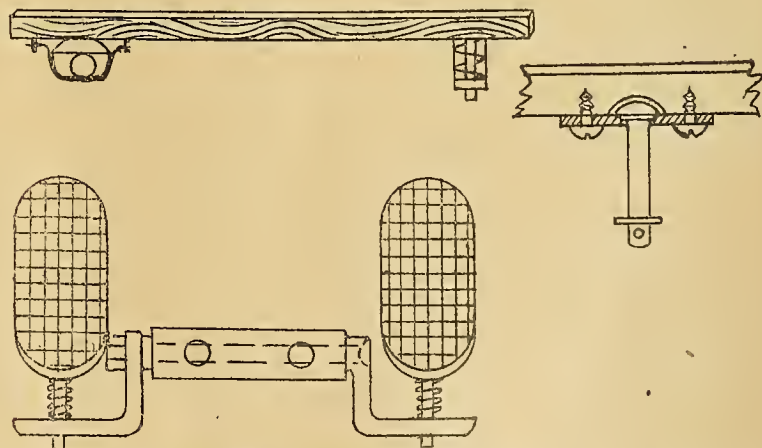
I was once acquainted with such a machine, the engine of which was controlled by the rear rider. The front rider had to steer and shout out instructions. The machine had a very short but eventful career.

Next, perhaps, someone will make the brilliant discovery that what the motor cycling world awaits is a tandem bicycle designed for a lady to steer, and perhaps some misguided maker would even introduce such a machine. C.M.F.

The Fitting of Spring Footboards.

[3700.]—I noticed a query in *The Motor Cycle*, signed "J. G.," regarding fitting footboards to a 1908 Triumph. I may say I have had a pair, both on this and last year's Triumph machine, of my own design, which were made by a local engineer, and have proved perfectly satisfactory. They consist of two birch boards 17in. long by 4½in. broad by ½in. thick, covered with rubber matting and edged with brass beading. These are clipped round the existing footrests, which have been bored out slightly to admit of a tube, just long enough to tighten up the nut of spindle, so that the rubber rests are free to revolve without the spindle turning; this is for the leading ends. The trailing ends are supported on angle brackets carried on a spindle passing through the bottom bracket in place of the crank axle. The ends of the boards are sprung by means of a spiral spring of lin. diameter, threaded over a pin passing through the axle brackets and secured to the boards by a plate.

The whole arrangement is simple to make, looks well, and can readily be replaced by the pedalling gear if desired.



I have found it most comfortable in riding, and so far, due to the reliability of the machine, have not felt the loss of the pedals.

R. G. HONNINGTON.

Magneto Manufacture.

[3701.]—Having read the letter from the Bosch Magneto Co. on the above subject, we feel that it is necessary for our company to reply to it, both as magneto manufacturers and also as members of the British electrical engineering trade, which the Bosch Co. criticises and condemns in no uncertain manner. It does not follow that, because the difficulties in the way of producing a British magneto are great, they cannot be overcome, and therefore some credit is surely due to us for producing a magneto which can stand on its merits against any other magneto.

Taking the points raised in rotation:

1. If there is a limited demand for magnetos, surely that is no reason why nobody else should make them but the Bosch Co.

2. Time will prove whether the Bosch Co. is in a position to supply the demand. Many companies would like to be in the ideal position of supplying the whole market with their goods without any competition. The Premier Accumulator Co. is also in a position to fill the demand for magnetos for motor cycles, but we have not the presumption to suggest that no other firm should make them because we can supply all that are wanted.

3. Even if the Bosch Co. does buy its materials from all parts of the world, we see no reason why a machine built in England cannot be as good as one built in a foreign country. Our company, however, makes a point of buying all its materials in England, as we have yet to learn that stuff bought abroad for magnetos is better than that bought in this country from British traders.

4. No firm with any respect for its future would expect customers to experiment with goods supplied it. All the experimenting necessary is done at our works before the machines are placed on the market, and during the last two years we have had no complaints respecting our magnetos.

5. We cannot understand your correspondent talking about lack of enterprise in the British, for was it not an Englishman who until recently was the life of and partner in the Bosch Co., and who did much to place it in its present high position? But if years of experimenting, to reach the high favour at present held by the Premier magneto, show lack of enterprise, then we must plead guilty to that delinquency.

With regard to the upkeep of sentiment, the Premier Accumulator Co. is quite satisfied with the results obtained by its magnetos, and is fully prepared to let them stand on their merits against any other make on the market, knowing that they will hold their own without regard to sentiment.

The comparative cost of British and foreign-manufactured goods to the British consumer raises a very nice point, for we all know the disadvantages which a British manufacturer works under when competing with the foreigner. This is the real reason of the preponderance of foreign magnetos in this country.

As regards the last paragraph in the Bosch Co.'s letter, we are astonished that anyone in a responsible position connected with the electrical engineering trade should make such a statement. We are sorry for your correspondent's experience; he has yet a great deal to learn. We can name plenty of firms in England who can produce electrical apparatus far more delicate and accurate than any magneto.

To advance such arguments is ridiculous, but the reason for them may be that, now that some opposition has arisen, British magneto manufacturers are looked upon as trespassers in their own land.

The Premier Accumulator Co. is so satisfied with the superiority of Premier magnetos that it is quite willing to submit them for test, on any well-known make of motor cycle for any length of time, against any other make.

In conclusion, we believe the time is not far distant when manufacturers of the best motor cycles will insist on having magnetos of British manufacture on their machines, as, although British engineers may be conservative in adopting new things, when once they have manufactured the goods it is usually found that the British-built article is in no way inferior to its foreign rival.

With respect to special machinery, this, of course, is needed in every trade. No one would lay down a plant for manufacturing traction engines if he intended to make magnetos. The Premier Accumulator Co. has laid out its works with all the special plant required to turn out a magneto of British manufacture, and intends to show that "the standard of work at present being carried out in our largest electrical works," as stated by your correspondent, is not "far too inferior to meet the requirements of magneto manufacture."

We claim to have produced a magneto far more simple and far superior in design and workmanship to any foreign magneto. THE PREMIER ACCUMULATOR CO., LTD.

[3702.]—With reference to "Britisher's" letter [3684] regarding magneto manufacture, we should like to point out that this gentleman's conception of the difficulties surrounding the manufacture of magnetos is seriously lacking, as the fact that a man can manufacture an accumulator and coil is no criterion whatever as to whether he can manufacture magnetos, any more than it follows that if a man can make an accumulator he can build a motor car. Both are totally different from one another. For instance, the designing of an accumulator is purely and simply the work of a chemist, while the designing of a magneto is the work of electrical and mechanical engineers, and, while we do not state that there is no such being capable of carrying out the combined work, we do say that up to the present nothing startling has resulted from the combination of the two industries above referred to.

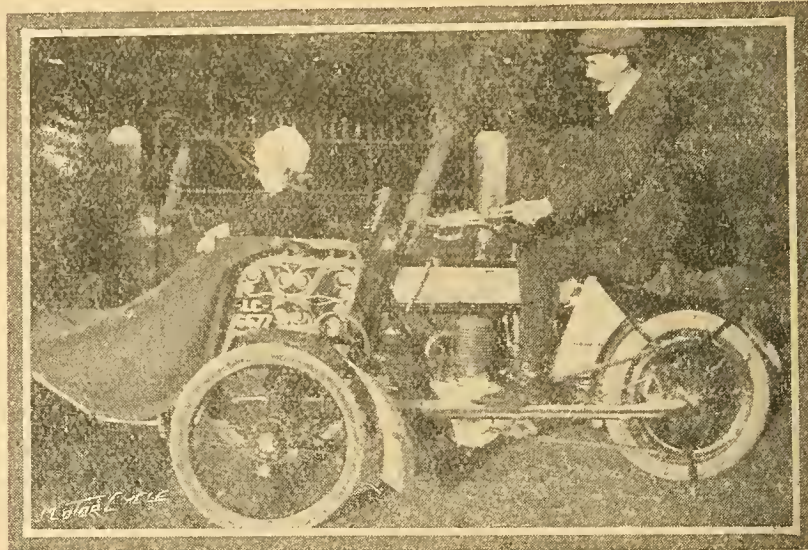
With regard to coil construction, we quite admit that this is a simple matter in the hands of the expert, but we would also mention that one of the chief reasons why the induction coil has so readily given way to the magneto is because it is, on the face of it, a simple article to manufacture, and the manufacture of it has been taken up in many cases by men who are only able to copy other people's work, and not able to design their own apparatus or able to work out their own formulae. In consequence of this many thousands of extremely unreliable ignition coils have from time to time been put on the market at ridiculously low prices. In doing this the manufacturers have only assisted the pioneers of the magneto industry to bring their appliances to the front.

For THE BOSCH MAGNETO CO., LTD.,

ARTHUR E. BENNETT.

The Future of the Tricar.

[3703.]—I herewith enclose a photograph of my light tricar. It has $4\frac{1}{2}$ h.p. Stevens engine, Phoenix forecarriage, Chater-Lea frame, footboards to back wheel, 26in. by $2\frac{1}{2}$ in. tyres to all wheels, Rich tube in back wheel, 1in. Whittle belt. The front seat is well sprung, and saddle (Brooks's



B100) is all right up to legal limit. I run belt slightly loose, and do not feel kick of engine. All I want to make this machine perfect is a good two-speed gear and free engine.

E. MARSH.

EXPERIENCES WANTED.

"W. A. M." would be glad to learn if any readers have converted a two engine Quadrant tricar into a one engine twin-cylinder machine; if so what structural alterations were made, and what form of two-speed gear employed?

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

Watawata

LONDON:
W. B. BROOKE
 318, King Street,
 HAMMERSMITH.

THE BELT WITH A BULLDOG GRIP.

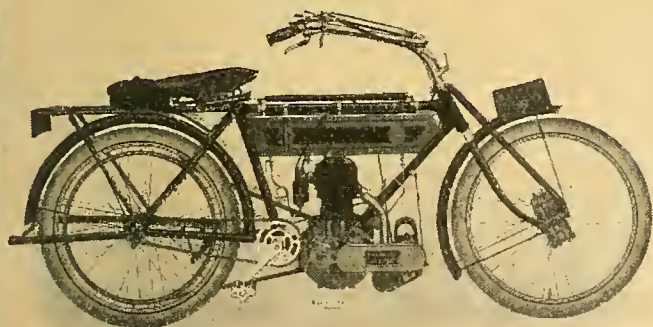
The Watawata never slips or slackens, but, if rightly cared for, holds with an iron grip, extracting from your machine every ounce of driving power it is capable of. It is constructed in a most ingenious manner of carefully selected material and serves its purpose longer and better than any other belt can possibly do.

Write Dept. B.
O. & W. ORMEROD, Ltd.,
 ROCHDALE.



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3½ h.p. MOTOR CYCLE



will be their Standard Pattern for the ensuing season. Whilst retaining the special features in engine and frame construction for which it has been celebrated for five years, it will also have several detailed improvements. Ball bearings to mainshaft, improved silencer and tank, Bosch magneto ignition, low built frame with long wheelbase, and spring fork attachment.

Price £46.

BRADBURY & CO. LTD. wish to remind you that the motor is made at their works; that it has several special features and advantages over any other type; that all parts are standardized, and when replacements are required they can be obtained promptly and at reasonable prices. Foreign makers cannot offer you as good a machine or the same advantages.

THE BRADBURY HAS BEEN AWARDED 17 GOLD MEDALS IN RELIABILITY TRIALS.

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MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve. All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or sent to London (20, Tudor Street, E.C.), the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
North Lancashire.

SECTION III.
North Yorkshire, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Lincolnshire, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Suffolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Hereford, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Oxford, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.
Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Dorset, Devon, Dorset, and Cornwall.

SECTION X.
Ireland.

SECTION XI.
Ireland and Isle of Man.

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and avoid vain regrets. IF YOU DESIRE EARLY DELIVERY OF YOUR **1909 TRIUMPH, 1909 PREMIER, 1909 REX, 1909 N.S.U.** or any other **FIRST GRADE MOTOR CYCLE, YOUR ORDER SHOULD BE PLACED NOW WITH THE PREMIER MOTOR CYCLE AGENCY,** or you will have to wait long for your turn. A liberal allowance on your old machine.

SHOP-SOILED and SECOND-HAND SINGLE CYLINDERS.

TRIUMPH, 1908 (October,) with costly extras and spares, as new	£47 10
TRIUMPH, 1908, Palmer back tyre and other extras accessories, perfect	£35 0
TRIUMPH, 1908, very good order	£32 0
TRIUMPH, 1907, delivered June 1908, new cylinder and piston, overhauled	£28 0
TRIUMPH, 1906, magneto, perfect order	£23 0
TRIUMPH, 1905, accumulator, no faults	£18 0
ROC, 1908, two-speed, magneto, 4 h.p.	£33 0
N.S.U., 1908, magneto, 3½ h.p., shop-soiled, £40 machine	£30 0
N.S.U., 1907, spring forks, Roc two-speed gear	£28 0
REX DE LUXE, 1908, two-speed, 3½ h.p., shop-soiled	£35 0
VINDEC two-speed, 1907, magneto, perfect ..	£26 0
ROC, 1907, magneto, clutch, spring forks ..	£19 0
WARWICK, 1908, shop-soiled, two-speed, clutch, magneto, spring forks, £50 machine ..	£31 0
QUADRANT (Birm.), 3½ h.p., spring forks ..	£15 0
SINGER, 3 h.p., magneto, belt drive, Mabon clutch, perfect order	£15 0
ASTER, spring forks, Longuemare carburetter, tyres sound, good order	£9 0
WHITLEY, 3 h.p., spray carburetter, girder forks	£5 10
B.S.A. M.M.C. engine, 3½ h.p., Druid forks, Lomax band, grand condition	£11 0

TWINS.

N.S.U., 1908, magneto, 4 h.p., shop-soiled, £50 machine	£39 0
BROWN, 1908, shop-soiled, 5½ h.p., two-speed, Palmer tyres, cost over £67	£45 0
ROC TWIN, 5 h.p., magneto, clutch, show model, done 300 miles, perfect	£30 0
N.S.U., 1907, 6 h.p., magneto 2½ in. tyres, perfect order	£28 0
ROC, 5 h.p., Peugeot engine, magneto, clutch ..	£22 0
KERRY, 5 h.p., two-speed	£16 0
REX TOURIST, 5 h.p., magneto, spring forks ..	£25 0
REX, 5 h.p., spring seat, spring forks	£17 0
MILLS & FULFORD SIDECAR, shop soiled, Palmer cord 2½ in. tyre	£9 10
RENETTE TWIN, 9 h.p., two-speed, three-seater pump circulation, perfect order ..	£45 0

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BINOTE. TRINOTE.
BETTER THAN THE ORDINARY HORN,

because their sound carries twice as far and is less offensive—more musical.



7/6. 10/-.

PREMIER TUBULAR CARRIERS
fit ALL makes of machines. 8/6

Approval.
PREMIER TUBULAR STANDS, 7/6.
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Telephone 4,310. Telegrams: "Primus, B'ham."

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For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Little and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

N.S.U., 5½ h.p., fast machine, splendid climber, condition guaranteed as new, 2½ tyres and belt, both new, numerous spares, including new cover; bargain at £25. —No. 1,168, The Motor Cycle Offices, Coventry.

6 h.p. N.S.U., guaranteed perfect, enamelled white, two-speed, magneto, Palmer cord on back, splendid hill-climber, also Millford castor wheel sidecar; £50, or separate; machine was delivered in February. — No. 1,296, The Motor Cycle Offices, Coventry.

ENGINEER, on being presented with car, would sell his 7-8 h.p. 1908 Minerva, special Sinms-Bosch magneto, spring forks, free engine clutch a. 1 hub starting, lamp, horn, and all tools, ready for the road, and not done 500 miles; cost £66, take £43; experts invited.—Pike, 6, Beech Grove Road, Newcastle-on-Tyne.

SECTION II.

York and Lancashire.

23 h.p. Minerva, M.O.V.; sacrifice £8 10s.—Ince, 392, Halliwell, Bolton.

BAT, 4½ h.p., spring frame, new tyres, starting handle, perfect: £16. — Dudley, Wadsley Bridge.

STOCKPORT.—1908 Triumph, handle-bar control, magneto, only run 1,200 miles; bargain, 34 guineas.

STOCKPORT.—1907 Triumph, magneto, in splendid running order, beautiful machine; 24 guineas.

STOCKPORT.—If you want a cheap, second-hand Triumph, don't miss our stock.

STOCKPORT.—A 3 h.p. magneto Fafnir, three speed; for £15; what next? Perfect condition.

STOCKPORT.—Sole northern concessionaires for the new Corah lightweight; the British built practical lightweight; ample power, minimum weight.

STOCKPORT.—Now is the time to place your order for the new model Midget Bicar for prompt delivery; many detail improvements. The wet weather machine. —Sole northern concessionaires, Lund and Sergeant, Prince's Street, Stockport.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

2 h.p. Brown, just overhauled; no reasonable offer refused.—175, Villetta Road, Acton Vale, W.

N.S.U., 3½ h.p., magneto, guaranteed perfect; £18, or what offers?—H., 1, Church Road, Hampstead.

3 h.p. Genuine Werner, 26 wheels, low build, and fast; £9 10s., or nearest.—478, High Road, Tottenham.

1907 Twin Rex, splendid condition, very reliable; £17 cash.—Rotom, 9, Cannon Place, Hampstead.

3½ h.p. Rex, engine overhauled, new back tyre; bargain, £6 10s.—Hampson, 15, West Street, Pimlico.

4½ h.p. Excelsior, Coventry, excellent condition; great bargain. — Austin, Friars Lane, Richmond.

3½ h.p. Rex, new condition, all accessories, splendid bargain; £14.—64, Bassett Road, Notting Hill, W.

KERRY, 2½ h.p., easy starting, splendid engine; cheap, £11.—Apply, A. E. Davin, 122, Warwick Street, S.W.

6 h.p. Twin Bat, Jap engine, spring back and front; £25.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

2½ h.p. Vindec, magneto, reliable machine, good condition, accessories; £13.—9, Mortimer Road, Kensal Rise.

F.N., 2½ h.p., Chater-Lea, new tyres, low, perfect.—Letters, Sparrow, 59, Camberwell Grove. Quick sale, £10 10s.

MINERVA, 3½ h.p., M.O.V., footboards; sacrifice £8 10s., no offer.—Confectioner, 12, Kew Bridge Road, Brentford.

£10.—3½ h.p. Centaur, splendid condition, running order; trial given.—Kew, 160, Manor Park Road, Harlesden.

3½ h.p. White and Poppe Chater-Lea Cycle and forecar, Longuemare.—N. Vores, 170, Romford Road, Forest Gate.

3½ h.p. Triumph, three months old, practically new; £30; after 7 p.m., or letter.—24, Airedale Avenue, Chiswick.

MOTOSACOCHE, 1908, magneto, spring forks, perfect condition; £20.—Tucker, 191, Upper Thames Street, London.

3½ h.p. Excelsior, very powerful, will take sidecar anywhere; £10 15s., or nearest.—198, High Road, Wood Green.

If you want bargains in second-hand motor cycles, you can get them at Wauchope's, 9, Shoe Lane, Fleet Street, London.

2½ h.p. Minerva, 1908, only three months old, two accumulators, horn, etc., like new; £20.—785, High Road, Leytonstone.

BEST offer over £10 has my 3 h.p. Roc, free engine, magneto, Brooks B100; got Triumph.—85, Finsbury Park Road, N.

5 h.p. Twin Sarolea, Chater frame, long bars, torpedo tank, footrests; £14, or offer.—224, Wood Street, Walthamstow.

2½ h.p. De Dion Bat, Phoenix two-speed gear; £12 10s., great bargain.—At Wauchope's, 9, Shoe Lane, Fleet Street, E.C.

3½ h.p. White and Poppe, 2½ in. Palmer cord tyres, spring forks, good condition; £12.—Gould, 10, High Road, Chiswick.

2 h.p. Minerva, just overhauled and re-bushed, new belt, spares; £7 10s.—Whitbourne, 613, Kingston Road, Raynes Park.

3 h.p. Ariel, latest model, in running order; any inspection; £8 10s. 6d.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

6 h.p. Twin N.S.U., magneto, free engine, two-speed gear, spring forks, 2½ tyres, almost new; £25.—26, Anhalt Road, Battersea.

3½ h.p. 1908 Magneto Triumph, perfect, as new, handle-bar control; £36.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

2½ h.p. Scout, low saddle, fast, powerful, very reliable, smart, and light machine; £10.—86, Colvestone Crescent, Dalston, London.

TRIUMPH, 1908, Mabon clutch, Shamrock-Excelsior back, Riche's tube, Auto-clipse lamp, handle-bar mirror, absolutely as new; cost £58, price £40; buying car; seen by appointment.—C.W., 16, Lewin Road, Streatham, S.W.

1907 & 1908 Models.

Special Clearance Offers.

COMPARE PRICES.

MINERVA, 2½ h.p., spring forks, magneto, '08	£22 0
MINERVA, 4½ h.p., spring forks, brand new, '08	£33 0
MINERVA, 3½ h.p., spring forks, brand new, '08	£27 0
MINERVA, 3½ h.p., spring forks, new, '08, magneto	£32 0
MINERVA, 7-8 h.p., '08 model, brand new	£36 0
MINERVA, 7-8 h.p., '08, run 500 miles	£31 0
MINERVA, 4½ h.p., '08, like new throughout	£23 0
MINERVA, 3½ h.p., vertical, 26 in. wheels	£14 0
REX, 5 h.p., magneto, spring forks	£22 0
QUADRANT, 3½ h.p., 26 in. wheels, spring forks	£18 0
ANTOINE, 5 h.p., '07 model, 26 in. wheels	£20 0
MOTOSACOCHE, '08, accum. ignition, new	£20 0
REX, 2½ h.p., '08, magneto	£17 0
REX, 5 h.p., '08, two speeds, magneto	£21 0

Cash or Exchange for above.

50/- DOWN AND 5/- WEEKLY SECURES	
REX, 3½ h.p., vertical engine	£8 10
MINERVA, 2 h.p. M.O.V., spray	£3 0
HUMBER, 2½ h.p., splendid condition	£10 0
WERNER, 3½ h.p., twin	£13 0
MINERVA, 3½ h.p., 26 in. wheels	£10 0
QUADRANT, 2 h.p., good condition	£7 0
JAP, 2½ h.p.	£8 0
WERNER, 2 h.p.	£9 0
BRADBURY, 2½ h.p., spray, a beauty	£9 0
BRADBURY, 2 h.p., vertical engine	£7 10
EXCELSIOR, 3 h.p., very good tyres	£10 0
SINGER, 2 h.p., magneto	£8 0
REX, 3½ h.p., 1905, 26 in. wheels	£13 0
PHENIX, 2½ h.p., good tyres	£8 0
HUMBER, 2 h.p., splendid condition	£8 0

CASH OFFERS WANTED

ANTOINE, 5 h.p., twin, 1907 model	£20 0
SAROLEA, 5 h.p., twin, spring forks	£20 0
MABON, 3 h.p., high tension magneto	£14 0
REX, 5 h.p., twin, 1906 model	£18 0
F.N., four-cylinder, magneto	£18 0
CLYDE, 3 h.p., magneto	£10 0
REX, 3½ h.p., 1906, footboards	£15 15
MINERVA 3½ h.p., 26 in. wheels	£14 10
TRIUMPH, 2 h.p. Minerva engine	£8 10
CLARENDON, 3 h.p., Peter Unions	£9 0
GIVAUDAN, 3 h.p.	£15 0
QUADRANT, 3 h.p., spray	£12 0
SINGER, 2 h.p., open frame, magneto	£6 0
F.N., 2½ h.p., splendid machine	£10 0
ARIEL, 3 h.p., brand new	Offers
ARIEL, 2½ h.p., lightweight, 1908, new mag.	£33 0

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REXETTE, 8-10 h.p., two speeds and reverse; a perfect article	£60 0
MINERVA Pat. 3½ h.p., spray, good tyres	£16 0
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Let us quote you for 1909 models. Any make on the market, and practically instant delivery.

ALL MOTO-REVES and MINERVAS Stocked. Also Mills and Fulford Sidecars.

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These are a specially heavy quality, made especially for us, to give long life, and are all sent on three days' approval. We only ask you to try one on an approval.

26×2 in. 5/6	26×2½ in. 7/6	28×2½ in. 7/9
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You cannot do better than try one. Money returned IN FULL if not perfectly satisfactory.

26×2 in. 7/6	26×2½ in. 8/3	28×2½ in. 7/9
26×2½ in. 7/9	28×2 in. 7/6	28×2½ in. 8/3

ALBANY BELTING.—3 in. 7d., 4 in. 8d., 5 in. 9d. 1 in. 10d. per to t. Approval. Immediate delivery.

MAUDE'S MOTOR MART, Powell St., HALIFAX

The fair factors (behind the Victoria Hall). National Telephone 433 day, 904 night.

MOTOR BICYCLES FOR SALE.

If You Want good bargains in second-hand or new motor cycles you cannot do better than come to 5, Heath Street Motor Works, Hampstead.

HAMPSTEAD.—3½ h.p. 1908 Triumph, magneto, and spring forks, run 900 miles only; £32; guaranteed.

HAMPSTEAD.—3½ h.p. 1908 handle-bar control Triumph, magneto, and spring forks; only £30.

HAMPSTEAD.—3½ h.p. 1908 Triumph, like new; only £35; with all accessories, guaranteed.

HAMPSTEAD.—Book your orders for 1909 Triumph, or other makes. We allow good price for your old ones; high prices given for Triumph part payment.

HAMPSTEAD.—Two F.N.'s, 1½ h.p., 1908, lightweight, new condition, magneto, and spring forks; £18 and £20.

HAMPSTEAD for new machines, F.N.'s, 5-6 h.p., late models, from stock; exchanges entertained; £30 allowed on old ones.

HAMPSTEAD. — 1908 Lightweight N.S.U., magneto, only shop-soiled; £18, with all accessories.

HAMPSTEAD.—3½ h.p. N.S.U., late model, magneto, new condition, guaranteed perfect; only £15.

HAMPSTEAD. — Sole agents for Griffons, Triumphs, Vindecas, Minervas, F.N.'s, N.S.U., Browns, Rexes, and Rocs. We allow £10 upwards for your old machines, any condition, in part payment for new models, any make. Write, call, or telephone, 2678, P.O.—Motor Works, 5, Heath Street, Hampstead.

KERRY, twin, 5 h.p., Chater frame, free engine, bargain, £14; also Otto rear speed gear, £4, new.—309, Brighton Road, Croydon.

1908 4 h.p. Antoine Motor Cycle, Chater sidecar, and all accessories, nearly new; must sell; £25 lot.—66, Grand Parade, Harringay.

TRIUMPH, 1908, absolutely perfect, full outfit, spares, and extras; any hill test; £37.—Write, M.D., 18, Devonshire Road, Bexley Heath.

£27.—4 h.p. magneto, twin, winner A.C.U. tourist handicap, fast, quiet, and reliable.—Aldington, 59, Haydon's Park Road, Wimbledon.

4 h.p. Antoine, very good running order, new back tyre, footrests, good climber, comfortable.—Stevens, Ewell Road, Tolworth, Surbiton. £15.

MINERVA, 2½ h.p., spring forks, low, sound, perfect, fast, absolutely reliable; £13.—R. Hoffman, 61, Chiswell Street, Finsbury Square, London.

3½ h.p. Triumph, 1909, not ridden 500 miles; can be seen at 19, Hays Mews, Mayfair, London; in perfect condition, Millers lamp, horn, etc.

3½ h.p. Rex, in perfect order, £6 10s.; also 2½ h.p. Singer, magneto, £5 10s.; 2 h.p. Werner, £4 10s.—H., 112, New King's Road, Fulham.

2 h.p. Minerva Bike, engine, tyres, good condition, lamp, horn, two accumulators, stand, spare belt; £10.—Thomas, 95, Hill Street, Peckham.

2½-3 h.p. Clyde, spring forks, engine just overhauled, in perfect running order; £10 10s.; no time to ride.—M. Langridge, 7, Bodney Road, Hackney, London.

3½ h.p. 1907 Triumph, fitted with Mabon free engine clutch, handle-bar control, in perfect order; £28.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

2½ h.p. F.N., lightweight, just re-enamelled, splendid little machine, low built, comfortable, magnificent goer; £9.—Motorist, 7, Bodney Road, Hackney, London.

6 h.p. Roc, J.A.P. engine, Phelon and Moore two-speed gear, ideal machine for passenger work; £22; rare opportunity.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

TRIUMPH, 1908, and rigid sidecar (cost £12), new July, good order, lamps, horn, unpunctured; £42, or separate.—Triumph, Earl's Court Garage, adjoining station, London, S.W.

MOTOR BICYCLES FOR SALE.

5 h.p. Vindec Special, magneto, Truffault spring forks, powerful machine for sidecar work; £27 10s.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

TRIUMPH Motor Bicycles for 1909.—Second-hand machines taken in part exchange, good prices allowed.—Agents, The Hulbert-Bramley Motor Co., 96, Upper Richmond Road, Putney.

31 h.p. Rex, very low, two belts, two accumulators, Clinchers, Longuemare, excellent condition; £14, bargain.—Driver, 2, Calverley Stables, Tunbridge Wells.

VINDEC Special, 5 h.p., 1908, Truffault spring forks, rubber studded non-skids, condition as new; only wants seeing; £35.—Bond, 349, West End Lane, London, N.W.

1907 Magneto Rex, 3½ h.p., 1908 finish, excellent condition, takes sidecar, magnificent hill-climber, thoroughly reliable; £18.—Motor, 9, French Place, Shoreditch, London.

4 h.p. Antoine, M.O.V., Chater No. 6 frame, long handles, plated rims, with coach-built sidecar, as new; bargain, £17 10s., or will separate; photo.—237, Hertford Road, Edmonton.

5 h.p. Twin Kerry (1907 engine), perfect running order, low, powerful, footboards, thoroughly reliable, splendid machine for sidecar work; £14.—17, Kenmore Road, Hackney, London.

TRIUMPH Motor Bicycles for 1909.—Second-hand machines taken in part exchange, good prices allowed.—Agents, The Hulbert-Bramley Motor Co., 96, Upper Richmond Road, Putney.

31 h.p. T.T. Matchless, J.A.P. automatic carburetter, and variable pulley, thoroughly tuned up, climb anything; genuine bargain, £33.—C. R. Collier, 116, Griffin Road, Plumstead, S.E.

F.N., 2½ h.p., magneto, handle-bar control, splendid order throughout, numerous improvements, exceptional equipment; hill test given; £15.—Write, M.D., 18, Devonshire Road, Bexley Heath.

DE DION, 2½ h.p., Chater No. 6 frame, torpedo tanks, light, magnificent condition, new two months ago; expert inspection invited; £16 10s.—Green, 14, Avondale Road, Peckham, S.E.

3 h.p. Quadrant, spring forks, excellent condition, powerful, light, neat machine, splendid order; £10 10s.; seen after 8 evenings.—Motorist, 29, Casterton Street, Mare Street, Hackney, London.

1908 Rex de Luxe, 5 h.p., twin Roc clutch, magneto, not run 500 miles, guaranteed faultless; £30; lower power and cash considered; seen by appointment.—F. Hart, 2, Verulam Street, Holborn.

1907 3½ h.p. Triumph, absolutely new condition, 1908 adjustable pulley, Goodlad's speed indicator just fitted, headlight, registration, and spares; £30.—Lieut. Fyfe, Army Service Corps, Woolwich.

MINERVA, 2½ h.p., B.S.A., Amac carburetter, 26in. wheels, low, Palmer cord and Continental tyres, long handles, Dioptric lens lamp and accessories; £10.—172a, Loughborough Road, Brixton, London.

F.N., 1908, 5-6 h.p., magneto, Wright's footrests, with Mills-Fulford castor wheel sidecar, spares, lamp, horn, etc., the lot nearly new; accept £50.—Capt. Smith, Crown and Anchor, Paul Street, Finsbury, E.C.

TRIUMPH Motor Bicycles for 1909.—Second-hand machines taken in part payment, good prices allowed.—Agents, The Hulbert-Bramley Motor Co., 96, Upper Richmond Road, Putney.

1908 Twin Vindec, magneto, Truffault spring forks, variable pulley, Shamrock rubber-studded tyre, horn, bag, tools, absolute new condition, guaranteed ridden 1,000 miles; £32 10s.—186, South Lambeth Road.

4 h.p. Centaur, as new, free engine, handle starting, chain drive, accessories, price's stand, hardly any wear on tyres, smart and low; £18 10s., absolute bargain.—Motorist, 86, London Road, Kingston, Surrey.

1903 h.p. Minerva, 1907, two belts, Advance adjustable pulley, new Goodrich studded tread on back tyre, all accessories, equal to new, very little ridden; cost £30, accept £15 10s. cash.—Layzell, Ockendon, Essex.

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your money by paying list prices. We are the largest dealers in Rex machines, and have the following to clear, to make room for 1909 models. Write for list. You can save pounds.

Shop-soiled—UNRIDDEN—Guaranteed.

1908 3½ h.p. magneto REX, ball bearing engine; list price £39 18s. . .	£27 10
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Brand new 1908 TWIN REX, magneto, ball bearing engine, cash offers or exchange.

5 h.p. Twin VINDEC, magneto, Truffault . .	£29 10
5½ h.p. Twin REX, spring forks, black finish . .	£18 18
5 h.p. Twin ZENITH BICAR	£20 0
Twin-cylinder FAIRY, very smart	£15 0
6 h.p. Twin REX and sidecar	£20 0
Twin KERRY, Chater Lea, with Sidecar . . .	£22 10
5½ h.p. Twin REX, magneto, 1907	£22 0
4-5 h.p. Twin ALCYON, N.S.U., two-speed . .	£20 0
5 h.p. Twin SAROLEA, long frame	£18 18
6 h.p. Twin ANTOINE, R.O.M. ignition . .	£22 0
6 h.p. Twin ANTOINE, spring forks	£22 0
Four-cylinder F.N., guaranteed	£19 19

Six 1907 5½ h.p. REX DE LUXE, Roc clutch, magneto, twin tyre, spring forks, spring seat, handle starting. Best sidecar machine on the market. £27 10s. Guaranteed.

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3 h.p. GIVAUDAN, nearly new, very low	£16 0
3 h.p. QUADRANT, spray, spring forks . .	£13 0
3 h.p. LLOYD'S, 26×24in. Palmers	£13 10
4 h.p. ANTOINE, vertical, M.O.V., spray	£16 0
2½ h.p. MINERVA, fine condition, M.O.V.	£13 10
3 h.p. CLYDE, magneto, vertical, spray . .	£15 0
4 h.p. ANTOINE, 26×24in. tyres	£16 10
3½ h.p. CENTAUR, free engine, M.O.V. . . .	£16 0
2½ h.p. F.N., special frame, reliable	£12 10
3 h.p. HUMBER, spray, good climber	£10 10
3½ h.p. REX, 22in. frame, trembler coil . . .	£11 10
2½ h.p. MINERVA, 26×24in., spray, vertical	£11 10
3 h.p. BROWN, spray, guaranteed	£12 10
4 h.p. ATELIER, long bars, low saddle . .	£13 10
3½ h.p. EXCELSIOR, spray, trembler coil	£10 10
2½ h.p. COVENTRY EAGLE, vertical spray	£10 0
3½ h.p. Two-speed REX, suit sidecar	£13 10
2½ h.p. F.N., light, low, smart appearance .	£12 0
2 h.p. CLEMENT, very low, good order . .	£11 0
2½ h.p. KERRY, spray, low, reliable mount	£10 10
2 h.p. RALEIGH, spray, smart	£8 0
2½ h.p. ROYAL, vertical, spray, trembler coil	£7 15
2½ h.p. HASKARD, spray, smart	£11 10
1½ h.p. MINERVA, spray, suit light rider . .	£5 10
2½ h.p. EXCELSIOR, trembler coil	£8 0
2 h.p. HUMBER, chain drive, trembler coil	£6 10
2 h.p. PEUGEOT Lightweight, smart	£9 10
4 h.p. CORONET, M.O.V., tyres as new . .	£16 0
2½ h.p. PEBOK, free engine, little used . .	£10 19

£8 3½ h.p. Rex, spray, 22 frame, trembler coil, aluminium finish. Guaranteed. Spot cash only.

Brand new 1908 3½ h.p. REX, magneto, ball bearing engine. Cash offers or exchange.

1908 3½ h.p. REX, 2-speed, shop-soiled	£31 10
1908 MOTOSACOCHE, splendid condition . .	£19 10
1908 N.S.U. Lightweight, magneto	£19 10
1907 3½ h.p. Magneto REX, spring forks . . .	£19 10
4 h.p. Magneto ROC, Roc clutch, very low . .	£24 0
3 h.p. TRIUMPH, magneto	£24 10
3 h.p. TRIUMPH, spring forks	£21 0
3 h.p. SINGER, belt drive, HT magneto . .	£20 0
3½ h.p. MINERVA, H.T. magneto	£13 10
3½ h.p. Magneto REX Racer, a flier	£25 0
3½ h.p. 1906 REX, spring forks, long bars . .	£15 10
3½ h.p. MINERVA, M.O.V., vertical, spray . .	£16 10

Extended payments to suit all requirements.

TRICAR, chain drive, Bowden 2-speed, less engine and tyres £6 10

Gnawiter Rubber and Canvas Belting.

3in. 10d., 1 1/1, 3in. 1/4, 1in. 1/9 per foot.

3/- allowed for old belts

New 24×2½ RICHES Tubes, 7/- each.

The Halifax Motor Exchange,

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MOTOR BICYCLES FOR SALE.

TRIUMPH, 3½ h.p., nearly new, winner of Essex Hill-climbing Contest, two new spare belts and tubes; £29; must sell, 1909 ordered.—170, Pentonville Road, London.

6 h.p. 1907 N.S.U., magneto, spring forks, 650 by 65 Palmer and Shamrock, footboards, long handle-bars, stand and carrier, spares, tools, etc., perfect condition, £45; spare Palmer cord, £2.—R. Habin, 35, The Hornet, Chichester.

1907 Genuine Rex, 3½ h.p., very low built, splendid hill-climber, take sidecar anywhere; 16 guineas; complete with lamp, hooter, all accessories; ready for any journey.—Pembroke House, 22, The Avenue, Bruce Grove Station.

4 h.p. Antoine, in Chater-Lea, Longuemare, trembler, Fuller accumulator, Simplex, Dermatine, Dunlop and Continental (perfect), acetylene headlight, accessories, fast, good condition; £12 12s., bargain.—"Swift," Northolt, near Southall, Middlesex.

1907 6 h.p. Twin Rex de Luxe, double back tyres, low frame (as latest pattern), spring forks, Cantilever spring seat, everything in absolutely new condition, not done 500 miles, climb anything with sidecar; £22.—Motorist, 86, Colvestone Crescent, Dalston, London.

PACKED in Crate, not ridden since enamelled.—Genuine long low Chater-Lea-Minerva, 3½ h.p., polished brass tanks, in clinking condition, spares, accumulator, as new tyre, new belt, new valves and springs, stand-carrier, lamp, and plugs.—S. Butcher, Dunmow, £15.

5 h.p. Peugeot, magneto, Mabon clutch, Chater No. 6 frame, Davison tanks, 2½in. Palmer cords, handle-bar control, Gloria belt, spare Riche tubes, low, fast, and reliable; £32; owner emigrated.—Beeston, 2, Lowndes Court, Carnaby Street, Regent Street, London.

1908 N.S.U., magneto, 3½ h.p., practically brand new throughout, not ridden 200 miles, Shamrock rubber studded cover, spare tyre, spares for engine and magneto, full kit, one of the best; £33, genuine bargain.—Hoffman, 60, Chiswell Street, Finsbury Square, London.

1908 Triumph, standard model, excellent condition, very little used, Brooks saddle, B105, Goodrich tyre, non-skid back, horn, spares, all tools, numbers, Smith-Peace variable pulley, free engine clutch, also Triumph pulley; £33 10s.—Jones, 119, South Lambeth Road, London.

1908 F.N. Lightweight, hardly used, exactly same as machine at Stanley Show, all latest refinements, including spring footrests and forks, magneto ignition, very powerful, fast and reliable, ideal winter mount; price, including all accessories, £25.—S. Harris, 41, Albert Road, Stratford, E.

ROC 1908 Military Model, 4 h.p., two-speed free engine, magneto, Autoclipse lamp and Mills-Fulford sidecar, quantity tools, spares, including two tyres, three belts, accident and third-party insurance policy; £40, accept reasonable offer, or would sell separately.—H.E.C., Ingledell, Guilford Avenue, Surbiton.

31 h.p. Brown Engined Chater-Lea, No. 6, fitted magneto and accumulator, built to order, cost over £50, only used trial runs, guaranteed speed 50 miles per hour, smart machine, a sensation of the road, £30, full particulars and photo sent; sidecar for same, £5; giving up motoring.—Jeweller, 331, Barkington Road, East Ham.

31-33 h.p. Motor Cycle, very powerful, climb almost anything, engine and everything in splendid condition, except tyres, which are rather worn, very low built, Advance adjustable pulley, also upholstered sidecar, good condition; seen and tried any time; sell lot 12 guineas, or will divide; must sell.—Mead, draper, Croyley Green, Herts.

1908 5½ h.p. N.S.U., with N.S.U. two-speed gear, complete with new tyre back wheel, and spare unused re-covered tyre, tools, lamp, spares, etc., B. and B. handle-bar controlled carburetter, also Montgomery No. 1 Modele de Luxe sidecar, hardly used, with spare basket, all in perfect condition; owner buying car; great bargain, £40. Can be seen and tried Sycamores, Harpenden, Herts.—Apply, Gouldesborough, 24, Bessborough Gardens, S.W.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

CARS FOR SALE.

WOLSELEY, 12 h.p., hood, lamps, etc., carry five, good going order; £40.—S. Vale, Walsall.

8 h.p. De Dion Regal, three speeds and reverse, any trial; £53.—82, Shardeloes Road, Brockley.

18-24 h.p. Belsize, four-cylinder, side entrance, screen, hood, five lamps, Stepney, splendid condition; £145.—Below.

24 h.p. Mutel, four-cylinder, tonneau, pressed steel, perfect order; bargain, £80.—Below.

10 h.p. Panhard type, two-cylinder, tonneau, three speeds, reverse, fine running order; £36.—Below.

6 h.p. Swift, De Dion, two-seater, hood, smart doctor's runabout; £50.—Below.

6½ h.p. Clyde, two-seater, Aster, nearly new; a bargain, £45.—Below.

6½ h.p. Darracq, tonneau, three speeds, reverse, cardan, very reliable; £24.—Below.

3½ h.p. Rex Bike and Ariel sidecar, Palmers, scarcely used; bargain, £16.—Below.

10-12 h.p. Peugeot, tonneau, honeycomb, two ignitions, hood, fine order; £80.—Eclipse Eng. and Motor Co., 255, Earlsfield Road, Wandsworth. Phone, 1,135, Putney.

10-12 h.p. Humber, side entrance; £75, or offer.—Ayden Bros., 17, Blackstock Road, Finsbury Park, N.

9 h.p. De Dion-Prunel, detachable tonneau, hood, screen; £58; part exchange considered.—98, Potternewton Lane, Leeds.

20 h.p. Simms-Welbeck, four cylinders, side entrance, seats five, in perfect order; £120; smaller car taken in part payment.

10-12 h.p. Aster, two cylinders, three speeds and reverse, tonneau body, seats five, just been overhauled; £65.

9-11 h.p. Korte, two cylinders, three speeds and reverse, tonneau body, seats five, in perfect order; £45.

6 h.p. Car, De Dion engine, three speeds and reverse, Cape cart hood, and wind screen, tonneau body, seats five, in good running order; £55.

8 h.p. Korte, two-seater, new tyres, a smart little car; £20.

12-16 h.p. M.M.C. Delivery Van, carries 15 cwt., two cylinders, pneumatic front and solid back tyres; £40.—63, Kirkstall Road, Leeds.

14 h.p. Duryea, seats five, sound; cash offer, or exchange two-seater.—Rogers, Upstreet, Groveferry.

6 h.p. Aster, two-seater, artillery wheels, three speeds; £25, or exchange.—24, Manning Road, Southport.

MUTEL, 25 h.p., very reliable; £60, accept cycle or tricar in part; appointment.—Dr. R. Wilson, The Ferns, Bushey Hill Road, S.E.

10 h.p. Rex Car, four-seater, in splendid order and condition; trial run; £47 10s.; tyres almost worth the money; cash wanted.—H. Washington, Middlewich.

GLADIATOR, 10-12 h.p. Aster engine, tonneau, seats five, lamps, etc.; £60; seen by appointment.—Chauffeur, The Cottage, Melbourne Lodge, Queen's Walk, Ealing.

DE DION 6½ h.p. Two-seater, three speeds, reverse, full set lamps, excellent condition; £60; take good twin magneto cycle part exchange.—Heathfield, The Avenue, Hitchin.

RENAULT Pattern Car, 12 h.p. De Dion engines, handsome tonneau body, splendid condition; £85 for quick sale; motor cycle part payment.—Motorist, 58, Hills Road, Cambridge.

18-23 h.p. Mercedes, side entrance, limousine, magnificent car; £220.—Below.

8-10 h.p. Ariel, twin-cylinder, tonneau, latest type; £55, exchange.—9, Parkholme Road, Dalston.

ROVER 8 h.p. Two-seater, in really tip-top condition throughout, good hill-climber and most reliable, wire wheels, full set of tools and spares, Alpha head lamp and Lucas side and tail lamps, electric horn, spare cover and tubes; trial run by appointment; £115 or near offer.—Box No. 1,209, The Motor Cycle Offices, Coventry. (P)

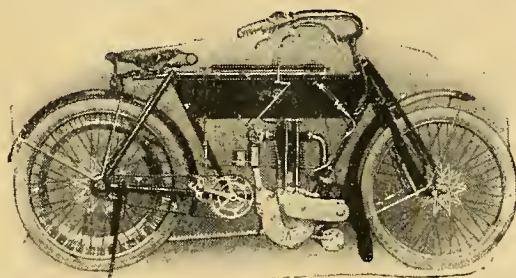
MATCHLESS MOTORS!!

LATEST SUCCESS ON
STANDARD 7-8 h.p. T.T. TWIN.

WORLD'S RECORD.

70 miles 105 yards in 60 minutes,

Brooklands, Oct. 8th, 1908.

**Tourist Trophy, 1907, First Tourist Trophy, 1908, Second**

158½ miles in 3 hrs. 57 min. 6½ sec. Bore 85, stroke 76 mm. Average speed 40 m.p.h., only ½ m.p.h. less than the winner, of 57000 cubic millimetres greater cylinder capacity. Beating 21 twin-cylinder machines from 3½ h.p. to 7 h.p., and 12 single-cylinder machines of other makes.

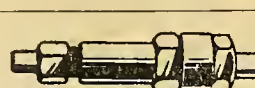
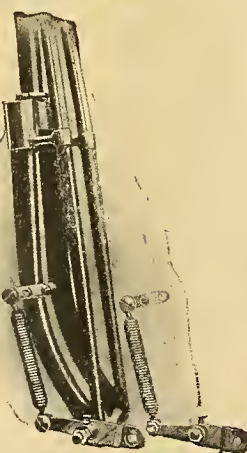
No. 1 pattern—Back Pedalling Brake. Machine can be wheeled backwards. Extremely powerful. Price 16/6, post 17/-.



No. 2 pattern—Footrest Brake, complete, price £1 7s. Footrests only, price 13/-, with either ½ in. or 1½ in. clip. Post 13/6.



No. 3 pattern—Foot Brake with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete, 16/6, post 17/-.

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No choked carburettors. 2/3, post 2 5.

MATCHLESS SPRING FORK ATTACHMENTS.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction.

15/6, post 16/-.

THE MATCHLESS SILENCER.

Up to 3 h.p., 10/-; from 3½ to 5 h.p., 12/- Cut out 5/- extra. Two connections for twins with separate exhaust pipes, 4/- extra.

NOTE.—70 miles an hour with a standard machine fitted with this silencer, proving absence of back pressure.

Catalogues of "Matchless" Motor Cycles and Accessories on application to

H. COLLIER & SONS, LTD.,

Motor Experts & General Engineers.

Offices and Showrooms:

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Telephone: 232, Woolwich.

CARS FOR SALE.

FORFEITED Pledge.—20-25 h.p. De Dietrich 130 guineas to realise immediately; including five lamps, spare tyres, etc.; examination.—Wade, Pawnbroker, Queen's Road, Peckham.

1908 Model 9 h.p. Riley, equal to new hood, electric lamps, £40 spent extras; sacrifice £100, allow outside value for first-class motor cycle.—Ernest Co Foregate Press, Worcester.

8 h.p. Regal Tonneau, M.M.C. engine, 1000 cc. chassis, Cape hood, Stepney, complete, spare tubes, new lamps, two generators, first-class running order; £50; an evening.—S., 7, Heath Mansions, Hampstead.

TWO-CYLINDER Darracq, long side entrance body, enclosed radiator, M valves, cardan shaft drive, three speeds and reverse, push pedals, splendid condition; £95.—Murray, 37a, Charles Street, Hatfield Garden, Holborn.

ROVER, 6 h.p., £150 model, new June, 1908 battery and magneto ignition, 700 cc. 85 Dunlops, unpunctured, special bodywork and springs, up-to-date, comfortable, reliable, and good condition; Warwickshire what offers—1,285, The Motor Cycle Office, Coventry.

8 h.p. Rover, two-seater, wire wheels, splendid condition, excellent hill climber, and very reliable, two horns, four lamps, spare cover and tubes, full of tools and spares; trial run with pleasure; £125, or near offer.—Box No. 1,164, The Motor Cycle Offices, Coventry.

ROVER Cars. — You never know what a skid means when you drive a Rover. Now the days of muddy roads are here and you not thinking of the pleasures that would be yours if you owned a car? Write us for the amount we will allow you your skiddy mount in exchange for a Rover at £135.—Louis Davis and Son, Moseley, Birmingham.

INSURANCE.

PLEASE send for full covering Motor Cycle Policy, from 19s. per annum.—Bass, Insurance Broker, Ongar.

INSURANCE Policies for motor cycles issued by Hugh J. Boswell, insurance broker, Norwich, at exceptionally low rates. Please write for particulars.

ACCUMULATORS.

HALIFAX—Premier, 10 amp., brand new to clear, 7s. each.—Motor Exchange, Westgate, Halifax.

13S. 6d., Castle Accumulator, cost 23s. 6d. 25 amp. hours, perfectly new, no owner.—B., 42, Crondace Road, Fulham.

ACCUMULATORS, guaranteed for one year non-corrosive terminals; 10 amp., 10s. 15 amp., 11s.; 20 amp., 12s. 6d.; send for particulars.—Tandy, Wellington Square, Creighton.

ACCUMULATORS Repaired promptly, and make; reasonable charges, best work estimates given; full value for your accumulator in exchange for our new "Mayfair" accumulators; special 15 amp. 10s. 6d.; 20 amp., 15s.; guaranteed one year.—Fellows, 49, Hertford Street, Mayfair.

ENGINES.

23 h.p. Fafnir Engine, new, unused, £2 10s. 24 h.p. engine, 30s.—H., 13, Foxmoor Street, Battersea.

23 h.p., De Dion engine and carburettor, good order; £3 10s.—17, Lander Road, E. Dulwich.

13 h.p. Minerva Engine, crankcases bush and new piston with rings; £2, nearest offer.—110, Bath Road, Cheltenham.

13 h.p. Minerva, equal to new, 50s.; 2 h.p. Clarendon, new, 50s.; 80 by 90 Ast water-cooled head, £5; approval.—Motor Accessories, Broad Street, Coventry.

DOUBLE-CYLINDER V Engine, 6 h.p., suitable for tricar, perfect condition, complete with carburettor, accumulator, exhaust box; £8 10s. cash.—115, Bouda Road, St. John's Wood.

BOOTH.—New 6 h.p. twin Antoine, £8 15s. 3 h.p. Simms, magneto, M.O.V., £5 10s. water-cooled 5 h.p. Antoine, M.O.V., new, 5s.; 5 h.p. Aster, w.c., £7 10s. — Booth Motories, Wade Street, Halifax.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

COUPLINGS.

D Coupler, very little used; cost £3, take £1.—87, Rathmines Road, Dublin.

RTY Coupler, for fixing push cycle to motor, brand new; 35s., cost £3 3s.—n, 10, Horton Road, Bradford.

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ON Contacts, registered 291-289, vastly superior to platinum; cures misfiring; ability and efficiency.

ON, best contact obtainable for mades, screws, cranks, rockers, plun- maguetos, coils.

ON, prices 2s. 6d. each rivet fitted; special trimmers for polishing Jebron, emittance with order ensures prompt on; write for particulars and testi- s; too numerous to publish.

ON, magneto screws, complete for Bosch magneto, DA2 and DAV, will fit breakers 5a, 5b, 5c; 5s. 6d. pair, old refitted with Jebron, 2s. 6d. each, no new.

ON, the King of Contacts, fitted per turn post; no delay; post free home road; liberal trade terms.

ON.—From the Inventor, J. Edwards Crown, 38, Herbert Road, Plumstead,

p. 1908 Genuine Quadrant Engine, quite new, perfect; £6 19s.—Farrar, Road, Halifax.

INUM Contacts, guaranteed pure, nothing better for blades, screws, mag- coils, etc., 2s. 6d. each rivet fitted, re- same day.—Watsons, Jewellers and um Workers, 10, Alexander Street, ater, London. Telephone, 3765, West-

TYRES.

ES, Covers, 26 by 2½, and others, from 2s. 6d.—Wauchope's, 9, Shoe Lane, E.C.

by 85 Heavy Clincher Covers, type 2, brand new, faultless goods; 37s. 6d. Farrar.

CHER Covers, beaded, new, unused, Clincher name on, 26 by 2, 17s. 6d.; 26 17s. 6d.; 26 by 2½, 23s.; 28 by 2, 23s.; al on receipt of P.O.—Farrar, Square Halifax.

y 2 and 28 by 2 Clincher Tubes, with valves; 5s. 3d. each, post free.—Farrar, Road, Halifax.

by 2½ New Beaded Clincher Pattern Cover, 17s. 6d.; Brevite plain coil, 10s. 23, May Street, Hull.

ES.—Great Reductions; best make, 26 y 2, 16s. 6d.; 2½, 17s. 9d.; 28 by 2, 17s. 2½, 18s. 6d.; approval.—Booth's.

ES, best make, 26 by 2, 6s. 6d.; 2½, 7s.; 3 by 2, 7s.; 2½, 7s. 6d.—Booth's.

UINE Clincher Covers, 26 by 2, 16s.; 5 by 2½, 17s.; maker's name on; appro- Booth's.

L Studded Covers, 57s. 6d.; Shamrocks, Woodriches; bargain list of tyres free. h's Motories, Wade Street, Halifax.

. by 2in. Palmer Cord Tyre, never used, sell, going in for 2½in.—Apply, l, cycle agent, Glasgow Road, Dum-

ELEYS (stamped) beaded edge tyres, brand new, 25s.; lines, all width, in 26 16s. each.—B. H. Davies, 116, Spa Road, ton Heath.

READING Motor Cycle Covers, plain, 1s. 6d.; fitted Shamrock-Excelsior 21s.—Ardea Company, 331a, King Hammersmith.

ERS, motor cycle, best quality, best value, beaded or wired edge, all sizes; tubes, 7s. 6d.—Universal Motor Tyre hestergate, Stockport.

ERS, Covers, brand new covers, by best makers; 650 by 65, 30s.; 700 by 85, 40s.; er sizes equally cheap; send for clear- list and save 50 per cent.—Garnham Co., Tyre Factors, Woodbridge Road, ch.



ACCUMULATORS

Does your present battery leak?

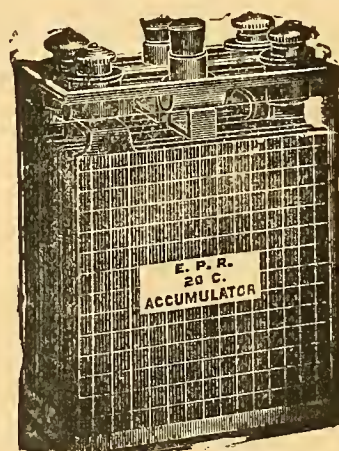
Does it ever run down unexpectedly?

Does it play you tricks and leave you stranded miles from anywhere?

If so, send it along to us and we will either make a thorough repair, or take it in part exchange for a new E.P.R.



E.P.R. No. 19c. 4 volt. 10-amp.
Price 10/6.
Size 2½ x 2 x 6in. (over Terminals).
Unspillable type 2/- extra.



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Price 14/6.
Size 4 x 2½ x 6in. (over terminals).
Unspillable type 3/- extra.

Our Batteries are especially suitable for Motor Cycles. Special Splash Proof Vents and Non-Corrosive Terminals are always fitted. The cases are exceptionally strong and well made, allowing for rough roads and jolting.

Special unspillable batteries made, all sizes stocked.

REPAIRS.—We make a speciality of treating old and damaged cells. All repairs guaranteed. Send for new list.

Richford and Co.,

ACCUMULATOR SPECIALISTS,
153, FLEET STREET, E.C.

REPAIRERS.

£5 any motor cycle we cannot repair.—White's, Brooks Alley, bottom Bold Street, Liverpool.

CRACKED Water Jackets of motors suc- cessfully repaired by Lea's metallurgi- cal process.—Lea and Son, engineers, Run- corn.

F.N. Motor Cycles and other makes over- hauled and repaired by expert special- ists at the F.N. Repairs Dept., Kelvin Road, Highbury, N.

MOTOR Repairs, car or cycle, promptly executed; any repairs undertaken from the simplest to the most difficult; special attention given to country orders. — Ed- munds, Conybere Street, Birmingham.

TO West of England Motorists. — Car and motor cycle repairs, prompt and reli- able; cylinders re-bored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Works, Bridgwater.

CCCCCCCC.—Compression means power; cylinder re-bored and new pistons fit- ted; guaranteed fit 4-1,000 inch. bears 13 stone on pedal; write for list.—Gradior Ma- chine Co., Compression Specialists, Stafford.

BIRMINGHAM.—Overhauling, cylinders re- bored, re-bushing, pulleys, valves, any make; frames cut down; accumulators charged and repaired; ideas carried out; prompt attention.—Priest and Williams, 66, Bishop Street.

WHO Said it Won't Go?—Send your cycle or car to the firm who are motor en- gineers, and capable of tackling the toughest job at very reasonable charges, consistent with good workmanship.—Sheppard's Motor Depot, 235, Trussley Road, The Grove, Ham- mersmith.

EXCHANGE.

3½ h.p. Ariel, for screw-cutting lathe.—Particulars, 10, North Street, Leek.

WILL give 18ct. gold watch and B.S.A. racer for motor cycle. — 785, High Road, Leytonstone.

2½ h.p. Werner, magneto, value £17 10s. 2½ for tricar, cash adjustment. — Real, draper, Bridgwater.

VINDEC Twin, magneto, nearly new, for Triumph, or sell.—8, Barrett Street, Manchester Square, W.

3½ h.p. N.S.U., for twin and sidecar, cash adjustment.—Box No. 1,237, The Motor Cycle Offices, Coventry.

EXCHANGE, 2½ h.p. De Dion-Bat, for lower power and cash, or sell £12.—17, Land- croft Road, E. Dulwich.

COLUMBIA 25 Guinea Graphophone for dis- posal; good motor cycle wanted, or motor goods.—Golby, Bailey.

A MERICAN Organ, 4 sets of reeds, walnut case, 11 stops; exchange motor cycle.—Stanton, Sedgley Road, Tipton.

UNITO Couplings, new, for small gas en- gine or dynamo, or sale.—Hill, Liver- pool Road, Hindley, Lancashire.

FORECAR, fit Chater frame, for differential axle, and two 26 by 2½ wheels fitted.—Mack, 33, Clipstone Street, London, W.

ARGYLL Car, 8 h.p., four-seater, gears as new, motor cycle and cash.—15, Shrub- land Road, Dalston, London. Sell £35.

2½ h.p. Minerva, low, racy, perfect; ex- change 1, 2, or four-cylinder motor cycle.—1,295, The Motor Cycle Offices, Coventry.

EXCHANGE 2½ h.p. De Dion, Chater-Lea, Palmers, for lightweight or push cycle and cash.—W., 4, Herbert Street, Plaistow, E.

PICTURES.—Pair by Van Hoffman, valued ten guineas each, for tricar or power- ful twin.—2, Boundaries Mansions, Balham.

2½ h.p. Singer, vertical engine, roller bear- ings, and heavy turning lathe, for higher power.—32, Winster Road, Owlerton, Sheffield.

EDISON £6 6s. Phonograph, 24 records, case, two trumpets, etc., excellent condition, and £3 for motor cycle.—70, Baddow Road, Chelmsford.

VINDEC Special, 5 h.p., two-speed hub, Pal- mer cord back, Truffault, for four- cylinder 5-6 h.p. F.N., or sell for £35.—Van- vestrant, Kettering.

EXCHANGE.

HANGE complete half-plate photographic outfit, value £30, for good motor or tricar. — Dunning, 12, Southcote London, N.W.

HANGE.—Cash offers, lower power, or push cycle and cash for 3½ h.p. Riley, condition. — Daws, 240, Albany Road, Erwell, London.

HANGE siren (acts on wheel), cost 17s. d., for back-peddalling belt rim brake: n back brake, all complete, 4s. — T. c, Bakery, Farnham.

HANGE, 3½ h.p. Rex, 4 h.p. Antoine, 3½ h.p. Minerva, and 3 h.p. Quadrant, level, 8 Triumph; Yorkshire.—Box 1,297, *The Cycle Offices*, Coventry.

BUILT Chater Lady-back Tandem, everything best; exchange motor cycle, h.p. engine and cash.—B., 306, Comal Road, Peckham, S.E.

HANGE 3½ h.p. Excelsior, Clinchers, ast, reliable, and lady-back Chater-Lea n, new Palmers, for 5-6 h.p. motor -39, Ruskin Road, Staines.

HANGE 6½ h.p. Orleans Two-seater Car, two speeds, perfect order, for tri- motor cycle and cash, or sell £20.— s, 4, Goldhawk Mews, Shepherd's Bush.

HANGE 3 h.p. Falcon motor cycle, low built, perfect, powerful, thoroughly e, for good pedal cycle and £8 cash. Colvestone Crescent, Dalston, London.

YPHONE 1d. in the Slot Musical In- strument, practically new; cost £16 16s., 8 tunes; a good motor cycle wanted change.—G. H. Jones, Talbot House, ld.

UTELY New Gent's Cycle, 28in. ame, N.D. coaster hub, double top accessories, for low power motor cycle, epairs not objected; approval.—4, Nor-oad, Reigate, Surrey.

HANGE Six Guinea Columbia Combina- tion Phonograph, 24 concert records, brass horn, also gent's 10 guinea Hum- ble, for motor cycle.—Stevens, 4 Gold- Mews, Shepherd's Bush.

HANGE for good motor cycle, tricar, r small car, new high-class furniture, escription, valued wholesale, direct orks. — Furniture Manufacturers, 9, lace, Shoreditch, London.

ICAL Tubular Boiler, vertical 3 h.p. engine, with fittings, complete, and 4in. centres, with tools, for good up- motor cycle, or sell £24.—Fuller pars from N. Colley, Hillingdon, Bilston.

L Exchange a 2½ h.p. motor cycle, complete, for a good engine, twin, air- about 6 h.p., machine can be seen tlehampton, Sussex. — Apply, Arm- 5, Holmside Place, Heaton, New- on-Tyne.

HANGE for modern motor cycle and sh, 1906 6 h.p. Quadrant carette (tri- ach-built, wheel steering, two speeds, starting, new condition, done less 00 miles.—Motor, 86, Colvestone Cres- alston, London.

WANTED.

WANTED, sidecars, any condition, cheap or cash.—5, Heath Street, Hampstead.

WANTED, cylinder only, for 2½ h.p. mag- neto Clyde engine.—Foy, Jun., Woking-

OR Cycle or light tricar, will give foot he or 25-guinea graphophone.—Golby,

. 1907 Phelon-Moore, magneto; lowest cash price; describe fully. — Bisco,

OR Bicycle, any condition, or incom- te.—No. 1,293, *The Motor Cycle Offices*, y.

ER-LEA Tricar, steering heads, hubs, d brakes.—Young, Gas Works, Bishop nd.

Motor Cycle, magneto, spring forks, lso sidecar. — 34, Wellington Road, ick.

WANTED, complete pedalling gear, with set out cranks, for motor cycle, and.—State dimensions to R. Barnes, ere, Newbury.

THE ACME X COAT

WIND and WEATHERPROOF.



SPECIALLY SUITABLE FOR MOTOR CYCLISTS.

IN GREY YORK- SHIRE FRIEZE, LINED THROUGHOUT TAN CHROME LEATHER, FITTED WIND CUFFS,

37/6

Ditto, in real Irish Frieze, greys, greens, and brown, lined best chrome leather.

45/-

Patterns and Self- measurement Form gladly sent.

Illustrated Motor Clothing and Accessories Catalogue post free.

JOHN PIGGOTT, Ltd.

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NO ACID. NO CORROSION. NO CHARGING.

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do not deteriorate when not in use.

STAND ROUGH USAGE.

THE ONLY SYSTEM FOR WINTER RIDERS.

You cannot appreciate it UNTIL YOU TRY IT.

Write for Catalogue, Pamphlet, and Full Particulars to the Sole Concessionnaire—

A. H. HUNT, 115-117, Cannon St., London

Wholesale— BROWN BROS., Gt. Eastern St., London.

WANTED.

WANTED, Phelon and Moore, with or with- out sidecar.—Hillier, Woodley, Romsey, Hampshire.

WANTED, beaded edge cover, 700 by 65, good condition. — 7, Albany Street, Camberwell.

WANTED, 1908 Bat, F.N., or other good make, not under 5 h.p.—Martin, But- cher, Mitcham.

MAGNETO, for 3½ h.p., give 8 guineas value in new patent goods.—Wilkinson, Twig- moor, Doncaster.

WANTED, 2½-3 h.p. Kelecom engine, sound, cheap.—Engineering Works, Repton, Burton-on-Trent.

AUTOCLIPSE Lamp, Model F., old pattern, plated preferred.—Dean, Hillcrest, Bold- mere, Erdington.

CYLINDER, 2½ h.p. Minerva, mechanical valves, good condition; cheap.—122, Culford Road, N.

£12 cash offered for motor bicycle, with magneto ignition.—1,298, *The Motor Cycle Offices*, Coventry.

WANTED, F.N., Triumph, or Vindec, or any good make; cheap.—Rey, 5, Heath Street, Hampstead.

WANTED, 2-2½ h.p. Minerva; exchange new B.S.A. road racer. — J.M., 3, Market Street, Northwich.

WANTED, 2½ h.p. Jap engine, vertical, good condition. — Burnitt, Queen Square, High Wycombe.

LIGHTWEIGHT Engine, with outside fly- wheel; approval.—33, Agnes Street, Ark- wright Street, Nottingham.

WANTED, two-speed, for 1908 Rex. — Full particulars, Weller, 6, Buckingham Street, Euston Road, London.

ONE or two pair of voiturette new tyres, Palmer or Clinchers, 26in. by 2½in.; cash.—Crumbie, New Earswick.

SIDECAR Wanted, in exchange for brand new solid oak bureau, exceptional de- sign.—23, Arden Road, Handsworth.

1 to 4 h.p. Air or Water-cooled Petrol or gas engine, also lathe and motor ac- cessories.—61, London Road, Manchester.

MODERN 2½ h.p. Motor Cycle, or 3½ h.p., with forecar, good condition, low, and cheap.—Photo, particulars, Shingles, Cromer.

4½ h.p. Twin Minerva, magneto, or other first-class make; about £20, no rub- bish.—Coe, Freshford, Spencer Road, Acton.

WANTED, 1908 Triumph, in exchange for John Broadwood grand piano, cash ad- justment.—1,251, *The Motor Cycle Offices*, Cov- entry.

WANTED, for cash, reliable and up-to-date motor cycle, for sidecar work; cheap; no rubbish.—Randall, 7, Woodville, Graves- end, Kent.

WANTED, good Motor Cycle, exchange for 4½ h.p. Beeston Humber w.c. tricar, splendid condition, two speeds.—London House, Cradley Heath.

WANTED, to purchase, Triumphs, Rocs, P. and M., Quadrants, Moto-Reve, Motosacoe, Marchless, etc.—Wauchope's, 9, Shoe Lane, London, E.C.

WANTED, air-cooled head, for 2½ h.p. De Dion; also cylinder and piston com- plete for 2½ h.p. De Dion; approval.—Grif- fiths, Dollar Street, Cirencester.

WANTED, 6 h.p. Jap, Chater 6, new or soiled; give 1907 3½ h.p. Quadrant, per- fect, Schwietzer violin, dated 1814, little cash. —23, Wilton Road, Handsworth.

WANTED, 3½ h.p. motor cycle, vertical, low built, not later 1906; trial required; full particulars (no agents).—J.B., 4, Vic- toria Road, Fenny Stratford, Bucks.

WANTED, about 6 h.p. w.c. engine and clutch, for cardan drive, must be cheap; will give in part exchange new motor bike frame and wheels, 2½ h.p. engine. —127, Salisbury Avenue, Westcliff-on-Sea.

WANTED, before December 10th, twelve motor cycles (Triumphs preferred), in part payment of the new 10 h.p. Riley cars; price £199; high prices given for suitable machines.—Breakwell, Gosta Green, Birming- ham.

WANTED.

TRICAR Runabout, single-seated, wanted, shaped and controlled like a car, but very light; cash.—Submit offers for inspection to Racecourse Garage, Doncaster.

WANTED, back axle, for light car, central chain drive, or fixed, suitable for belt drive on each wheel, or pair of back axle hubs.—25, Manor Avenue, Grimsby.

WANTED, Drummound or other lathe, radial drilling machine, portable hearth, enamelling oven; exchange motor cycles.—Booth's Motories, Wade Street, Halifax.

HALIFAX.—Cash or exchange offers for a few brand new 1908 $3\frac{1}{2}$ and 5 h.p. twin magneto Rexes, ball bearing engines, fully guaranteed.—Halifax Motor Exchange, Westgate, Halifax.

WANTED, small car, about 10 h.p., any condition, Airex preferred; exchange 9 h.p. tricar and $2\frac{1}{2}$ h.p. motor cycle, in perfect condition; any trial.—Shirley, Four Oaks, Meriden.

6-7 h.p. Jap Engine, fitted with clutch and two speeds, must be in good condition; exchange 4 h.p. Antoine, single, variable pulley, and cash.—Write, Mack, 33, Clipstone Street, London, W.

WANTED 1908 Motor Cycle for cash, or would exchange my 60-guinea piano (new two years ago) and drawing-room suite.—Pembroke House, 22, The Avenue, Bruce Grove, London, N.

WANTED, car, recent model only, for cash and 1908 Triumph motor cycle, had little use, complete with two new spare tyres.—Price, full particulars, to Terry, 89, High Street, Hemel Hempstead, Herts

WANTED, to purchase, on easy payment system, a small second-hand solid tyre car, must be strong, and in good working order, or would exchange modern piano, splendid condition.—No. 1,294, *The Motor Cycle* Offices, Coventry.

S. J. FAIR, the Motor Cycle Exchange, Cheltenham Road, Bristol.—Wanted, 25 second-hand motor cycles, any makes, $1\frac{1}{2}$ to 6 h.p., for shipment abroad; motor cycles sold on commission, or purchased outright; cash remitted by return; bankers' references if desired.

WANTED, a four-cylinder F.N., magneto, not less than $4\frac{1}{2}$ h.p., 1908 model, must be in perfect condition; will exchange a 38 guinea piano (value £20), walnut, vertical iron frame, check action, Rintoul and Sons, Kentish Town, London, manufacturers, condition equal to new, cash adjustment; offers invited.—Jas. H. Tindle, 18, Lonsdale Road, Boker, Sunderland.

MISCELLANEOUS.

BOOTH.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

BOOTH.—500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget trembler coils, 17s. 6d.

BOOTH takes your old coil in part payment; part with troublesome coils.

BOOTH.—Fuller accumulators, 20 amp., 17s.; Rex type, 16s.; Minerva, 16s.; Midget, 16s.

BOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fullers.

BOOTH.—50 pairs XI'all spring forks; immediate delivery; N.A.B. seat-pillar, 3s. 6d.

BOOTH.—Long motor cycle handle-bars, heavy gauge, best quality plating; 5s. 6d.

BOOTH.—Silent silencers, for engines to 5 h.p., very efficient, no back pressure; 3s. 3d.

BOOTH.—Frames, £1 5s.; wheels, 9s. 6d. pair; plain coils, 2s. 11d.; trembler coils, 5s. 6d.

BOOTH.—Send for list of oddments, speed gears, tanks, etc.; clearance bargains.

BOOTH.—Brown-Barlow carburetter, twin inlets, 10s. 6d.; L.T. magneto, new, 22s. 6d.—Booth's Motories, Wade Street, Halifax.

ANTOINE and Kelecom Parts in stock.—Crypto Co., 14, Mortimer Street, London.

CAPE Hood, fit two-seater, equal to new; £3 3s.—The Poplars, Beech Road, Stockport.



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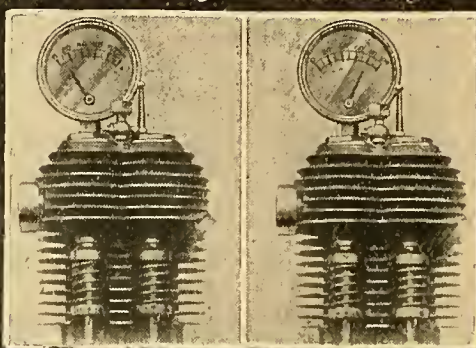
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LONG Motor Handle-bars, 21in., h gauge, well plated, any size; 5s. 6d. Farrar.

LOOP Frame, for vertical engine, front forks and handle-bar; 32s. Farrar.

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F.N. Carburetter, nearly new; 8s. for sale.—H. Barlow, 8, Staunton Road, Havant, Hants.

OVERCOATS, thick, warm, latest cut;—Write for patterns, Booth, Tottenham, London.

WHIPCORD Cycling Breeches, latest 10s. 6d.; write for patterns.—Bos tailor, Longton, Staffs.

TWO Whittle Belts, 3in. and 4in., fine condition; 10s. each.—Francais, 49, Queen Square, Bristol.

FRAMES made to order, complete, £2 10s. wheels, 17s. 6d. pair; also sidecar Millard, Belvedere.

OUR Automatic Pulley is marvelous throw away speed gears.—Particular Walker, Lutterworth.

PAIR Clinchers, beaded, 26 by 2, 12s. band brake, 12s.; approval.—E. Clarke, Johnstown, Ruabon.

OSBORNE Patents, 1909. — 1, the Osborne motor cycle four-speed gear, fitted engine shaft, doing away with jockey pulley.

2, Eccentric spring forks, patented, built the front forks, and not simply attached, free from any side play.

3, the Osborne pulley with jockey pulley operated by a hand lever, and jockey pulley by a foot pedal fixed to bracket.—Princess Works, Lincoln. Stop for postage will oblige.

OSBORNE Pulley, four-speed, free engine 1908, automatic jockey; 25s.—Heath Dudley Road, West Bromwich.

SMALL Lathe, gap bed, back action, 4 bed, face-plate, drivers, etc.; 35s.—Al 4, York Villas, Chandlersford, Hants.

3 h.p. F.N. Carburetter, 4s.; surface, 2s.; 3 melior coil, 5s.; handle-bars, 2s.—Bard, 57, North Road Avenue, Brentwood.

26 by 2 Palmer Cord Tyre, new, £1; Po and Hammer headlight, with brace 8s.—Rotom, 9, Cannon Place, Hampstead.

WHIPCORD Motor Cycling Breeches, 6d., post paid; jackets, 15s. 6d.; terns free.—Meredith's, Wearwell, Northw.

BELT Rim Brakes, flexible cable, hand plied, easily fitted, stop anything 6d., usual price 15s.—Slack's Garage, Stockport.

OSBORNE Four-speed Pulley, £2 5s. exchange; wanted, F.R.S. searchlight—Abraham, Plas-rhaiadr, Talycarn, Wales.

FRAMES, latest types, from 50s.; No. 6, special frames built to any requirements, racing, etc., wheels, etc., to suit Below.

EVERYTHING made in Tanks and Engines except a fortune.—Write prices, A. Phillips, 112, Lynton Road, Mondsey.

DYNAMO (charging), 40 volts 6 amps. 10s.; large car headlight, condenser lens, £1 10s.—Nagel, 1a, Hardecastle Street, Peckham.

TWO Continental Covers, 26 by 2, new used, 12s. 6d. each; F.N. carburetter 5s.; all carriage paid.—Dixon, Fern Northwich.

SINGER $2\frac{1}{2}$ inlet and exhaust valves, used, 3s. 6d. pair; Dion contact switch, 1s. 6d.; wanted, XI'all forks, new.—218, 1 Street, Lewes.

SINGLE Trembler Coil, perfect, 8s. 6d. a.h. accumulator, 7s.; $3\frac{1}{2}$ h.p. Min 3in. pulley, 2s. 6d.—115, Boundary Road, John's Wood.



THE MOTOR CYCLE



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ADDRESS—20, TUDOR STREET, LONDON, E.C.

Along the Normandy Coast.

By W. H. THOMPSON.

HAVING enjoyed a two weeks' tour last summer along the Cote du Nord de France on my 1908 Triumph, I think that the few notes I made will prove interesting to readers of *The Motor Cycle*. As a member of the Birmingham M.C.C., which is affiliated to the A.C.U., I had no trouble in obtaining my special customs ticket, which saved me no end of worry the other side of the Channel.

With portmanteau strapped securely on my luggage carrier, and with satchel on my back, in which I carried a spare Rich detachable tube, repair outfit, and camera, I left Leamington at three o'clock on Saturday, July 25th, *en route* for Southampton, at which place I duly arrived at 8.30, after an uneventful but very pleasant ride. The road from Winchester to Southampton is one of the finest in England, both for scenery and surface, but the presence of one or two M.U. patrols showed me that it would be prudent to keep down the pace.

Crossing the Channel.

The boat was due to sail at midnight, so I had plenty of time to book passage and see to the "slinging on" of my motor cycle, and after attending to the inner man I went aboard.

Next morning I was awakened at seven by the "donkey" hauling in the cable or hawser; then a steward came and informed me we had arrived at Havre. I dressed and went up on deck, where I was met by a *mécanicien*, who doffed his cap and parley-voiced vociferously for about ten minutes while I stood patiently waiting for him to stop for breath. When he did so I discovered that he wanted my "triptique"

to pass my machine through the customs. He did all that was necessary, only calling me into the office when my signature was required. His next operation was to fill up the tank with petrol. Then he gave me his card, charged me a couple of francs, and sent me on the wrong road to Honfleur. After travelling about ten miles out of Havre I came to the conclusion that I was on the wrong road, so pulled up to ask the way of some peasants, but they wouldn't or couldn't understand me, so I produced my road map and asked them to show me where I was on the map, but they didn't know. Fancy that; didn't know where they lived!

A Return to Havre.

Shortly afterwards I came across a more intelligent person, and he sent me right back to Havre, to take boat across the Seine to Honfleur, and I arrived just in time to catch the eleven o'clock boat. Honfleur was reached after an hour's pleasant sail down the Seine. It is a very pretty little place, unlike most seaside towns in Normandy, inasmuch as the neighbouring country is well wooded. From Honfleur I rode on to Trouville, the "Brighton of France," where I stayed a few days at the Hotel d'Angleterre. This is a capital stopping place, and I received every possible attention from the proprietor and English-speaking waiter.

Leaving this charming seaside town, I rode to Caen and Bayeux, the road now being one of the "route nationales," with avenues at intervals, and a surface like a track. Now, ye speed enthusiasts, take your high geared twin-cylinder fliers over there. There is no speed limit, no police crouching behind hedges,

Along the Normandy Coast.—

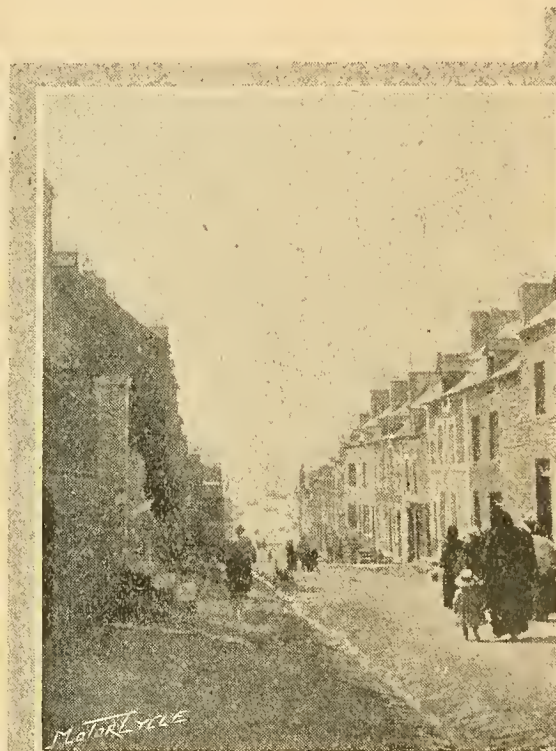
and no dogs to pester one. It is the speed maniac's paradise.

Caen is a typically grey old Norman town, and worth a visit, as it is exceptionally well preserved. Bayeux, with its splendid cathedral and wonderful tapestry, interested me greatly, so I spent a day there, staying at the Hotel Luxemburg—a good house with reasonable charges. Taking to the road again, I passed through St. Lo and Coutances, only staying long enough to take photographs. Then on to Granville, where I was made very comfortable at the Grand Hotel des Bains. Granville is a very pretty place, with a fine view from the hill of the harbour and bay. But, oh, the smell!

roads round this place are the worst I have ever ridden on, and between Dinard and Dinan they are absolutely execrable. I returned direct from St. Malo to Southampton, and rode up to Warwickshire, my home.

No Necessity to Carry Tools.

Throughout this tour my machine never gave me the slightest trouble, not even a single puncture. I had taken the precaution to fit a new Goodrich tyre on the back wheel before starting, but the Brittany roads took all the rubber studs off and cut it terribly, but in spite of this rough treatment it carried me home. I have since returned it to the makers, and they have kindly sent me an extra heavy one, free of charge, and also retreaded my old one.



The Quay Street at Cancale.



Grand Rue, St. Malo.



Crossing the Rance in a sailing boat.
Dinard to St. Malo.

Go where you may you cannot get away from it; not a common everyday smell, but a mixture of onions, garlic, and paint.

A Motor Cyclist's Mecca.

My next important stopping place was Mt. St. Michel, which to my mind should be the Mecca of all tourists in Normandy and Brittany. Its one long street, crowded with quaint shops and cafés, winds upward to the church steps, where a guide is waiting to make up a party for inspecting the wonderful church, which in its time has been a prison, a fortress, and now has become a "monument historique" of France. I could not leave this place without paying a visit to the Hotel Poullard and tasting one of the famous omelettes. Madam Poullard, I believe, has retired from the business. I was loth to leave this most interesting rock, but the time was flying, and I wanted to be in St. Malo before lighting up time. I stayed at the Hotel Central Benoit in St. Malo, and I strongly recommend this house to any tourists who think of doing this part of France. The charge is most reasonable—7.50 f. a day, with a liberal table. I was made so comfortable that I stayed the rest of my vacation there, riding out to the various places of interest round St. Malo. The

My machine has been running in all weathers since January, and has travelled considerably over 3,000 miles, and I still have all the original parts, with the exception of back tyre. A good clutch would make it perfect, and as soon as the Triumph Co. market one I shall be one of the first to have it fitted. I should like to thank the secretary of the R.A.C. for the trouble he took in giving me all particulars I required regarding the tour, which went a long way towards making my holiday such a grand success.

The Churchill Motor and Cycle Co., 9, Churchill Place, Edinburgh, are, we are informed, taking up the agencies for Scotland of the Puch motor bicycles, tricars, and sidecars, and also the agency for the Dürkopp motor bicycle. The Puch is a well-known Austrian make which has performed most creditably in Continental competitions. It is well made and efficient, and easily ranks among Austrian high grade machines. Of the Dürkopp motor cycle not much has been heard lately, but of the few models that were seen over here a year or two back, the four-cylinder was one of the best designed of its type; having mechanically operated valves and variable inlet control.

The Nieuport Magneto.

A MAGNETO machine for motor cycles of which more will be heard in the future is the Nieuport. Its chief features, apart from its extreme lightness (3 lbs. 15½ ozs.) and the small dimensions (depth 4in., width 2½in., and breadth 4¼in.), are the simplicity and neatness of its design. The working parts of the magneto are shown in detail in the accompanying illustrations. On each end of the H-type armature is a circular bronze plate A and B carrying the shaft of the machine, on which are the ball bearings C on which the armature rotates. On the shaft are mounted on the one end a single collector D and on the other the condenser E, which latter in its turn carries the bell crank F (fig. 2) and platinum contact G. R is a platinum contact screw, which is adjustable. The primary winding has one end "earthed" to the armature core and the other end is insulated from earth and connected to the platinum tipped contact screw R by means of the centre screw O. The two poles of the condenser are connected, one to earth and the other to the contact screw R. The body H is formed of one piece of special non-magnetic metal, into which are cast by a special operation as part and parcel of it the two soft-iron pole pieces.

to an earthed switch the primary current can be earthed, and consequently the action of the magneto controlled at will. This make of magneto can be supplied fitted with variable advance or for a fixed point of ignition, and also with either one or two

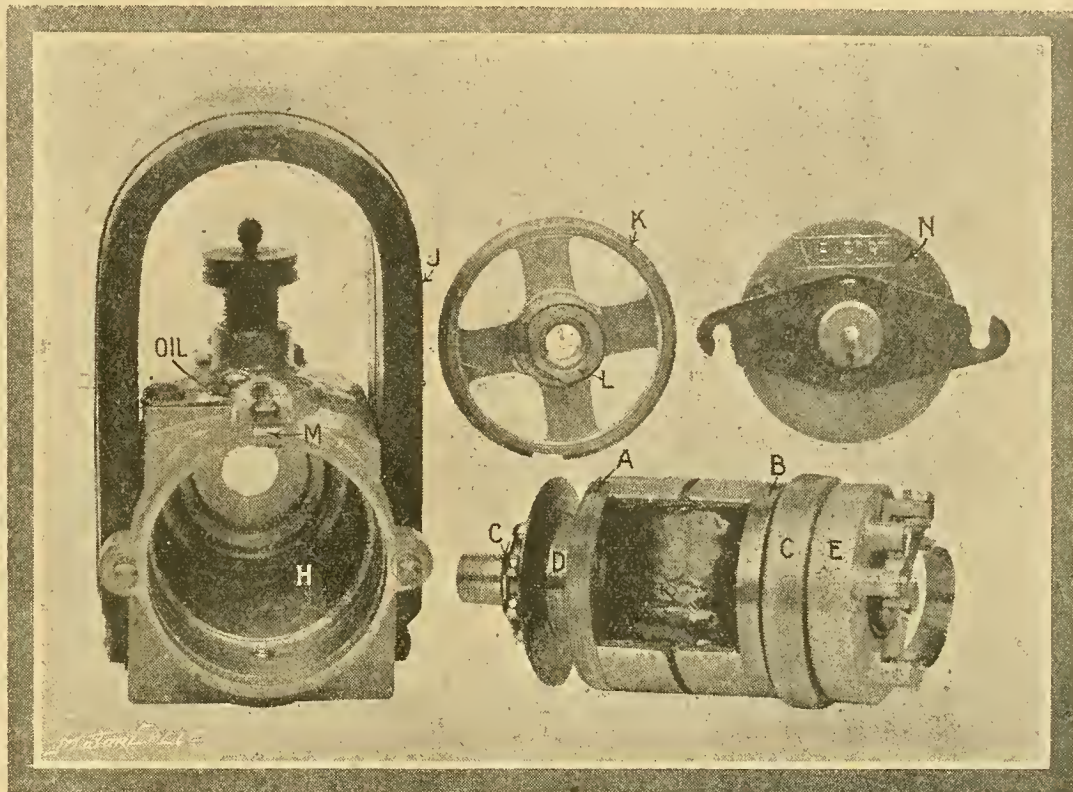


Fig. 1—The Nieuport Single-cylinder Motor Cycle Magneto, the lightest of its kind.

A pair of permanent steel magnets J are pressed over the body H on to the pole pieces, and are held in place by a brass strip. This strip is secured at the base by means of four screws. A brass disc K supporting the steel cam L fits into the end of the body, and is held in position by the spring M bearing in the slot in the cam disc. Cover N held in position by the spring shown completely encloses the contact breaker. If the terminal in the centre of the contact breaker cover be connected

pairs of magnets. In the case of variable advance, double magnets are recommended. The Nieuport magneto is very easily dismantled. The outside cover is first removed, then the disc and cam. After taking out the high-tension terminal, and two grub screws holding the bearing in place, the armature can be withdrawn, but the agents, Van Raden and Co., Ltd., Coventry, point out that the armature should never be disturbed unless absolutely necessary, which advice applies to all makes of magnetos. The steel spring S is very light, and consequently the wear of the platina infinitesimal. After continued running, if it is found necessary to trim up the points the small lever holding the bell crank F is slipped aside, and the bell crank and spring can be taken off in a second. P is a fibre block in contact with the steel cam L. Oil holes with covers to exclude dust are provided for the two bearings. The Nieuport magneto should specially appeal to makers of motor bicycles desiring to reduce weight to the finest limit—and who cares to handle an unnecessarily heavy motor bicycle?

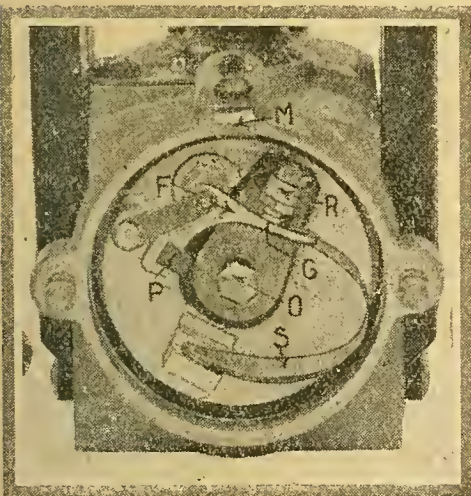


Fig. 2.—Showing the contact breaking mechanism. The cam L, operating the bell crank F, is shown in fig. 1.

Owing to the great increase in their business the Continental Tyre and Rubber Company have found it necessary to acquire land and erect an addition to their works at Willesden. The work will commence without delay to enable them to cope with next year's trade. The finest plant and machinery have been ordered, and when these have been installed the company may claim to have one of the finest equipped works of its kind in or around London.

A neat little booklet has reached us from the Triumph Cycle Co., Ltd., which contains a few extracts from the articles which appeared in *The Motor Cycle* last May and June, entitled "Motor Cycling for Health," being the opinions of medical men who are users of motor cycles. The booklet also contains some enthusiastic users' opinions of Triumph motor cycles, and a list of successes recently accomplished on this make of machine.

Passenger Machines at the Stanley.

By B. H. DAVIES.

FROM what the Yankee motor cyclist would term an "affinity" point of view the 1908 show was frankly disappointing in that very few complete passenger combinations were staged, and of those on exhibition only two or three appeared likely to appeal to a large public. In one respect, however, the show was a great advance on any of its predecessors; there were a great number of sound, substantial motor bicycles staged which were in every way fitted to pull a sidecar or push a forecar. For instance, five or six excellent gears figured on several machines—the Nala, N.S.U., Vindec, Rex, Chater Lea, and Roc. By the addition of any of those to one of the stronger $3\frac{1}{2}$ h.p. roadster bicycles or to almost any 5 h.p. twin a machine could be obtained eminently suited to sidecar or forecar work. Our old friend the $3\frac{1}{2}$ h.p. Phelon and Moore appeared in a lighter, more modern, and more comfortable form than it has ever taken before, with a simple design of handle starting, and its chain drive is undoubtedly superior to the belt for passenger work. I expect the majority of 1909 passenger combinations will have one of the above machines as their foundation. There was nothing new in detachable forecars, but sidecars evinced a few real improvements. Both the castor wheel and Montgomery types are procurable with side springing, and I particularly admired the Mills and Fulford device; this latter sidecar was at last fitted with a lock for the castor wheel—a device I first urged upon the makers eighteen months ago as necessary to prevent the side wheel opening outwards when the combination is wheeled backwards.

A Differentially Driven Sidecar.

The Bat cycle was very ingenious and attractive, but at £125 it cannot appeal to everyone. It consisted of an ordinary belt-driven Bat twin-cylinder bicycle, the separate use of which at will is always retained. The addition of a sidecar chassis converts it into a four-wheeler at any time; the sidecar chassis carries a differential axle, a large leather to metal clutch, a Chater Lea three-speed gear box, etc., and the coupling is so ingeniously worked out that when the belt is taken off the engine will drive solely through the transmission carried on the sidecar chassis. The Phänomobile (two rear wheels) and Rex Triette had not materialised at the date of my visit, but I may be excused for pointing out that the Triette corresponds very closely to my specification of the ideal tricar, as propounded at the A.C.U. discussion, and that whereas several gentlemen in the trade then said my specification was impossible at £70, the Triette works out at considerably less with a 5 h.p. twin engine. It is a great pity this machine arrived at the Hall so late; it is the type most likely to resuscitate the tricar.

Another excellent tricar seems born to blush unseen. It has figured at several Stanley Shows, and has possibly been the absolute pick of the basket in each year; but it is still comparatively unknown, partly because it is always tucked away in a corner of the Gallery, where it is missed by many, and partly because it is seldom entered for important trials. I refer to the 6 h.p. N.S.U.—a light, substantial, refined, and powerful mount, possessing an absolutely fool-proof

gear. I do not know why it seldom enters for big trials, as from my small acquaintance with it I am ready to wager I could bring it successfully through an End-to-end run, and it should be classed with the Triette as a trustee of the future of tricars generally. It bristles with neat and clever details, its workmanship is wholly excellent, and a purchaser of it will not need to disburse further money in extras. I might add it is fan cooled.

A Double Trailer Device.

I should like to know more of the Bransom rear car—an exhibit which most people seem to have overlooked. It is really a double trailer, which is rigidly attachable to any motor bicycle in a couple of minutes, the whole combination then forming a three-track machine, which steers like a tricycle.

The Zenette tricar was probably the most comfortable passenger mount in the show, its springing being unique, on the scissor hinge principle. I thought the low gear ratio (7 to 1) far too high for general work, and regretted the absence of a magneto in a machine costing £90, but, of course, good coachwork is costly.

Two other two-speed motor bicycles were exhibited suited for the attachment of light passenger devices, viz., the Brown and Chater Lea. Several air-cooled four-wheelers also figured in the show, such as the Chater Lea Carette, Vindec runabout, and the O.T.A.V. I sum up the potentialities of the show from an affinity point of view somewhat as follows:

1. Great improvements in two-speeded motor bicycles.
2. Several improvements in sidecars.
3. Appearance of a really efficient tricar at less than £70.
4. Annual debut of several freaks.

And so I expect to see on the road in 1909 a greatly increased number of light two-speeded sidecar and forecar combinations, among which I fancy the Rex and N.S.U. ought to be specially prominent.



A rider of a four-cylinder F.N. at the opening run of the season (Oct. 10th) of the South Australian A.C. from Adelaide to Bellair and back. A number of motor cyclists attended the run. The road appears to be a good one.

MOTOR CYCLING

IN NYASALAND.

A FEW members of the Motor Union of Nyasaland had a delightful and most successful run from Zomba to Fort Johnston on Saturday, September 12th, and back to Zomba the following day. The participants in the run used the following machines: 6 h.p. Bat-Jap, $2\frac{3}{4}$ h.p. Minerva, 3 h.p. Triumph, $3\frac{1}{2}$ h.p. Brown, and a $3\frac{1}{2}$ h.p. Minerva. Fort Johnston is about seventy-eight miles distant from Zomba, and since Nyasaland is somewhat deficient in the matter of railways as compared with the home land, and in the event of a serious breakdown one cannot be certain of finding a railway station a few miles off, those motor cyclists who contemplated taking part in the ride spent a busy time overhauling and tuning up their mounts a day or two prior to the start. One really smart repair was made. The owner of the 1907 Bat discovered that the big end bearing of the front cylinder connecting rod was fractured, and a new bearing had to be made—and was made, too—out of a piece of brass. Exactly how this miracle was accomplished with the aid of only the motor cyclist's ordinary kit of tools, plus a few odd files and things and the pluck and determination of the owner of the machine, the writer does not profess to understand—he was too busy with his own mount to go along to see—but it certainly was accomplished.

The Send-off.

Shortly after nine o'clock on Saturday morning we five riders took our departure amid the enthusiastic plaudits of the natives and the good wishes of the Europeans, many of whom, I half suspect, thought that at least one or two of us would spend the night within the confines of an odorous native hut, should one happen to be handy, or, otherwise, snugly ensconced in the arms of a tree, in order to be out of the reach of lions and other kittenish denizens of the forest land through which was cut a great part of the route we had to traverse. The road from Zomba to Fort Johnston goes first of all north-west to Liwonde (thirty-two miles from Zomba), on the east bank of the Shire river. The Shire has to be crossed at Liwonde, thence the road runs north along the west bank of the river to Fort Johnston (forty-seven miles from Liwonde). We in Nyasaland are rather proud of our roads, and, I think, justly so; but, of course, being "new," they cannot compare with our centuries old home roads. Nevertheless, the writer has motor cycled over many side roads in Scotland which were in a much worse

condition than Nyasaland roads are in the dry season. One advantage our roads possess over those in Britain consists in the fact that implements of puncture are seldom to be encountered. The roads are not yet macadamised, except in a very few places, and the few horses we possess are shod as nature intended them to be. The great majority of our natives, too, have not yet attained to the dignity of boots, and consequently they take care to keep the roads free from thorns for their own sakes.

Zomba is about 3,000 feet above sea level, and Liwonde only 17 feet; therefore the first part of our



Nine motor cyclists of Nyasaland who took part in the run described in the accompanying article.

journey was for the most part level or downhill. There is only one hill of any importance on this road, viz., Mkulu Hill (mkulu is a native word, which means large or great), about six miles from Liwonde. This hill is about a mile in length, with a grade of 1 in 15 for the bottom half and 1 in 16 for the top half: but none of our machines experienced much difficulty in negotiating it on the return journey. The surface is hard, and there are no nasty bends. It should, however, be borne in mind that motors cannot climb hills so well in Nyasaland as at home, owing to the great heat (150° in the sun is a common temperature, even in the highlands).

Baboons by the Roadside.

At the bottom of Mkulu Hill a colony of baboons was encountered. They did not seem to be a bit afraid of us, but stood at the side of the road and quite close to it, watching us pass apparently with keen interest.

Motor Cycling in Nyasaland.—

The 3½ h.p. Minerva arrived at Liwonde first, doing the journey in eighty minutes (an average of twenty-four miles per hour), and the others arrived soon afterwards. Minerva's spurt proved to be its undoing, however, for it arrived with a broken sparking plug, and when we tried to remove this we found it impossible to do so, as it was burned tightly in the valve cap. This machine had therefore to remain behind at Liwonde. At this place we were joined by a rider of a 1908 Triumph. After lunch we filled up with petrol out of a tin which we had sent on in advance, and after being ferried across the river by natives in an iron barge commenced our forty-seven miles ride to Fort Johnston. In a couple of years time this road to Fort Johnston will be a most excellent one for motoring. It is practically level, all streams are well bridged, and except for one or two awkward bends, which will be straightened soon, is very straight. At present, since a great part of it is "new," the surface is a little soft in places, but since all the natives who travel between Lake Province and the Shire Highlands use this road, in a very short time these soft places will be beaten hard by the tread of countless bare feet. Mile posts are in course of erection, and the danger points—that is, the sharp bends, for there are no other sources of danger—are marked with warning posts, as at home. For about three miles at the Fort Johnston end it is about thirty feet broad and beautifully surfaced with a most suitable "binding" sand obtained from the Shire. The natives in the Liwonde and Fort Johnston districts had evidently heard that "white men" were going to travel along the road on their "bicycles of fire," for at different places dozens were congregated, and the clapping of hands and howling and shouting drowned the noise of our silencerless engines as we passed. One urchin got so excited that he let go a sheep he was holding in order to clap his hands, and the animal promptly scampered across to the other side of the road to where its mates were, to the imminent danger of both the sheep and the motor cyclist, whose front wheel grazed its tail.

The Arrival at Fort Johnston.

About twenty-seven miles from Fort Johnston we were met and welcomed by two more 1908 Triumph riders. Here we waited till all stragglers arrived, and then went on in a body to our destination, where we arrived three hours after leaving Liwonde. After a most welcome bath and change of attire we dined with the district Resident, and thereafter adjourned to the club, where we met with practically the whole of the residents of the township. This club, with its billiard table and piano and magazines, must be a great acquisition to the place. The township itself is nicely laid out and very clean, and such buildings as the Queen Victoria Memorial Tower and church at once arrest attention. How different the whole place is from the Fort Johnston the writer knew in 1894-5! That Fort Johnston was situated on the other side of the river and three miles nearer to Lake Nyasa in the middle of a swamp, and deaths from malignant malaria and blackwater fever were so common that one ceased to think much about them. We had an impromptu concert in the club, and thereafter the Resident, in a little speech of welcome, said it had now been demonstrated that an organised motor

ride from Zomba to Fort Johnston in a few hours was possible. Our beds were made and mosquito nets rigged up on the deck of the *Monteith*—a stern wheel river steamer. There was a wooden deck above us, but nothing at the sides to prevent the balmy breezes from fanning us, and as we were all tired, it did not take long for the lapping of the water and the jumping of the fish to lull us to slumber. Next morning early we visited the Government Marine Transport and African Lakes Corporation's engineering shops, and also the private garage of one of Fort Johnston's keenest motorists. Here we managed to become possessed of a few of such useful motor accessories as washers, spanners, trouser clips, oilcans, asbestos string packing, rubber solution, etc.

The Return Journey to Zomba.

After breakfast no less than nine motor cyclists were photographed in front of the Resident's house, including we four from Zomba, three riders of 1908 Triumphs, one N.S.U., and one Roc. Most of our friends accompanied us part of the way on our return journey. We departed from Fort Johnston a little after nine o'clock, and, having now a better knowledge of the road, we simply flew along where we knew it was safe to do so, and arrived at Liwonde in two hours, averaging quite twenty-five miles per hour, after deducting the time spent in bidding good-bye to our Fort Johnston friends about twenty-seven miles out. Five miles from Liwonde the Brown engine, unfortunately, seized, owing to the opening of the drain tap at the bottom of the crank case, and the rider had to slip off the belt and pedal to Liwonde. After crossing the river and lunching we took the engine to pieces with the view of putting matters right, but our efforts were in vain, owing to the want of suitable tools, so we put the engine together again and sent the machine on to Zomba under charge of a couple of natives, and the rider followed in a machila (hammock slung on a pole and carried by natives).

Except for this mishap our ride was in every way an unqualified success, nothing at all going wrong with any of the machines. By the time we had finished assembling the Brown we had barely two hours of daylight left us in which to get over the thirty-two miles of uphill road to Zomba, so we let our mounts travel as fast as they would go. Twelve miles from home we overtook a Zomba resident who had been spending the week-end shooting on the river, and whose push bicycle, on which he had been riding home, failed him. He had tramped a long way, and was tired, so he was found a seat on the luggage carrier of the Bat and whirled along to Zomba. Thus ended one of the most enjoyable runs the writer has ever taken part in.

ONE OF THE FOUR.

With reference to our article, "The Path of the Magneto Current," in the issue of November 25th, page 928, the Bosch Magneto Co., Ltd., point out that it is their opinion that if motor cyclists do not understand the magneto it is the riders' own fault, as from time to time they have given publicity to the fact that they are prepared to send gratis on application a printed description of Bosch magnetos, giving full working details. The booklets referred to are particularly well got up, and explain the principle of high tension magneto ignition in a most clear and lucid manner.

A Commentary on Mr. B. H. Davies' Paper on Tricars.

IF one might be allowed to comment upon the very interesting paper read by Mr. B. H. Davies before the A.C.U. on the above subject, I should like to do so as regards several of the points discussed.

Cost.

Mr. Davies thinks £70 the absolute limit of price for a successful light tricar. To approach this figure he sacrifices water cooling, which is more or less essential for the satisfactory working of the engine. If the air-cooled engine is going to receive the necessary current of air, it means that the driver has got to tolerate an unenclosed and bleak position, with a blast of wind playing directly on and around his feet and legs from the numerous eddying currents, thus making driving a misery except in warm weather, to say nothing of the dust and grit thus drawn up. He also suggests fan cooling, but in the majority of cases fans again create a draught, and in my opinion are an abomination and a miserable makeshift at best. A perfectly efficient and no-trouble thermo-syphon water-cooling system, involving but another £5 at most, ensures a more efficient engine, and comfort and protection for the driver. Surely the majority of riders will concede this point.

Type of Frame.

Mr. Davies implies that all open frame tricars have hitherto been "whippy" in action. I have only ridden two or three makes, it is true, but I have never noticed any whip, and my present machine, which has a Perry frame, fitted with trusses or girders, is to my knowledge perfectly innocent of the fault, there being no tendency towards whip at even over 30 m.p.h. This is an ordinary unsprung frame.

Transmission.

The lecturer submits that the ideal transmission must have two speeds. While thoroughly in accord with him as to a reverse being unnecessary on a light machine, I quite fail to see why he disapproves of a three-speed gear. Surely three speeds are better than two, other things being equal. In order to leave a safety margin in the employment of a two-speed gear, it must be so proportioned that the low gear will successfully tackle any gradient which is likely to be met with. This means that about 50% of the gradients climbed on the low gear could have been climbed quite easily on an intermediate gear had there been one. Then why decide to have none of it while there are such splendid, simple, and foolproof examples on the market (as, for instance, the Oppermann), which have proved themselves to be all that can reasonably be desired, giving a wide range in the choice of gears? This being so, I fail to see eye to eye with Mr. Davies on this point.

Brakes.

As regards rear brakes, what can be simpler and better than a pedal operated metal band (with vulcanite blocks attached) engaging an eight-inch metal drum, the same surrounded by a metal shield as a protection from road dirt and wet? This particular system has never failed me yet, and will hold me on practically any hill with full load, and, in combination with powerful front brakes and the low gear in engagement, I feel absolutely safe. The suggestion of a dummy belt rim is, to say the least of it, a trifle crude.

The Single-cylinder Engine.

While agreeing with the chairman as regards the price of a good light tricar (£80), I submit that his verdict on the single-cylinder engine is an unjust one. If a "single" is such a horrible jumper, it is very surprising to find dozens of first-class car makers entering the arena with single-cylinder cars (both British and Continental), and selling them like the proverbial hot cakes, and it is self-evident that these models are increasing in popularity. The fact is that their flexibility is wonderful, also their comfort and freedom from vibration, and in the hands of an intelligent driver their behaviour leaves nothing to be desired. The drawbacks to a "single" are not, in my humble opinion, nearly sufficient to warrant the extra cost and complication of a twin for a popular light tricar. Surely if the majority of motor cyclists are contented riders of singles, as they undoubtedly are, the average light tricarist is not going to loudly demand a twin on the grounds of vibration; more vibration is absorbed in a tricar frame than is ever likely to be in that of a motor bicycle. I cannot refrain from mentally comparing the above gentlemen's sentiments with the behaviour of my 4 h.p. single White and Poppe water-cooled engine, which does more than everything I can in reason demand of it, and is, indeed, an everlasting marvel to me. My gear box (Oppermann three-speed) has gears of 5, 9½, and 14 to 1, and thus equipped I dare go anywhere with my passenger, whom I have never yet had to shed. All jumpiness in the engine is eliminated by reason of the very range of gears Mr. Davies would discard. For instance, if circumstances demand a speed of less than eight miles per hour, or even ten miles per hour, the second speed is brought into action in perfect comfort without recourse to the low gear, which might produce unnecessary vibration, and would in any case mean aggravatingly slow progress.

Mr. A. F. Ilsley hits the right nail on the head when he says that more should be heard concerning the surviving satisfactory light tricars of to-day.

Capabilities of a Light Machine.

I think Mr. W. Randle is wrong when he sweepingly asserts that a light machine would only do for a twenty-five mile run if he refers to the 4 cwt. machine. The type I am here championing is capable of doing many thousands of miles with perfect comfort to its users, provided correct springing is given due attention, and this could be embodied with very little extra expense. Springing is, after all, a matter of taste, it being quite possible to build a serviceable unsprung machine without it shaking to pieces.

In conclusion, I would state that I have no pecuniary interest whatever in the articles I have mentioned by name, my object being solely to further the light tricar movement.

P. H. MEERS.



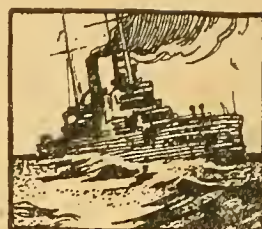
We are in receipt of the latest catalogue of Messrs. Siemens Brothers, of 12, Queen Anne's Gate, Westminster, S.W. Messrs. Siemens are the vendors of every kind of ignition accessory, but their speciality is the "Obach" dry cell, which is highly recommended for motor cycle ignition. Special coils are also sold intended for use with these cells.



LETTERS TO THE EDITOR



SRJ



All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

The Editor does not hold himself responsible for the opinions of his correspondents.

Explosions in the Silencer.

[3704.]—With reference to the enquiry of "C. C." in *The Motor Cycle* of November 25th, I may say that I had exactly the same trouble on my $3\frac{1}{2}$ h.p. Minerva. I got over the difficulty by removing the silencer altogether, or rather the bell of it, and fitting a larger one. This shows that the trouble is caused not by a bad silencer but simply by too small a one. I have not the least signs of the trouble now. The ignition on my machine is by accumulator and coil.

S. R. RAFFETY.

Unrolled Stones.

[3705.]—Cannot something be done to prevent the authorities from leaving unrolled stones on the roads for weeks on end? All the roads round here are being "repaired," which consists of laying stones and leaving them there to be ground. This is Cambridgeshire. All motor cyclists who ride at night know how dangerous new metal is, and it seems unfair that a public authority should be allowed to ruin the roads and endanger the lives of night riders without protest. We know how easily tyres are destroyed by loose stones, but so long as the roads are good enough for the sleepy drivers the authorities (some of them) think they have done what is necessary.

CEDNIV 5.

Two-stroke Motors. A Club's Decision.

[3706.]—Considerable interest was taken in connection with the awards of the Coventry Motor Club's hill-climb at Newnham, owing to the fact that a two-stroke machine was entered and secured first place in the particular classes, and some difficulty was anticipated in applying the rules governing the contest as regards making the awards. The matter was referred to the A.C.U., and thoroughly threshed out with it and the committee of our club, and in your issue of November 11th, in Club News, was made the announcement of this club's decision that the published awards should stand. As I find that some of the competitors do not seem to have had this notification, I shall be glad if you would publish it.

ERIC W. WALFORD,

Hon. sec. Coventry Motor Club.

Mounting by the Pedal.

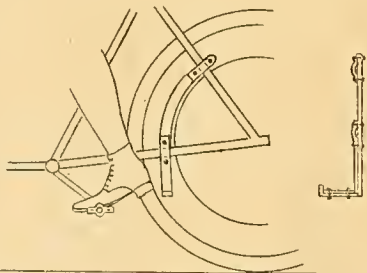
[3707.]—I noticed in a recent issue of your most delightful paper in "Hints and Tips," under paragraph 265, the author makes a statement which I fully endorse, "To mount a swinging pedal is a method almost certain in time to lead to disaster."

I came a cropper some time ago by missing the pedal while mounting, and this led me to fix up a step on the machine which I find, to a great extent, minimises the risk of a spill in mounting.

I enclose a sketch of the device which I think would be easily applicable to most

types of machines. Those riders who retain pedals and who occasionally use them to assist the engine if adopting this method would require to fix the step sufficiently far back on the frame to clear the heel of the boot while pedalling.

The sketch shows the step carried by two members of the frame. This method of fixing I use on a lightweight machine built of thin tubing, but is unnecessary on the average strong motor cycle frame.



ES 158

Dry Batteries.

[3708.]—In your issue of November 4th we notice a letter signed "Jack Kneiff," who states that he uses dry batteries (cost about 3s.) and can do about 2,500 miles with each.

Now batteries like these would be worth having, as we have some thirty-five motor cycles running, which we have to supply with dry batteries, and we have tried every known make, and the best we can do is from 600 to 800 miles on a set of three. If Mr. Kneiff would kindly oblige with the manufacturer's name we should be very much indebted to him. We think if dry batteries can be got to do such good service at such a small cost that both magneto and accumulator ignition will take a back seat.

Toronto.

TANGENT CYCLE CO.

Tandem Attachments.

[3709.]—In answer to "C.M.F.," my experience of tandems proper and tandem attachments is just large enough to make me infinitely prefer the tandem proper to the tandem attachment, on every score except that of cheapness. I will contrast my opinions of the two types tabularly as follows:

TANDEM PROPER.

Comfortable.
Easy to mount.
Easy to start.
Passenger keeps clean.
Does not skid.
Weight inside wheelbase.
Steering delightful.

TANDEM ATTACHMENT.

Uncomfortable.
Awkward to mount.
Awkward to start.
Passenger gets very dirty.
Skids horribly.
Weight all upon rear wheel.
Front wheel hops.

I sympathise with the owner of the tandem, the engine of which was controlled by the non-steering passenger. He must have been the largest sort of juggins. I am sorry, for "C. M. F.'s" sake, that I dislike the tandem attachment, about which he is so enthusiastic, but my lady passenger does not wear bloomers, and the side-saddle-pillion type of rear attachment is not one that many girls or many men will ever favour.

B. H. DAVIES.

An All-British Machine.

[3710.]—I read with interest your correspondent's letter "An All-British Machine," and I certainly think his is an isolated case. I have always been a rider of British machines, which include two Rex, two Humbers, one Stevens, one Rover, and four fitted with J.A.P. engines, and I can truly say I have never had a serious break with either engines or frames, the only breaks at all being two inlet springs and two exhaust valves, which I think is a good record for all-British stuff.

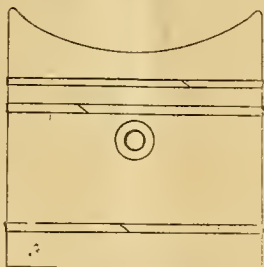
I have ridden a 6 h.p. Bat-J.A.P. for the past eight months for business and pleasure nearly every day without an engine stop, and have found it as reliable as a push bicycle.

I hope your correspondent will be satisfied with the twin Continental when he gets it, for while my all-British has been behaving itself perfectly this year, I will give you the happenings to three machines of foreign make owned by friends. First, a single-cylinder of good make developed a cracked valve seating, which meant scrapping the cylinder. Second, a twin of well-known make pulled up suddenly one day with a smash; result, broken connecting rod and piston smashed to pieces. Third, a single-cylinder, with automatic carburetter, never could be got running properly, which resulted in getting a British carburetter. My order next year will certainly be

ALL BRITISH.

Dome Topped Pistons.

[3711.]-With regard to the Triumph piston, illustrated in *The Motor Cycle* of November 25th, I may say that I fitted my motor bicycle—which was home-made—with rings similar to this five years ago, and made the piston dome shaped. I altered it afterwards and made it concave. I fitted two rings at the top and one ring below the gudgeon pin, so this is no new idea to me. My piston is similar to the drawing enclosed. I tried one ring at the top and one at the bottom but found the piston much better with two rings at the top and one at the bottom.



E. CATTELL.

[3712.]-I fail to see the advantage of the domed piston fitted to one or two of the leading makes for 1909. I am told that the oil will drain off the top of the piston to the cylinder walls and lubricate the cylinder better. This may be so for the first few miles, but the oil will drain from the centre of the piston head as far as the top piston ring, where its progress will be arrested. There will therefore be an accumulation of oil round the outside edge of the piston head, especially just when the engine has stopped after a run, and this being when it is most heated.

This accumulation of oil round the edge of the piston will then form into carbon deposit. This formation of carbon deposit on the outer edge of the piston will very soon become sufficient to prevent the oil draining from the top as far as the cylinder wall. Not only this, it will gradually continue upwards until it has reached the centre of the piston head, and then there will be a flat surface of carbon deposit all over the piston head, and then where is your dome-shaped piston?

Also is it not a mistake to make a piston the same diameter all the way over? Is it not better to make it with a slightly smaller diameter in the middle, to enable oil to accumulate there, and so well lubricate the cylinder? **FLAT TOP.**

[3713.]-With reference to Mr. B. H. Davies's article in your last issue on the subject of "Roadster Motor Bicycles at the Stanley," your contributor appears unaware of the fact that domed pistons, pistons with a ring at the lower end, and pistons with rings with a step-cut joint, have one and all been used on well-known cars for years. It is therefore hardly fair to car designers to say that the special pistons shown at this exhibition will be widely copied on cars. It is rather the other way about; and I may add that it was some two years or so back when I first suggested to members of the trade that car practice could show them something in this respect.

Mr. Davies mentions the Douglas, but he says nothing of their piston, which has been specially turned with oil grooves and spaces to ensure efficient lubrication in what certainly appears to be an effective way. **J. W. G. BROOKER.**

[Both the convex and concave piston in connection with motor cycle engines are much older than Mr. Davies or Mr. Brooker appears to imagine.—Ed.]

A Problem to be Solved.

[3714.]-I have been much interested of late in various letters in your paper with regard to two engine phenomena. Your American correspondent, Mr. Ovington, obtains what he calls an abnormal condition by the use of copious oil in his four-cylinder, and only obtained this condition when he can get a good start as it were down hill. But is this condition abnormal? I have read the views of your many correspondents, and am convinced that the condition is merely one of perfectly normal efficiency. That it is not common is the fault of the designs and users of modern engines. Any well-designed engine should attain this condition which is dependant only upon obtaining a high maximum r.p.m. and many engines have done it, notably Mr. Ovington's four-cylinder F.N. and the old 4 h.p. twin Werner. Anyone who has heard the latter engine pass from a buzz to a roar, and then to a high-pitched singing note, knows that the average engine falls short of ever really obtaining the maximum efficiency obtained only at maximum r.p.m. The 2½ h.p. J.A.P. will do something very like it. Now, the notable part about these engines is that they all are extremely light in the reciprocating unit, and in this fact, I think, lies their faculty of obtaining an "abnormal" condition.

With regard to an increase of speed on slightly lifting exhaust valves. This is a common symptom which I personally have experienced on two machines. My theory is that it only is observable at fairly high engine speeds, and is due to the natural spring in the human fingers overcoming and neutralising the inertia set up by the chattering of the valve upon its seat. The finger pressure is not strong enough to keep the valve off its seating when it should be closed, but it assists and softens the cam action and softens the rebound of the spring.

I think we should probably find that where this symptom occurs the machine could take a little less clearance between stem and tappet and a slightly longer duration of valve opening with advantage. This view of the subject is the one held to my knowledge by several well-known experts, and as the matter has caused me much wonderment on former occasions, I think it well that it should be explained if possible.

BERNARD SIFFKEN.

Motor Cycling in New Zealand.

[3715.]-I think perhaps a few lines on motor cycling in New Zealand may be of interest to some of your many subscribers. The province in which I reside is called Canterbury, and the plain extends for many miles without a hill of any sort; hence the very heavy machine is not much used here. The motor bicycle is fairly popular, and there are a fair number about. There are practically only four makes of machines on the market, namely, the Triumph, F.N., Minerva, and Brown, but owing to prices being so absurdly high there are not nearly as many motor cycles on the road as there might be. After studying your most excellent paper, *The Motor Cycle*, and reading of the wonderful performances of British-built motor cycles, I have often wondered why the manufacturers cannot see their way to put their machines on the market here at something like a reasonable price. Many British machines are practically unknown here.

Another thing I should like to point out is that, so far as I can see, most of the lightweights are built with the idea of running them on your nice smooth English and Continental roads. Here in New Zealand the roads are smooth only in places. In other parts the less said about them the better, but they are bad enough to shorten the life of some of the otherwise splendid lightweights very considerably; so I think if manufacturers, when consigning machines, light or heavy, to the colonies, would consider that our roads are not good, they might then build their machines to withstand better the knocking about they receive.

W. L. S.

Canterbury.

Magneto Manufacture.

[3716.]-With reference to the Premier Accumulator Co.'s letter [No. 3701] in your issue of December 2nd, may we claim a little more of your valuable space in order to reply to this company's remarks.

We think if the writer of this letter had studied Mr. Jackson's letter [No. 3657] and our reply, he would not have written exactly as he has; but, in any case, it would appear that little result would accrue were we to again go over the various points in rotation as he has done. We therefore propose to place before your readers one or two questions.

1. What is the most popular form of ignition apparatus at the present time?

We think that the fact that the Bosch magneto claims this distinction cannot be disputed by any person.

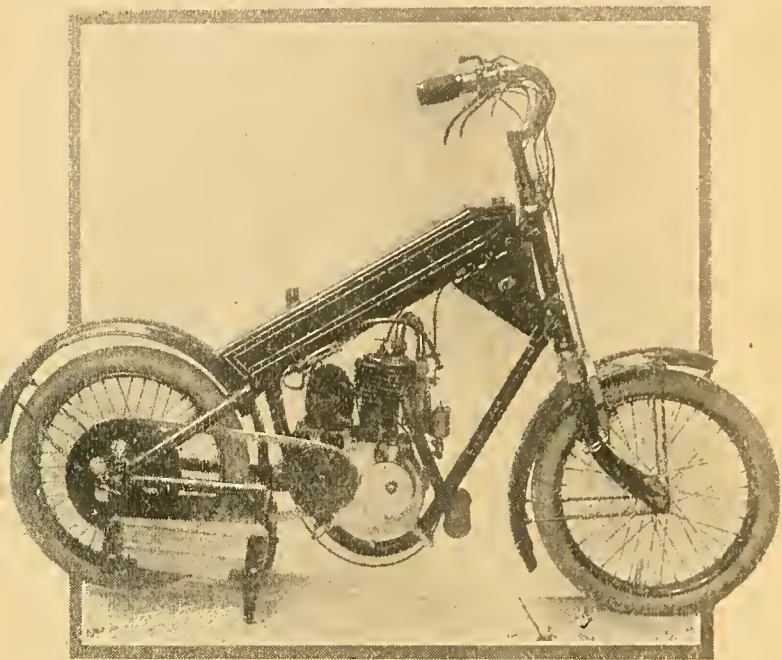
2. What is the reason for its popularity?

The answer to this question would be found in the fact that the Bosch Magneto Co. was at any rate one of the pioneers of the magneto industry, realising at a very early stage of the motor movement that something better and more reliable than coil and accumulator was necessary for the ignition of internal combustion engines, and, having realised this, got to work and passed through the experimental stage while electrical engineers in this country were all saying that magneto ignition would never come into vogue. Surely one is not out of place in stating that English manufacturers lacked enterprise, and in this connection it is interesting to note that the editor in the issue of *The Motor Cycle* dated November 11th stated that the largest British electrical firms are somewhat apathetic with regard to motor ignition.

With regard to your correspondent's statement that the writer of our previous letter has a great deal to learn, this is

not disputed for one second, but in any case we are now manufacturing more than fifty different types of magnetos, and all are necessary to meet the various requirements of the motor cycle and motor car industry, and when the gentleman who is responsible for the statements made in your letter has gained a little more experience in connection with his machine, and the difficulties attending the marketing of same, we feel sure that he will take a somewhat different view of the situation. It must not be supposed for one moment that there was any intention in our previous letter to convey the meaning that the Bosch Magneto Co. is the only firm that can manufacture magnetos. This is not the case, but one thing is certain, and that is that no reasonable-minded man would specify a comparatively unknown type of ignition for his motor cycle when he can have a magneto of undoubted reliability at the same price.

The position of the magneto industry in this country is much the same as the motor car industry was some years



The miniature Max made its second appearance at the Stanley Show in an improved form. The engine pulley is geared down, permitting the use of larger pulleys. The engine is of 2 h.p., with Simms magneto, and the carburettor controlled from the handle-bar.

ago, when Continental companies had such a tremendous lead in the design and manufacture of motor cars, and we paid those Continental companies the highest compliment in copying their designs; precisely in the same way would-be manufacturers of magnetos in this country have not struck original ideas for themselves, but have purchased Continental models and copied them. The latest instance that we can call to mind in this connection is the fact that in one year no less than three firms have made a very close imitation of the Bosch dual ignition apparatus. This fact in itself is the greatest proof that the designs and methods adopted by the Bosch Co. are considered to be the best, otherwise they would not be so quickly copied by their competitors.

THE BOSCH MAGNETO CO., LTD.,
ARTHUR E. BENNETT, Technical Manager.

Motor Tricycles.

[3717.]—As a student of cycling, and of an age that precludes me from attempting to ride a motor bicycle, I have often wondered why motor engineers have not given more consideration to motor tricycles. I for one would be glad to see manufacturers attempting to put on the market a tricycle with single wheel in front and driven by belt or gear to back axle. Is it too much to hope for? There are hundreds of persons who would become devotees of motor tricycling if a good pattern machine could be placed on the market.

Personally, I have visited the cycle shows of this country from time to time, and with regret cannot even see or hear of an attempt at putting one on the market. Will not some enterprising firm take this matter up?

A TRICYCLE RIDER.

The Abingdon Works Co., now the Abingdon-Ecco Co., placed a single steering double driving tricycle on the market about two or three years ago, but it has not been heard of lately.—Ed.]

Motor Cycling in Australia.

[3718.]—Motor cycle doings in South Australia are going to boom this year. We have now two clubs—the Automobile Club of South Australia and the newly formed motor section of the Norwood Cycle and Motor Club. Both these clubs have had their opening runs, and a great muster took place at each. The Automobile Club has just elected a new secretary, who promises plenty of sport; while the Norwoods are out already with a list of club runs and contests, and all motor cyclists are looking forward to an enjoyable season. The Norwood held its annual dinner recently, and it proved to be the most successful ever held. Programme and report sent under separate cover together with "Automobile Club Year Book" and a copy of our newly inaugurated motor journal, *The Australian Motorist*. This is a Victorian journal, although its future editions will devote a page or two to South Australia contributed by one of our own scribes. From the papers sent you can see we are fully alive as regards motor cycling and motoring in general, and I hope to send some good accounts as the various events are decided. I am a member of both clubs, and between them we are to have a run every Saturday, our first contest to take place next month (November), the nature of which is not fixed yet.

We have some beautiful scenery and places of interest, mostly or nearly all in hilly country, and let me say here that our hills are rather more severe than those often mentioned by you. The road surfaces and corners are a great deal worse, and on the flat we have no long stretches of nice smooth roads one so often reads about in your valued journal. However, we colonials are a jovial lot, and I can assure you the motor cyclists here enjoy life to no small tune, even under our poor touring conditions, to say nothing of the prejudice of the anti-motoring public, who are always too ready to over-estimate the speed and carelessness of motorists in general.

The machines mostly in use here are single cylinders, the Minerva still being the most popular. The local makers build their own frames with Minerva engines, and although they all or nearly all call the machine by their names, the bulk of the engines used are Minerva 2½ h.p. Magneto ignition is now almost universal. Twin cylinders, mostly Peugeot, are becoming more popular, and F.N. four-cylinders have a few enthusiasts. Also a local make called the Lewis, water-cooled, is well pushed. Lightweights are not altogether a success. Our roads are not good enough for that type, although they are good machines in their way; they are unsuitable for the rough work they are put to. The N.S.U.'s have come on of late with a rush, and, of course, like any new make well boomed, have caught on, but it is too early yet to comment on them. Personally, I fear they are geared far too low—about a 3½ in. engine pulley and a 21 in. belt pulley—for our warm climate.

As to our riders, we have some good ones—exceptionally good—and I will turn up some of our records at an early date. Those I can remember are: Mile track record, 1m. 5s. (not on a Brooklands track, but on our Oval, about three laps to the mile, and not highly banked); hill-climb up a severe hill, bad surface, and numerous bad turns, average gradient 1 in 8½ for two and a half miles, at the rate of twenty-eight miles an hour; reliability run of sixty-four miles over all sorts of country, penalty one point for every minute ahead or behind at controls—some secret ones, too—one rider gained maximum points (100) besides numerous instances where riders have ridden hundreds of miles over some very bad roads and beaten the railway trains, in one instance with a passenger on a M.H. carrier over 100 miles and then beat the train by a good deal.

Adelaide, South Australia.

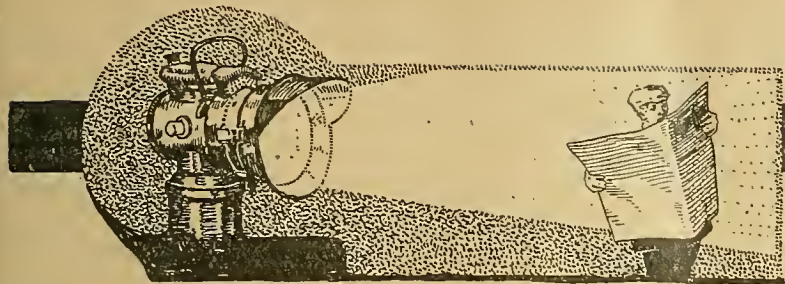
SAMOTOR.

EXPERIENCES WANTED.

"T. F." (Ireland) would like to know the name of a really reliable non-skid tyre or detachable cover for winter riding.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.



Occasional Comments

"By Ixion"

Running with the Wind.

My postbag contains an interesting letter from the owner of a $1\frac{3}{4}$ h.p. F.N. He complains that makers' advertisements exaggerate the average speed which can be maintained with lightweight machines in general, his opinion being that sixteen to eighteen miles per hour is their limit. My own experience differs from his; I find that if stoppages are excluded I can easily keep up a legal limit average with any lightweight I have tried; but that on an all day ride the average usually works out at his figure, owing to stops for meals, punctures, and belt adjustments. Secondly, he says lightweights are very susceptible to the direction of the wind. This is obviously true. An ordinary steady breeze travels at about ten or twelve miles an hour. If a motor cycle is travelling with the wind at, say, sixteen miles an hour there is very little draught playing on the engine, and the conditions approximate to those under which an engine is run on the stand. At the same time this trouble can always be met by slightly more generous lubrication than usual. He concludes with a well deserved eulogy of the geared down pulley fitted to the 1908 F.N. lightweight. I wonder if he noticed a geared down variable pulley on an accessory stand at the Stanley. It looked rather a good thing to me, though I have yet to try it on the road.

Hill-climbing in Ceylon.

Any reader who is thinking of taking a motor cycle out to Ceylon should undoubtedly select a low compression engine, assisted by a variable gear, for a Ceylon motor cyclist tells me that the country is rich in terrible ascents—"jumping snakes could not get up some of them." The roads keep curling round and round upon themselves, and he mentions one ascent thirteen miles in length, with an average grade of 1 in 12, and frequent patches of 1 in 4, 5, 6, and 7. This is Sutton outsuttone indeed, or most "suttonly" a genuine hill.

Ingenious Carburetters.

From a number of drawings I have seen recently it appears possible that the carburetter of the future may embody some mechanical devices. Already a good many carburetters incorporate spring actuated devices roughly resembling an automatic inlet valve, and just as the automatic inlet valve is gradually disappearing from engine practice so the automatic valve on carburetters may presently be supplanted by a more positive device. I saw several special hill-climbing machines at various events this year, which contained mechanically operated fuel or air feeds, and there is now to hand a design in which a very simple form of mechanically operated valve increases the flow of petrol in exact proportion to the speed of the engine. The advantages of such designs are increased flexibility, absolutely automatic action, and the removal of the inertia inseparable from atmospherically operated valves.

The Silent Knight Engine.

Many motor cyclists found their way to Olympia, and instantly made tracks for one of the three Silent Knight engines exhibited there. Our hopes that the Minerva people would shortly produce an air-cooled sample of it were greatly intensified by a view of a sample engine cut open, and revolved by hand. Our distrust of the two concentric sleeves within which the piston works was reduced to a minimum when we saw for ourselves the low speed and short travel of these sliding sleeves. On the big stroke sample staged the travel of the sleeves did not exceed an inch, and would be slightly less on a 3 in. stroke, while the speed of the sleeves was correspondingly slow. I suppose the whole question, from a motor cycle point of view, is simply whether the friction entailed by the design is too excessive for a miniature engine or not; and I do not for a moment suppose the friction will be excessive, since the power curves of the big Daimler engines are apparently better than any secured from a poppet valve engine of similar capacity. *En passant*, I hear that other designs of slide valve engines are likely to make an appearance before many months are past.

Vaporising of Lubricating Oil.

One alleged explanation of Mr. Earle L. Ovington's F.N.'s occasional fits of abnormal speed is the vaporisation of lubricating oil at very high temperatures. About six years ago I had an experience with a 10-12 h.p. Darracq car, which the experts told me could only be explained on a similar supposition. We ran short of lubricating oil, and travelled a dozen miles or so on a scanty supply of a very thin oil, which, if my memory serves me rightly, was actually salad oil. On entering our garage, the engine refused to stop when the accumulators were switched off. I promptly shut off the petrol tap, but the engine continued to fire away merrily, knocking and pounding in a way which threatened a broken crankshaft. In this dilemma I got a huge wrench, and unscrewed the inlet pipe at its union to the carburetter. By this time two or three minutes had elapsed, but the engine still refused to stop. Finally I got out another spanner, intending to take out a valve, and just as I started work the engine at last ceased firing. Several experts told me the engine had been vaporising lubricating oil, and I think they must have been correct, as the oil used must have had an extremely low flash point.



Whilst one of the 1909 pattern Rex Motor Bicycles was undergoing trial, it came into sudden collision with an obstacle, and the frame was twisted in the manner shown. Despite the strain, it did not give way at any point.

IN PRAISE OF A PASSENGER MOTOR CYCLE.

By ED 232.

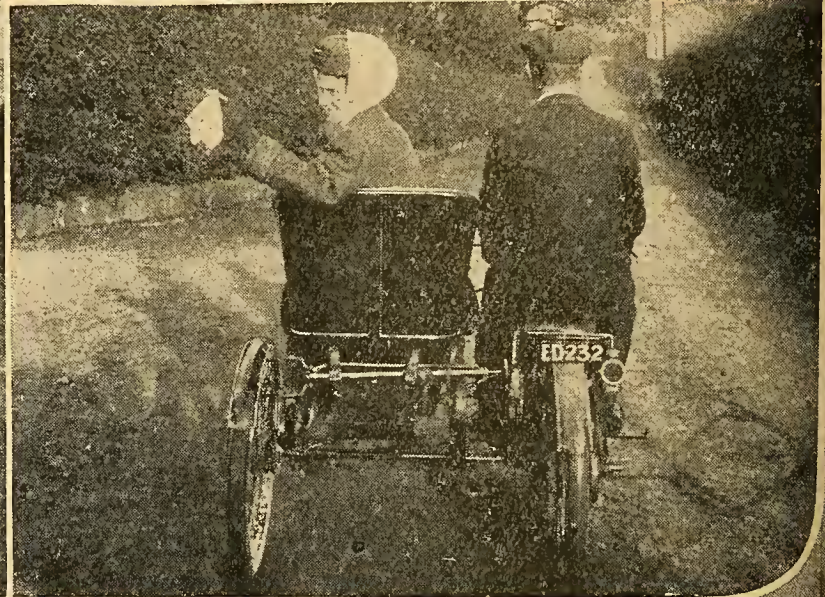
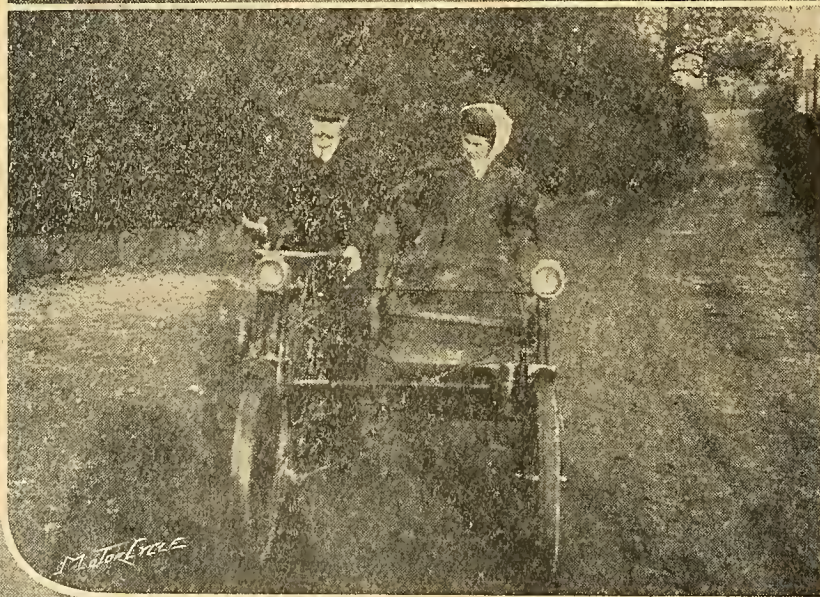
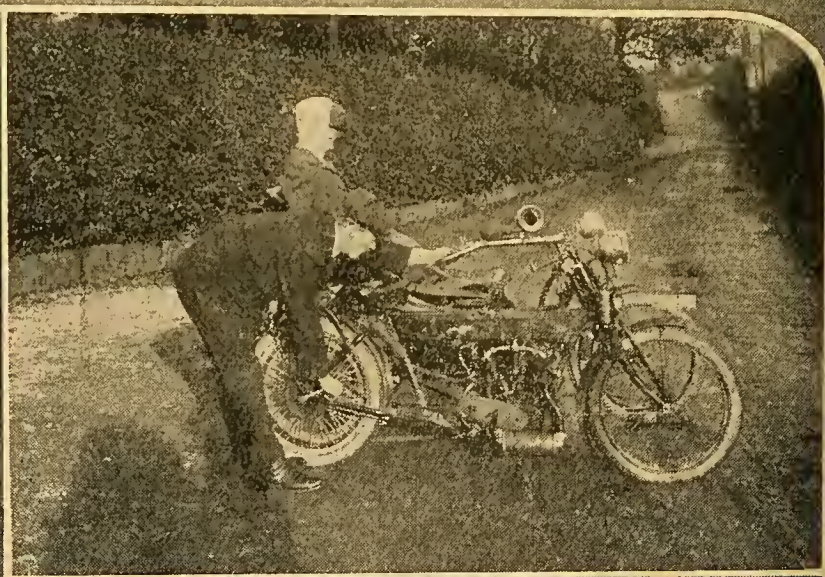
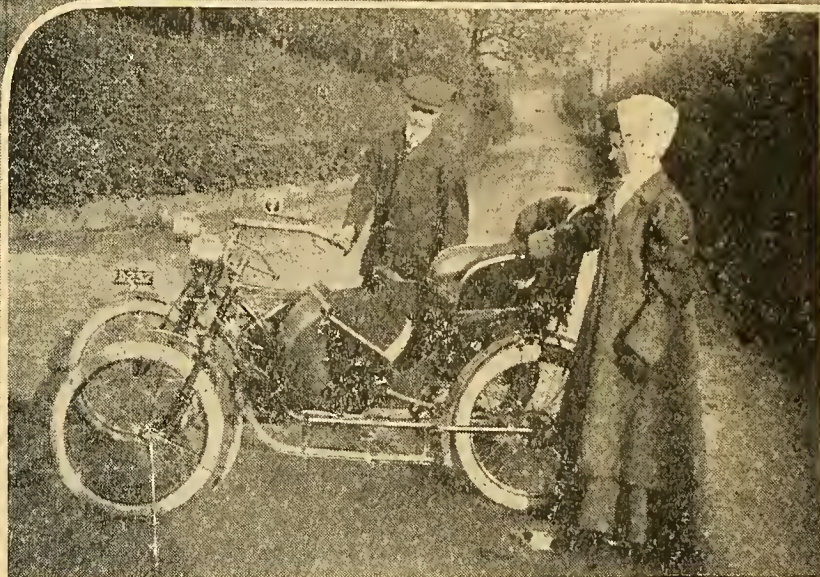
MANY motor cyclists are now considering the question of their 1909 mount, and possibly a passenger attachment for same. To these the following details and photographs of a unique combination of which I am the proud

and satisfied owner will no doubt prove interesting. I should first of all remark that I did not work up to my present 6 h.p. twin-cylinder machine through a series of gradually increasing horse-powers in single-cylinder machines like most motor cyclists. No! In my earlier motoring days I looked askance at a "common" motor bicycle. In spite of a strictly limited income, nothing but a real genuine motor car would do. So one fine day, after

parting with 180 carefully saved and hoarded "Jimmy O'Goblins," I became the proud owner of a two-seated 6 h.p. single-cylinder motor car, with three speeds and reverse, capable of about thirty miles per gallon and a top speed of about twenty four miles per hour. A list carefully kept of the expenses incurred made quite a formidable total, and I decided at the end of the first year it was more than I could afford.

Experiences with a Tricar and Motor Bicycle.

So I sold it, and with the money realised I invested, on the score of upkeep, in a 5 h.p. single-cylinder chain-driven tricar of well-known make, with coach-built and well sprung front seat, but rigid frame and back seat. This was speedier and far more economical than the car, but oh! the agony of that back seat over



Passenger about to enter sidecar.
Driver and passenger seated.

Starting the engine by means of the Roc clutch and handle.
Now we're off. Goodbye!

In Praise of a Passenger Motor Cycle.—

any but the best roads, the excessive vibration owing to the three tracks, the inaccessibility and the unsociability of it! Once again I made use of *The Motor Cycle* sales columns.

What next? Well! my wife told me not to bother about her, but get a motor bicycle. So my next venture was a 1908 Triumph, and as a single this was all that could be wished, but after a time, knowing that the partner of my joys and sorrows was left lonely at home, the suggestion of a sidecar was gladly received. Of course, that meant a two-speed gear and free engine. Should I fit these to the Triumph, or sell it and buy a machine with these improvements already fitted?

A Machine for Sidecar Work.

I decided to buy a new machine, so once again my "auto" was for sale. And then, glad day! I purchased a two-cylinder 5 h.p. Roc motor bicycle, Peugeot engine, with Roc two-speed gear and free engine clutch, and it did not take long for me to discover I had got a good thing. No sudden dismounts in traffic! Instead, just take the high speed gear out of action with a touch of a pedal, bring machine to rest with the brakes, and put one foot down, with engine running and throttled down by handle-bar levers; then, with the road clear, gradually press the pedal, and off again, without the usual shove to start and leap into the saddle. I found the bicycle capable of doing fifty miles per hour, or two miles per hour on the low gear—which gives a 50% reduction—and about 80 miles to the gallon of petrol. Next came the question of a sidecar attachment. Which kind is best? Fixed, flexible, or castor wheel? All had their champions, but none really pleased me. I noticed an illustration of the Lowen patent two-wheeled sidecar in *The Motor Cycle*, and as this was evidently on the right lines I got one, and fitted it to the Roc, and here at last I found all I wished for. When attached to the motor bicycle (a matter of five minutes at the outside, with patent spring bolts, no tools of any kind being needed) the wheels run in track just as any other four-wheeled conveyance, the front steering wheel of sidecar being coupled with the steering head of bicycle. Running on four wheels, there is, of course, no vestige of side strain; the seat is beautifully sprung, roomy, and well upholstered; the front is brought up to height of passenger's knees, and side doors are fitted like a car, making a completely draught-proof well for the protection of the passenger. The sociability of the sidecar is a great point in its favour, and conversation is easy. Both the front forks of the bicycle and those of the sidecar are suspended on springs, which, of course, means added comfort to passenger and driver. I use a rin. Whittle Link Grip belt, as this is the only one I have found equal to passenger work.

License Fees £1 10s.

A trailer license is required in addition to the motor cycle license, making 30s. in all. The petrol consumption with two up works out about seventy miles per gallon. Forty miles per hour is the top speed with sidecar, and I have yet to find a hill it won't surmount on the low gear. I would like here to answer two objections frequently heard of late against the Roc machine and gear, which makes me wonder if they are at all inspired.

First, handle starting. I find no difficulty in this, because, before attempting to start up by handle, I

inject paraffin to loosen the pistons. This being accomplished, I have no trouble in rotating the engine at a good speed, as the engine is geared up. Provided everything is in order, the engine fires as soon as the valve lifter is released.

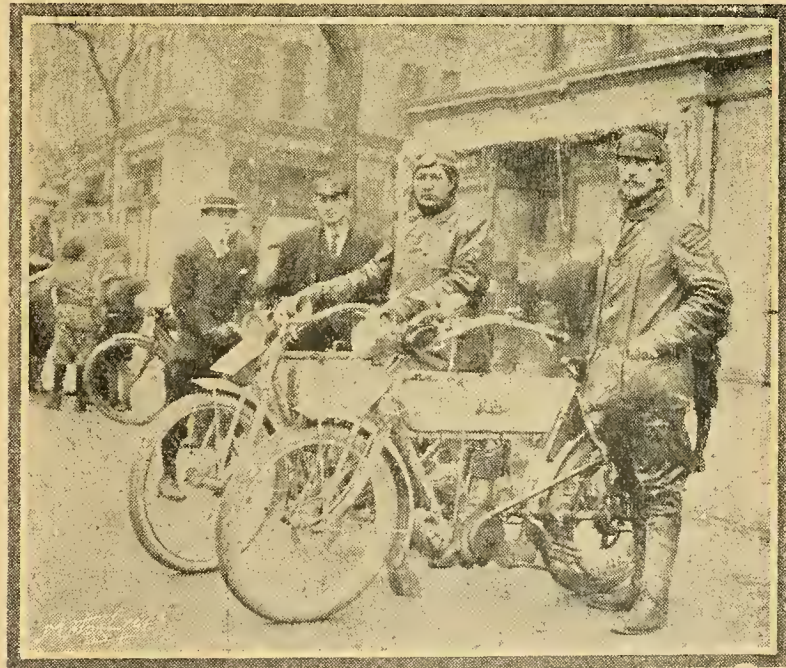
Secondly, slipping of brake bands. I have not experienced this even on steep hills with a weight of 7 cwts.

Most of the correspondents who complain of slipping write of oil leaking out of the gears and getting on brake drums and bands. If they mean ordinary engine oil, no doubt they have trouble. The gear case does not require to be "oil" tight, nor is it so. The proper medium for lubricating the gears is "grease" or "graphite gear grease," which is a "solidified" oil, and never becomes sufficiently liquid to run out of the gear case, or get on the drums or brakes and cause slipping.

Finally, as to the cost, the outfit illustrated cost me about £80 with all accessories. A 4 h.p. single-cylinder machine and less elaborate body to sidecar would reduce the cost considerably. The Lowen sidecar is adjustable in every direction, and will fit any make of motor bicycle. It is strongly constructed, and the method of attachment is good. I can thoroughly recommend this combination to anyone anxious to possess a satisfactory passenger outfit, two or four-wheeled at will. I may add I have no interest in either the motor bicycle or the sidecar mentioned other than that of a well-satisfied owner.

A RELIABILITY TRIAL IN AMERICA.

EARLY last month the New York Motor Cycle Club held a so-called endurance contest over a course of 150 miles of billy and most treacherously slippery road. Sixteen riders were entered, and at the end of the run America had



Two N.S.U. riders who made non-stop runs in the New York M.C.C. endurance contest.

one perfect score and a few battered ones, which, however, was sufficient to beat the team representing Europe, which team, however, had two perfect scores. The motor cyclists upholding Europe's reputation were D. Molin (6 h.p. twin N.S.U.) and Fred Voelker (3¾ h.p. N.S.U.). They are portrayed in the above illustration.

CURRENT
CHAT

Sydney R. Jones



SPECIAL FEATURES

MOTOR CYCLES AT THE
PARIS SALON.

PASSENGER MOTOR CYCLES.

TIME TO LIGHT LAMPS.—Dec. 9th, 4.50 p.m. ; Dec. 12th, 4.49 p.m. ; Dec. 16th, 4.49 p.m.

Demand for Motor Cycles.

We are informed on good authority at the output of a certain firm of motor cycle manufacturers in Coventry has been booked up to the end of May next.

Interest to Birmingham Riders.

A local reader asks us to warn motor cyclists that the police and magistrates at Acocks Green Court, Birmingham, are rabid anti-motorists, and riders passing through that district should be extremely careful how they proceed.

The Most Powerful Tricar.

The tricar illustrated on this page, we should imagine, the most powerful three-wheeler at present on the road. It is propelled by a 16-20 p. Mutel four-cylinder engine, 4in. by 5in. bore and stroke, and has a rebs carburetter, pump circulation, and clutch, accumulator ignition

The World's Hour Record.

The A.C.U. Competitions Committee at its last meeting had before it the claim for the Hour Motor Cycle Record recently made at Brooklands by Mr. C. R. Collier. The distance originally returned was 70 miles 105 yards, measured from the 50ft. line, but as the Union rules stipulate that motor cycle records made at Brooklands shall be taken from the 10ft. line, the committee has decided that it can only recognise the distance as 67 miles 1,655 yards, which record has been duly passed. Even now, there is a good margin between Giuppone's previous best.

A Prominent American Motor Cyclist in England.

On Wednesday last Mr. Earle L. Ovington, president of the Federation of American Motor Cyclists, was entertained at dinner at the Royal Automobile Club by several prominent mem-

The Vanderbilt Cup Race.

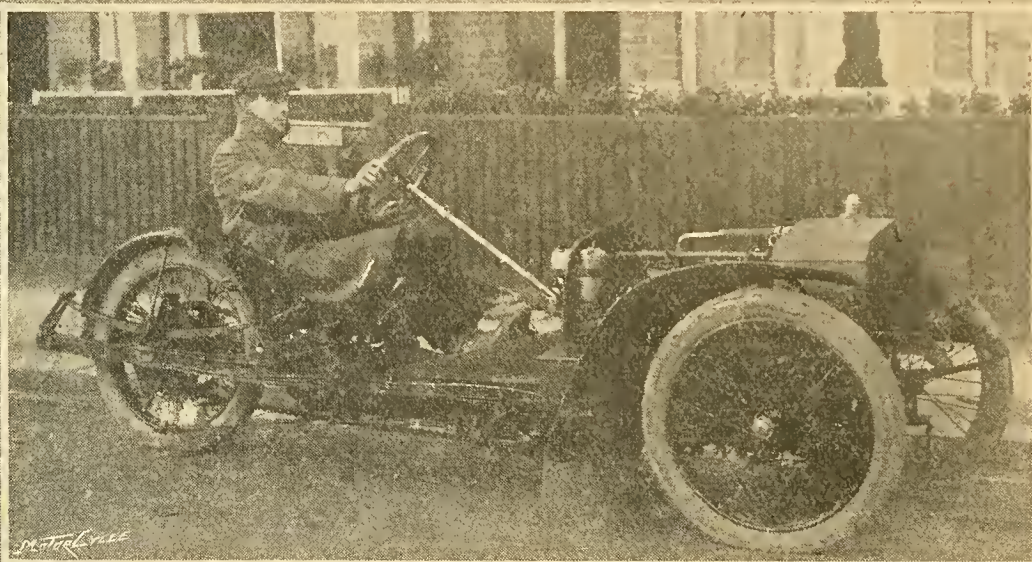
One of his most interesting experiences was when he, in company with other motor cyclists, were told off to keep the course clear during the recent Vanderbilt Cup Race, and to appreciate this it must be mentioned that from all accounts American crowds are more than unruly. Neither police, special constables, nor volunteers with unloaded rifles served to keep the throng back. But a few motor bicycles continually driven as fast as possible with cut-outs open, at anyone who happened to be in the way, were he spectator or constable, worked wonders. According to the narrator, the effect was quite wonderful, and the crowd just melted away.

Amateurs and Trade Riders.

Another point under discussion was the misunderstanding that has arisen in the institution which Mr. Ovington represented, concerning the amateur question. Our readers will remember that Mr. T. K. Hastings, the popular American, got into trouble with the Federation through competing with English professionals. On Wednesday evening the definition of a "private owner," as drawn up by the A.C.U., was pointed out to Mr. Ovington, with the result that the matter is now in a fair way to be cleared up. It may be stated with practical certainty that in future, American amateurs will be able to come over and take part in our competitions without fear of suspension.

A Meeting at Brooklands Suggested.

Mr. Ovington is particularly anxious for the A.C.U. to arrange an international, or rather an inter-American, motor cycle race at Brooklands in the Spring. After some discussion it was suggested that the competition should be an hour race, open to single-cylinder machines having a capacity not exceeding 500 cubic centimetres, and to twins having a cubical capacity not exceeding 1,000 c.c., Mr. Ovington being of the opinion that these limits should be the standard for all A.C.U. competitions. Mr. Ovington is agent for the F.N. motor bicycle in the United States, and has done much to popularise that excellent machine in his country. He has expressed himself to be delighted with London, and is much gratified at the manner in which he has been received over here. Such meetings as these do much to cement friendly feeling between nations. Would that our attempts to promote international contests between certain continental countries had met with greater success. If the Americans do come over they will be certain of a hearty welcome.



A 16-20 four-cylinder tricar on substantial lines owned by Mr. Wm. E. Gibson. A specification of the machine is given in a paragraph on this page.

high tension distributor. Two forward speeds are arranged on two cross-shafts behind the engine, and the final drive is by chain. The wire wheels are fitted with 810 by 100 mm. Dunlop tyres, and, as may be expected, are standing well. All wheels are sprung on long laminated springs, and the frame is of channel steel. The petrol tank is behind the seat. Easy removal of the back wheel has been provided for, without undoing the main or interfering with brake or other adjustments. The owner, Mr. W. E. Gibson, of Teddington, tells us that the tricar gives no trouble, and he drove it from Edinburgh to Teddington a few weeks ago.

bers of the Auto Cycle Union Committee. Those present were Mr. Robert Todd, chairman, Mr. Ovington, Mr. F. Straight, secretary, and Messrs. W. H. Wells, A. G. Reynolds, and E. M. P. Boileau. After dinner Mr. Ovington regaled the party with some delightfully told experiences of motor cycling in the United States, and stated his views on British and Continental machines. He regarded these, especially the British productions, as being far superior in every respect to those in use in America, but to use his own words, he considered that the American racing machines would make the British motor cycling public sit up and take notice.

News from All Points of the Compass.

Readers and correspondents of *The Motor Cycle* are scattered all over the world, and the present issue alone contains motor cycling news from New Zealand, South Australia, Tasmania, Nyasaland, South Africa, Canada, Ceylon, Vancouver, Long Island, America, Normandy, Brittany, France, Germany, Denmark, and Belgium.

Track Race in the U.S.A.

In a 100 miles race at Birmingham, Alabama, on the 24th ult., Robert Stubbs, of that city, won, completing the distance in 1h. 47m. 44s. The track was a dirt track with practically no banking. Stubbs rode a 5 h.p. twin-cylinder Indian. The speed works out at about 55½ miles per hour.

A Projected Race Meeting.

A motor cycle race meeting under the auspices of the Federation of American Motor Cyclists was to have been held recently over the Long Island Motor Parkway, but the President of the Federation declared the weather was too cold. A race meeting on a big scale, however, will be held early next year. The new Long Island Parkway differs from Brooklands in that the course is practically straight. The surface consists of concrete, and the track is reserved exclusively for motorists.

Serious Fire at Halifax.

We learn that a somewhat serious fire occurred at the premises occupied by Mr. E. Farrar, Albion Works, Square Road, Halifax, on Thursday night last. The fire, it appears, broke out about 11.20 p.m., and spread to the storey above, occupied by a firm of underclothing manufacturers. The damage to Mr. Farrar's stock was considerable, several motor cycles and a quantity of tyres and accessories having been completely ruined. Those of our readers who have goods on order from this firm will doubtless give them a little extra time in which to supply.

A Correction.

We regret that there are one or two errors in Mr. H. Hewitt Griffin's analytical abstract of motor cycles exhibited at the Stanley Show and published last week. With regard to the

Rex machines, the whole of the thirteen machines shown were fitted with magneto ignition, not battery ignition, eight single-cylinder Rex machines had M.O.I.V., and five twin-cylinder machines A.O.I.V., instead of thirteen M.O.I.V. Also eight of these machines had pedals instead of four. In the case of the Vindec motor cycles, a number of these were shown without pedals, whereas the table gives all Vindec as with pedals. The same remarks apply to the Triumph motor cycles.

Hunter, 45, Park Street, Bristol, and has not since been returned. It has magneto ignition, Palmer tyre on back, petrol pipe bent out of original shape, no struts from girders to crown. Any reader who is offered this machine for sale is asked to communicate immediately with the police or with Mr. Hunter.

Damages for a Motor Cyclist.

At the Wandsworth County Court, on Friday last, Costa John Malakates sued the Motor Cabs, Ltd., of Queen's Road, Battersea, for £73 19s. damages for personal injuries, injuries to a motor cycle, and loss of income, due to an accident caused by the alleged negligence of defendants' motor cab driver. The judge said there was no doubt that the accident was caused by the failure of the motor cab driver to drive in a proper manner, and awarded plaintiff £21 damages.

Motor Cycling in Vancouver.

Mr. R. Boxer, a well-known motor cyclist of Brockley, S.E., and a successful amateur in competitions, has just returned from a four months' visit to Vancouver. He took his De Dion Bat with him, and despite the high freight and duties did not regret it. Most of his riding was done in and around Vancouver, where he stayed with relations. He states that there is an eight miles limit in the town, and a fair number of motor cycles and cars are used.

French Motor Cycle Exports.

It is worthy of note that while all the French automobile exports for the first ten months of this year are down, the motor cycle exports are up. The figures quoted in *La Voiturette* are motor cycle exports 1906, 1,242,000 francs; 1907, 674,000 francs; and 1908, 1,128,000 francs, an increase over 1907 of 454,000 francs. This is all the more remarkable when one considers the difference in quality and design between the English and French models. France must have found a market for French made motor cycles which England ought to be able to easily secure for herself unless the prices asked for the French machines are too low to allow England to compete.

FUTURE EVENTS.

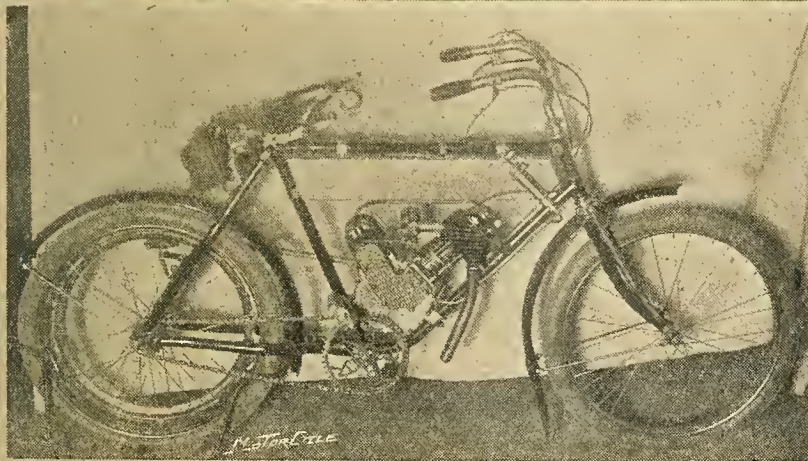
- Nov. 28 to Dec. 13—Paris Salon Exhibition of Motor Cycles, Cars, and Accessories.
Dec. 10.—Essex M.C. Paper by Mr. H. G. Cove on "Motor Cycles, Accessories, etc."
" 12—Motor Cycling Club Annual Dinner.
" 16—Motor Union General Committee Meeting.
" 19—North West London M.C.C. Second Annual Dinner and Distribution of Prizes.
Jan. 7—(Provisional) Essex M.C. Paper by Mr. H. M. Wyatt on "Magnetos."
" 16-23—Motor Cycle Show at Madison Square Garden, New York.
" 20—Auto Cycle Union Annual Dinner, preceded by the Council Meeting.
" 23—Essex M.C. Annual Dinner.

Germany's Foreign Trade in Motor Cycles.

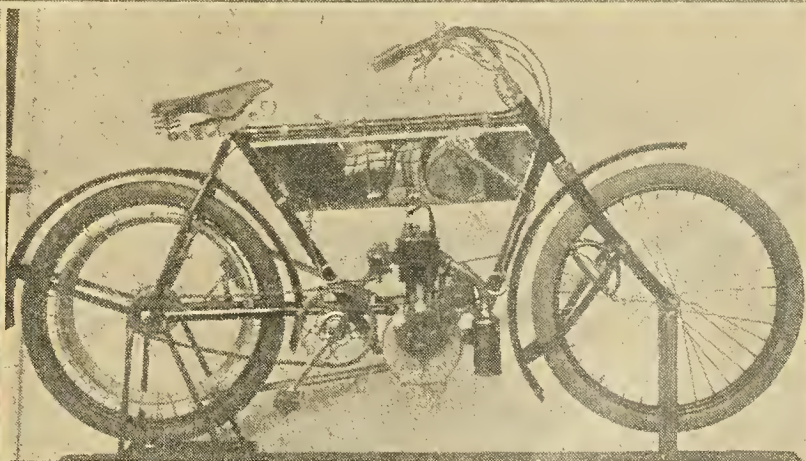
During the first ten months of 1908, both Germany's purchases and sales fell off in comparison with a like period in the foregoing twelve months. The imports fell from 22,900 to 20,900 kilos. This means a difference of over £600. Belgium succeeded in slightly increasing her exports to Germany. Germany's exports underwent a marked change, her sales dropping from 173,500 to 116,300 kilos. The official valuation being 750 marks per 100 kilos, the values fell from 1,301,250 to 872,250 marks, or, expressed in English money, a fall of more than £21,400. England, however, purchased more motor cycles, although only a matter of 14 cwts. The exports to Denmark dropped from 24,800 to 11,300 kilos. In all, Germany exported 773 machines fewer than in 1907.

Another Motor Cycle Stolen.

On Saturday, November 28th, a 1½ h.p. lightweight N.S.U. motor cycle was obtained on appro. from Mr. C. A.



The Burry Lightweight exhibited at the Paris Salon. The absence of any form of silencer will be noted.



The Alcyon Lightweight at the Paris Salon. Note the position of the magneto and silencer.

THE PARIS SALON.

WHEN we visited the Paris Salon last week we found the Grand Palais, that beautiful building in the Champs Elysées, in which are exhibited the motor cars, motor cycles, pedal cycles, and accessories, shrouded in a dense fog, which, according to those who have spent a lifetime in Paris, was unprecedented.

As in previous years, the main floor of the building is devoted almost exclusively to motor cars, and the motor cycle stands, what there are, are to be found in the galleries, where there are also nearly all the accessory exhibits.

The Grand Nef, or main hall of the building, has lost, in our opinion, none of its splendour, the interior lighting may be reduced in the number of actual lights, but the general effect remains just as artistic as ever. The exhibitors themselves also vie with each other in the decoration of their stands, and a contemplation of the main part of the show, by, from the balcony, at any time after the stands are illuminated, presents the same enchanting spectacle as in previous years. With regard to the motor cycles on exhibition, they are, speaking generally, very far behind the British motor cyclist's ideal. Of course, there are the same firms exhibiting as have already shown at the Stanley, such as the Moto-Rêve, F.N., Motosacoche, etc. We do not propose to deal with their exhibits in this article, and our remarks must be taken as alluding to the general run of French motor cycles which are seldom heard of or ridden in this country, and which were not exhibited last month at London.

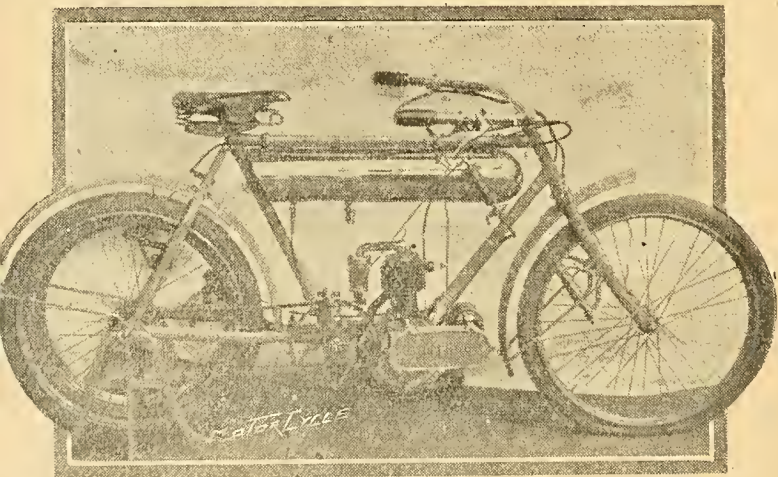
With few exceptions, the French motor cycle maker is obviously looking to the lightweight motor bicycle to resuscitate a business which he has sadly neglected for some reason which is beyond our ken. That there is a big market to be developed in motor cycles in France we have not the slightest doubt, but at present the motor cycle business is in the hands of two or three firms at most, who do not appear to

THE MOTOR CYCLE EXHIBITS.

The Société Industrielle d'Albert exhibit a Rochet-Bruneau lightweight. This is chain driven through a reducing gear and counter-shaft, the whole transmission being enclosed in metal case. The magneto is fitted behind the engine, and car driven. This machine was exhibited last year, and remains unaltered.

The Alcyon lightweight is a new model. The F.N. type cradle has been discarded in favour of an ordinary diamond frame, presumably to allow space for the magneto, which is car driven. The belt transmission on this machine is of the direct type without reducing gear. The engine is of 1 h.p., with mechanically-operated inlet valve (see p. 972).

The Griffon exhibit is a representative one from the French point of view, but the alterations in design and equipment are so trivial that it is unnecessary to go into the details of



The 2 h.p. Lurquin and Coudert Motor Bicycle. The 1½ h.p. is exactly the same in appearance, but of course lighter.

construction of these machines, which in their 1907 form are already well known to our readers. The bevel gear driven magneto is still retained, the magneto machine being enclosed in a compartment of the tank.

Although Humber, Ltd., show a full line of pedal bicycles through their French agent, they do not include a motor cycle, which is to be regretted, as we think that there would be a demand for good British machines, now that they are so much in advance of those made in France.

have made any great efforts to keep their products up to date. For instance, it is an uncommon sight to find a machine fitted with a handle-bar controlled carburetter; there are one or two exceptions to prove the rule, but the old style levers on the tank are universal. Such articles as stands and luggage carriers are practically unknown, and the saddles are, in the majority of cases, more suited to path racing requirements than those of the touring or road riding motor cyclist.

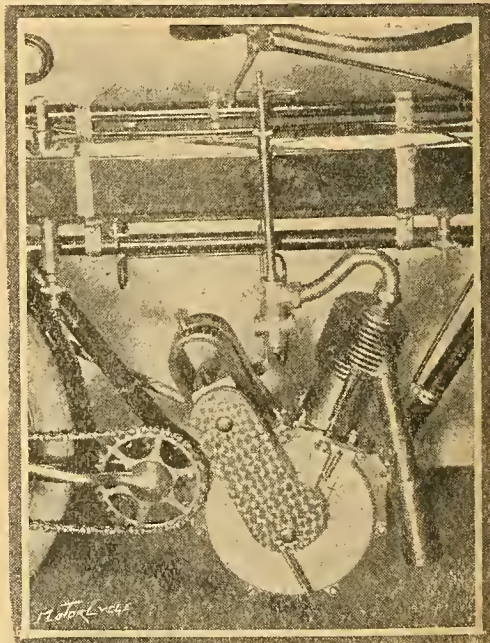
We searched in vain for footrests, and as for pedal applied belt rim brakes, admitted to be the best retarding device for a motor cycle, they were non-existent. Magneto ignition is fitted to several machines, but it is nothing like as universal as in England. Numerous machines are exhibited with battery ignition, and the enquirer is informed that magnetos can be fitted to order, but in many cases the engine has not been designed to take a magneto, and the attachment of the magneto machine would to all appearance be somewhat of a makeshift. Passenger motor cycles are few and far between; one or two tricars are shown, such as the Austral and Quentin, but we failed to find any new makes, while those on view have undergone little or no alteration. The change-speed gear question does not appear to have ruffled the mind of French manufacturers, and where a variable gear is fitted, it is usually the Bozier, which, as our readers already know, is an epicyclic gear attached to the engine-shaft. One or two ingenious methods are employed for reducing the gear by means of a counter-shaft to enable engine pulleys of large diameter to be used.

If any of our readers should pay a visit to the Salon, and wish to first see the motor cycles, they should make for the balcony and tour the whole of the outer gallery; then take the *salles* in order of lettering, A to X, not missing the Salon d'Honneur. Then they should descend to the Rez de Chaussée, and afterwards, if time permits, to the main floor.

The Lurquin-Coudert show two models—a 1½ h.p. and a 2 h.p. Both are lightweights with magneto ignition, and are so much alike that we only find it necessary to illustrate the 2 h.p. They both have magneto ignition, the magneto being fitted in front of the crank case, and chain driven, automatic inlet valves being retained.

J. Duperrut shows a light motor bicycle called the "Burry," which emanates from that home of the lightweight, Geneva. The engine is inclined forward with horizontal radiating fins on the lines of the Motosacoche, the carburetter being between the engine and the gear-driven magneto. The method of inclining the engine and casting the support for the magneto on the top of the crank case makes a neat combination. The transmission is by V belt, and both valves are mechanically operated. The wheels are both 24in. diameter. The engine is devoid of a silencer, and the machine has only one brake (see p. 972). It is provided with handle-bar control for the carburetter, and is the only one in the show so provided, with the exception of the Moto-Rêve, Terrot, Motosacoche, and Triumph, which latter is on exhibition in one of the rooms in the Gallery. It is quite refreshing to come across this solitary example of a British-made complete motor cycle, showing its French competitors such a very clean pair of heels.

Magnat, Debon, and Moser show a machine very like the Burry described above. The engine is inclined forward, and the magneto is similarly situated and driven; but the engine is fitted lower in the frame, and the radiators are at right angles to the cylinder, and round instead of square. The engine appears well made.

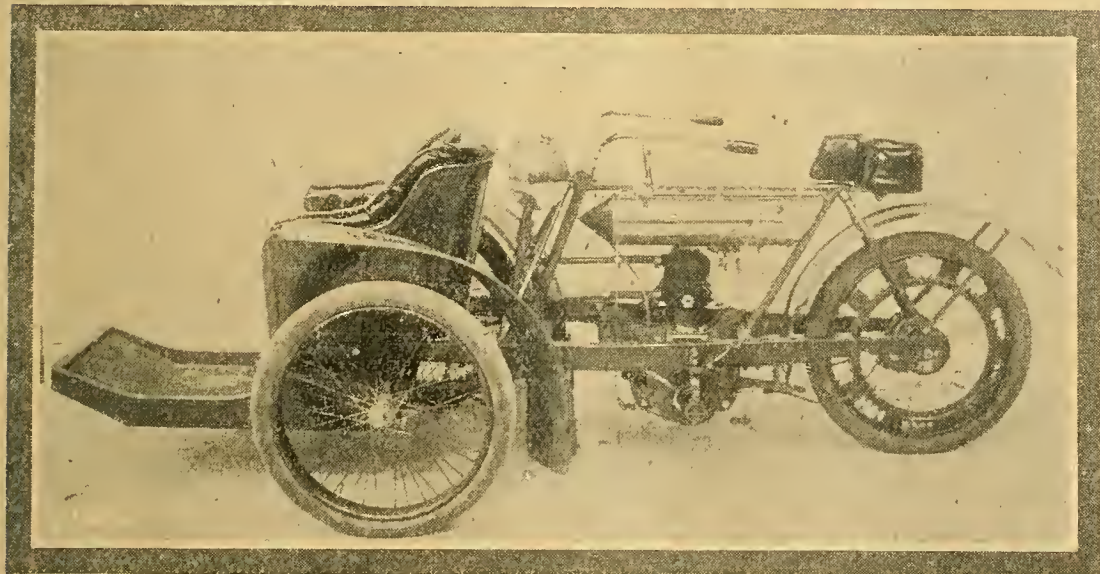


The arrangement of engine and magneto on the Magnat-Debon Lightweight.

The Paris Salon.—

René Gillet and Co. have quite one of the best exhibits of motor cycles in the Salon. This firm is not very well known, but its machines are as well designed as any of the French models on view. With the addition of a V belt drive instead of a flat one, and magneto ignition, they would be quite passable. The design of the rear frame allows for a very low seat. The tricar is one of the twin-cylinder bicycle models, with a detachable forecarriage and sprung front axle. On this stand is also a twin-cylinder tandem motor bicycle, which we illustrate.

The Quentin tricar, which is illustrated below, is one of the best examples of a water-cooled tricar in the show. It has a pressed steel frame, thermo-syphon water-cooled



The Quentin Tricar. A French production which is on exhibition in the Paris Salon.

engine, with magneto ignition. The transmission is by chain from a Bozier gear box on the engine-shaft to a large chain sprocket on the rear wheel. The sprocket is equal in diameter to a driving belt rim, and is attached to the road wheel by means of steel brackets or plates, which are riveted to the sprocket and the tyre rim. The front axle is sprung, and the coach-built seat is directly attached to it without the intervention of springs.

Herdtlé and Bruneau, the makers of the little water-cooled lightweight motor bicycle, have a good exhibit of all their models, which have been previously described in these pages.

Gallien-Sarda exhibit the Werner motor cycles. The lightweight and twin-cylinder models are exactly the same as last year and call for no special description.

In the Salon d'Honneur Les Fils de Peugeot Frères show all their models—the lightweight, $3\frac{1}{2}$ h.p. single, and the 5 h.p. twin, the two last named being provided with Truffault suspension spring forks. They are all the same as last year with the exception of the lightweight, which is now fitted with a magneto.

Terrot and Co.'s motorette is a 2 h.p. lightweight with inclined engine, magneto at the rear of the cylinder on top of the crankcase on the lines of the Magnat-Debon. The transmission is by round twisted belt, and there is a jockey pulley to maintain the tension. The throttle, which is contained in the inlet valve dome, is controlled from the handle-bar. The weight of this machine is 94 lbs.

The Moto-Rêve and Motosacoche machines on exhibition are exactly the same models as those we described in the report of the Stanley Show, as is also the F.N. The latter firm, however, show a forecarriage attached to one of the four-cylinder models, but with a two-speed gear.

H. J. Harding has an excellent display of J.A.P. engines and carburettors, Chater-Lea frames, Watawata

belts, etc. He told us that the French reception of the J.A.P. engines was favourable, and he expected to do good business with them.

The G. and A. carburettors for motor cycles are now made with the petrol union on top of the float chamber instead of underneath, so, it is claimed, preventing flooding and waste. The air control by means of metal balls of various weights is, of course, retained.

The Montbard-Aulnoye firm, who make a speciality of pressed steel pistons, have some nice little pistons on exhibition suitable for motor cycle engines. They are beautifully made, very light, and exhibited machined ready for use.

An article which calls for mention is the Fixator, a device for locking nuts; it is also used for controlling the movement of levers, such as throttle and air levers on handle-bar. We expect to illustrate this in the next issue, as well as one or two other interesting accessory articles which space prevents us dealing with in this issue.

A. Sommaire exhibits a $2\frac{1}{4}$ h.p. lightweight, a 3 h.p. single-cylinder, and a 5 h.p. twin-cylinder minus pedals. These machines have rigid forks, round petrol tanks, and battery ignition.

The Moto-Bécane is a lightweight attachment for pedal bicycles, shown by Albert Brunet. The machine exhibited had a special motor cycle frame, and we doubt if the attachment would fit any pedal bicycle without a good deal of alteration, particularly to the back and chain stays.

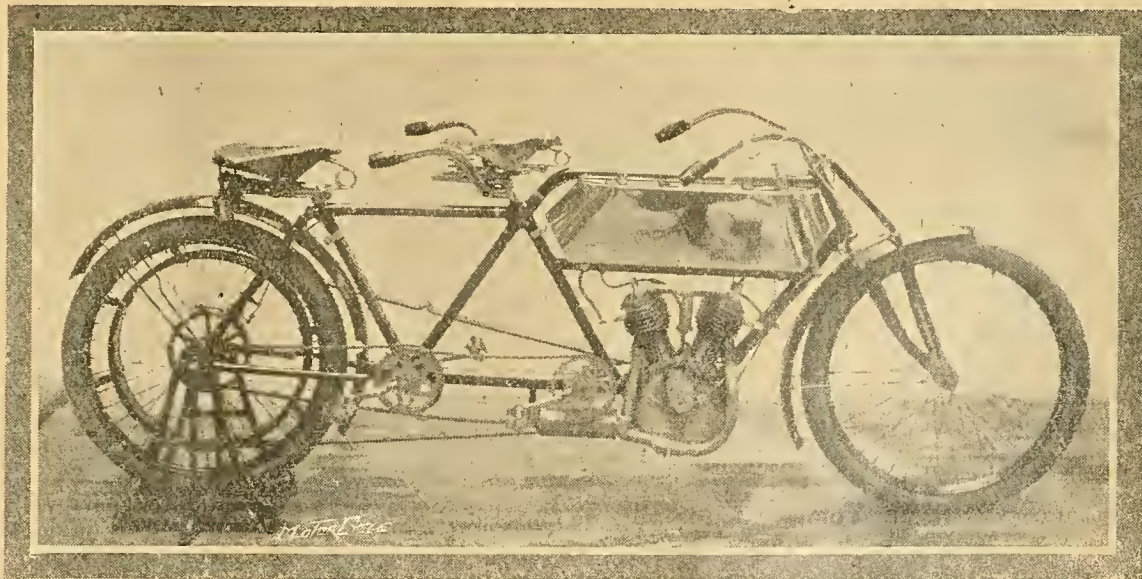
The Mea magneto hails from Stuttgart, and appears to be a well-made small and light magneto machine very suitable for motor cycles.

The Nilmelior Co. (late Bassée and Michel) make another magneto machine with four magnets, and an entirely enclosed metal contact breaker.

Paul Lavigne makes a speciality of a small motor cycle engine 68×70 mm., with a.o.i.v., weighing about 30 lbs.

On the Buchet stand, the only pattern of motor cycle engine on view is the old single-cylinder with overhead valves and separate combustion head. There is not even any arrangement made for driving a magneto.

The arrangements in the galleries are far from satisfactory. First, they are extremely cold, draughty, and badly heated with a few gas stoves. The motor cycle stands are difficult to find, and instead of all the motor cycle exhibits being classified and placed in one section of the Gallery, or Rez de Chaussée, they are dotted here, there, and everywhere in these two portions of the building. The catalogue contains a host of useless information, and three or four plans, which might be made quite serviceable if the names of exhibitors and numbers of stands had been printed in a type that was legible without the aid of a magnifying glass.



The Rene-Gillet Tandem. The transmission is by a flat leather belt.

CLUB NEWS.

Bocardo M.C.C., Oxford.

The annual dinner will be held on Tuesday next.

Leyton M.C.

The above club is a recent formation, and a special meeting to be held this evening (Wednesday), at 8.30, at "Lord Lyde," Capworth Street, Leyton, to elect the committee, pass the minutes, arrange fixtures, etc.

Birmingham M.C.C.

On Wednesday next, the 16th inst., a committee meeting will be held at 6.30 p.m. At eight o'clock the same evening a smoking concert has been arranged at headquarters.

Liverpool M.C.

The above club will hold their annual dinner at headquarters, the St. George's Restaurant, on December 16th, at 8 p.m., when the prizes won in the various competitions during the year will be handed over to the successful riders.

North-west London M.C.C.

The second annual dinner of the North-west London M.C.C. will be held on Saturday, December 19th, at the King's Hall, Criterion Restaurant, Piccadilly, W., at 6.30 p.m. sharp. The president (Mr. W. H. Pidgeon) has kindly consented to occupy the chair.

Western District M.C.

The annual dinner and distribution of prizes of the above club will be held at the Milford Hotel, on Tuesday, December 15th, at 7.30 p.m. Tickets may be obtained from members of the committee. Single tickets 5s., lady and gentleman 9s. The annual meeting will be held on Jan. 8th, 1909.

Leeds M.C.C.

At a committee meeting held recently, it was resolved (the previous whist drive was such a success) to hold another one on December 17th. Will all members make a note of this, and endeavour to obtain tickets for the fixture, which can be had from any member of the committee.

S.E. Auto Cycle Association.

Mr. Renner informs us that the above association, which was formed early this year, and which was the first association to cater for unattached motor cyclists at 5s. subscription, giving full legal and touring facilities and association with the Auto Cycle Union and Royal Automobile Club, has made satisfactory progress, and is about to issue a list of pairers and hotels (who recognise the machine badge) for every town of importance in the kingdom.

Nottingham and District M.C.C.

An extraordinary general meeting of the above club was held on December 4th, twenty-seven members being present. The minutes of the last general meeting having been read and passed, the chairman outlined the circumstances which had necessitated the calling of the meeting. The first proposition was, "That the following addition be made after the word committee in Rule 4: But it be distinctly understood that such small cars do not compete in motor cycle and quadcar competitions." After much discussion, the following amendment, proposed by Mr. Johnson, was put to a vote and carried by twenty votes to five against: "That Rule 4 shall in future be: The club shall devote its attention only to motor cycles, tricars, quadcars, and small cars. The decision of the committee as to what constitutes a small car shall be final. No small car, quadcar, tricar, or sidecar shall be allowed to compete in any event organised for motor cycles. For the purposes of competition for specially donated prizes the rules provided by the donor of the prize shall prevail over this rule."

Proposed by Mr. Holmes, "In Rule 6 the words January 1st, 1910, be substituted for the words January 1st, 1909." Carried after due discussion without any amendment. The rule now stands altered to: That the annual subscription (payable on January 1st) shall be 7s. 6d. for motor cycle members, and 10s. 6d. for car members, with an entrance fee of 5s. for those joining on and after January 1st, 1910," etc. The thanks of the meeting were due to the hon. solicitor to the club, Mr. R. A. Young, for his able and useful advice.

Cardiff M.C.

A committee meeting was held at the Queen's Hotel on the 1st inst., Lord Ninian Crichton Stuart (president) in the chair. It was decided by a postal vote of the members to

affiliate to the Motor Union of Great Britain and Ireland for 1909. It was reported that the medal awarded by the M.U. to this club had been received and was on view before the meeting, and a resolution was passed thanking the M.U. for same. The annual dinner of the club will be held during the first week of February, probably the 3rd, when Lord Ninian Stuart has kindly promised to preside and distribute the prizes and medals won in competitions during 1908. On the proposition of Lord Ninian Stuart it was resolved, "That the secretary be asked to write the secretaries of all other motor and motor cycling clubs in Wales and Monmouthshire with a view of calling a joint meeting of representatives of these clubs to discuss the advisability of forming a Welsh Automobile Union." The Chairman, in his introductory remarks, stated that both Scotland and Ireland had what might be termed "national" unions or associations, and he did not see why Wales should not have its own union also. It was suggested that if it could be so arranged the joint meeting should take place on the afternoon of February 3rd. A vote of thanks to Lord Stuart terminated the business.

Cambridge University M.C.C.

The following have each been awarded a silver medal in connection with the above club's meeting at Brooklands on November 7th: J. Ashworth (single-cylinder handicap), R. G. Heyn (twin-cylinder handicap), E. H. Lees (three-lap race), and B. Milburn (twins over 76 mm. bore). The medals were very kindly presented by Mrs. Moreing, Esher.

Sheffield and Hallamshire M.C.C.

Under the presidency of Mr. F. Dover, supported by Mr. T. Turner (secretary), the Sheffield and Hallamshire Motor Cycle Club held its fifth annual dinner at Hudson's Restaurant on the 3rd inst. Over a 100 members were present, and the evening in every respect was a marked success. The club is progressing and numbers 125, the new members enrolled during the season being 25. Seven competitions were held, the club expending about £30 in prizes. The winners of this year's competitions were then presented with their prizes by Miss Doris Dover. The Land's End to John-o'-Groat's medals were presented by Mr. J. W. Gould, on behalf of the A.C.U., to Messrs. F. Dover and J. Haslam. Mr. F. Dover also received the Triumph medal.

Members are reminded that a general meeting will be held at headquarters to-morrow, the 10th inst., regarding affiliation to the A.C.U. or M.U.

Stockport and District M.C.C.

The first annual dinner of the Stockport and District M.C.C. was held at the Mersey Hotel on Friday, December 4th, when about thirty-four members and friends were present. The president (Mr. W. Slater) occupied the chair, and was supported by the vice-president (Mr. A. Mugeli).

After the loyal toast, proposed by the President, Mr. Woodrow proposed "The Health of the President," and this was heartily drunk.

In responding, Mr. Slater said that Stockport was a good sporting town, and it was thought that it might support another organisation, and so the S. and D. M.C.C. was established. The club had only been formed at the early part of the year, but it was hoped it would develop into a strong and healthy organisation.

The President then presented the prizes to the winners of the petrol consumption test.

The toast of "The Treasurer and Secretary" was submitted by the President, who testified to the services rendered by Mr. Rogers and Mr. Marsden. These two gentlemen replied, and Mr. Marsden mentioned the fact that the membership was close on thirty, and hoped it would be doubled next year. He expressed regret at the death of Mr. Smith, a vice-president of the club, who was a very keen motorist.

Mr. Mugeli proposed "The Club," and remarked that a town like Stockport could not remain long without a motor cycle club. The club offered many advantages to motor cyclists, and its members greatly appreciated the benefits they derived from their connection with it. Motor cycles had become very popular of late, and it was only reasonable to suppose that with the improvements which were being made this form of locomotion would appeal to the public in an increasing degree; in fact, he believed that in time motor cycles would become as popular as push cycles.

Mr. Arthan proposed "The Visitors," and Mr. Sutherland responded.

Questions

and Replies

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E. C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

Pitting of Contact Points.

? I have a 2½ h.p. F.N. motor cycle, and am much troubled by the contact points in the commutator (make and break) burning badly after about five miles running. The pitting is on both points (platinum), causing stoppage. I am using a twenty ampère 4½ volts accumulator, non-trembler coil. Will you kindly advise me as to cause and remedy?—H.K.

The trouble is either due to the coil, the condenser of which does not work properly, or to the contact points being of spurious metal, not platinum or iridium. Have the coil overhauled by a good electrical firm if you find that the fitting of new points of genuine metal does not cure the trouble.

Engine Timed Too Fast.

? There is a loud knocking in the front cylinder of my 5 h.p. Rex motor cycle. Be good enough to tell me the probable cause. I also find the machine too fast. It must have a high speed on before it will start. Is it possible to time the engine to work slower? I would much prefer if the machine was not so speedy.—F.J.E.

The trouble may be due to pre-ignition caused by excessive carbon deposit or loose gudgeon or crank pin. It is highly probable the engine is timed too fast. The timing can be retarded by altering the position of the sprocket on the armature shaft. If you are a novice a local repairer will alter it for you in a few minutes. You do not state what the ratio of gearing is. If you reduce the gear the machine will be more tractable.

Belt Slip and Adjusting a Magneto.

? (1.) What is the best thing to do with the round belt on jockey pulley when it slips? (2.) I have a Bosch magneto DA 1., fitted on my Moto-sacoché. Is it necessary to remove contact breaking disc when platinum points want cleaning? How is such removed, and how is it again affixed?—E.M.Q.

(1.) Give the belt two or three extra twists to tighten it, adjusting the jockey pulley as tight as possible. If this does not cure the slipping, probably a new belt and a new pulley are all that can be done. (2.) It is better to take off the contact breaker, but the platinum points can be faced by inserting a thin flat file between them, gently moving it backwards and forwards. To remove the contact breaker there is a central screw which is removed by the aid of a special spanner supplied with

the magneto. If contact breaker is tight it can be gently prised off with a screw-driver, but great care must be used, as it is a good fit. A key is provided, so that it cannot be put back wrongly. Thoroughly clean away all traces of oil and examine the heel of the bell-crank for wear.

Timing of Spark and Preventing Flooding of Carburetter.

? I have a 3 h.p. motor cycle. To have engine timed properly should I set spark lever dead centre and have points breaking when piston is exactly at top of compression stroke? When I advance spark, does the explosion occur before piston is at top of compression stroke, or is the engine running so fast that piston is over the top before explosion occurs? What is the cause of petrol spraying from float chamber of carburetter (Longuemare) when machine is running fast?—J.B.

We presume you refer to accumulator ignition, in which case your method of timing the spark is quite correct. The reason for this is that the complete combustion of the charge occupies a certain amount of time, that is to say, that until the piston reaches the top of the stroke the maximum force of the explosion is not exerted. There is also a certain amount of lag in the ignition to overcome; this is done by advancing the time of the spark, so that the break occurs earlier at the contact. To prevent the petrol spraying from the float chamber, see "Motor Cycles and How to Manage Them," 12th edition, page 38. This book can be obtained, price 1s. 2d. post free, from *The Motor Cycle* Offices, 20, Tudor Street, E.C.



Mr. T. H. Straker, the indefatigable secretary of the Hull and East Riding A.C.C., who was presented with a gold watch at the annual dinner in recognition of his services to the club.

Knocking on Hills.

? I have a 4 h.p. Aster-engined motor cycle, Longuemare carburetter, and automatic inlet valve. For the last few weeks it has refused to climb hills efficiently, so a few days ago I took out the exhaust and inlet valves and had them re-ground. Compression is good, as I can stand on the pedal for several seconds. On the level it will do the best speed, but half-way up a hill the engine slows down, and if I open the throttle full starts knocking badly until I retard the spark right back, when of course it will not finish the hill. Would using a thicker oil be any use? I have been using oil out of a Vacuum B tin, but it seems to me very thin, and pours out very quickly in comparison to some heavy oil I used a few weeks ago.—L.K.H.

The trouble is probably due to the cylinder head and piston being covered with carbon deposit. If you have the engine carefully cleaned out we think the trouble will cease, but we should advise you to use a thick oil specially prepared for air-cooled engines.

Tail Lamp Jolting Out. Compression.

? The paraffin tail-light on my rigid frame tricar goes out if jolted, and I have to stop frequently to light it. I put an inch thick rubber pad between the lamp bracket and frame of tricar to take the shocks from the lamp, but still it is jolted out. The wick is long enough, and does not go down. Any hints to overcome this difficulty will oblige. Suppose my single-cylinder engine is running well, what results may I expect if I (1) increase the compression by removing the 1-16th washer (supposing such washer to be present) from between crankcase and cylinder, and (2) decrease the compression by inserting another 1-16in. thick washer?—INQUISITIVE, N.B.

A back lamp is always a bother on an unsprung tricar, and we regret we can offer no solution to the difficulty, but you could no doubt arrange a sprung lamp bracket on the machine. You could also try an electric lamp, but be very careful that the connections are made as firmly and as carefully as possible. If you increase the compression you will probably get more power and more vibration; if you reduce the compression the engine will run more sweetly and give less power. If the engine is running well you had better leave things alone, because you would have alterations to make to the valves or tappets if you varied the space between cylinder and crankcase.

An Electric Hand Lamp.

?

Please give me your opinion on the merits or otherwise of employing a motor cycle dry cell with an ordinary test lamp attached to the terminals for the purposes of a handy lamp for pottering about the workshop on the dark winter nights in the country, where gas is not available. If you can name a better combination I shall be glad to hear of it.—J.M.L.

A dry cell would light a test lamp quite well for short periods. If, on the other hand, you wish to use it for any length of time, an accumulator would be better.

A Loss of Compression.

?

I have a 1908 Triumph motor bicycle, of which the compression is very poor. I have fitted new piston rings, ground in the valves, and tested the joints of the valve caps with oil. Could you suggest anything to improve the compression? Do you think the cylinder is scored? If so, how can I put it right again?—J.W.C.

Probably, after the piston rings have been run in for a short time the compression will return. You seem to have done everything possible, and we can only suggest that you make certain that there is a clearance between the valve stems and tappet rods. After several grinding operations the valve stems are lengthened, and sometimes prevented from closing owing to there being no space between valve and tappet. If the above is in order, take the machine to a competent repairer to find out if the cylinder has been scored.

Changing the Type of Carburetter.

?

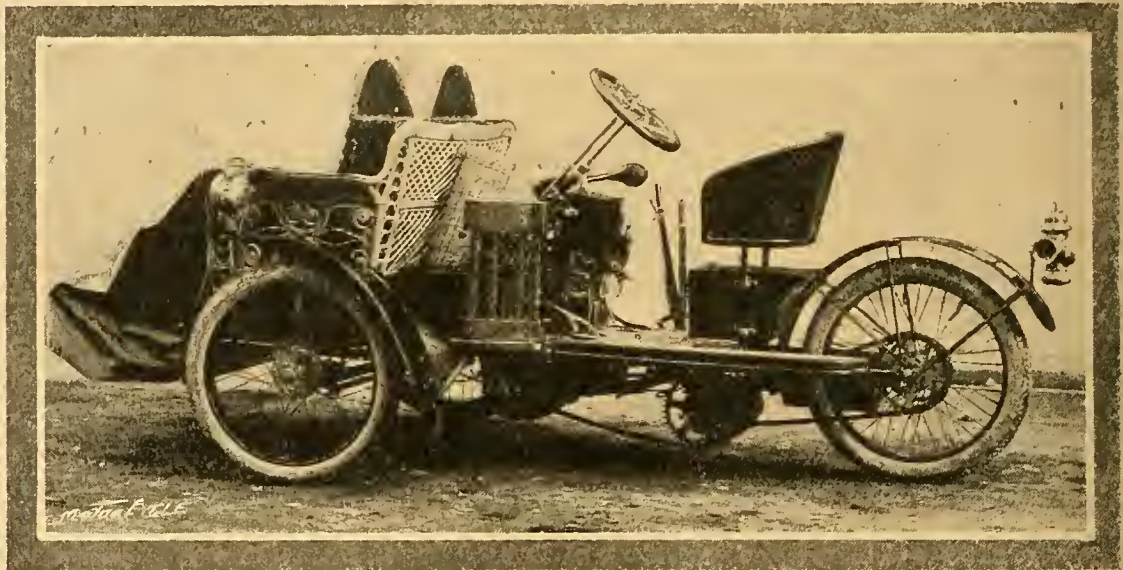
Kindly advise regarding my M.M.C. engine, 80 by 80 mm. I have used a surface carburetter, but have recently fitted a Longuemare spray carburetter, Model H, fitted with 8 spray and choke tube about $\frac{7}{8}$ in. inside diameter. I cannot get the motor to run even on stand. I have tried smaller choke tubes, altered the height of petrol in float chamber, varied the size of air holes under spray, but with no good results. Occasionally there are a few explosions, yet the motor and silencer seem to have any amount of petrol flying about them. The same petrol will fire in surface carburetter. Do you think the carburetter is too large for engine?—W.H.

Probably in coupling up the carburetter to your machine there is a leakage of air at the union. See that the joints are tight, and, if necessary, fit a fibre washer where you suspect any leakage. If air is drawn into the engine through a faulty joint it will stop a spray carburetter from acting altogether. Are you sure that the petrol is coming through the spray satisfactorily? You can test this by pressing the float chamber button sharply, when a fine spray of petrol should shoot out from each slot of the jet. We think that the carburetter is quite the right size for the engine, and expect that it will give good results after a little perseverance. If you cannot improve matters consult a local repairer.

Misfiring at Slow Speeds and Plug Points Too Close.

?

My 1908 Triumph will not run slowly when throttled down, but misfires. The carburetter is clear, and the engine fires quite well at a speed of fifteen miles an hour, but on closing the throttle and shutting off the extra air misfires. I have not put in the air cone, as I took it out for summer riding. I have just cleaned the magneto and the contact points and condenser terminals. I also have fitted a new fibre ring, and the points break rather far apart—about 3-16ths of an inch. The rocking arm is very slightly worn where it touches the fibre ring. The chain driving the magneto is at a good tension. Would it be any good to fit a paper washer beneath the platinum tip on the rocking arm to bring the points closer together? Can you explain why on bringing the plug points



The illustration shows a 9 h.p. Advance Tricar belonging to a very aged lady, who finds it more convenient than a carriage, because the seat is so near the ground. She, with an equally aged companion, occupies the front seat, while a professional chauffeur drives them. The machine is geared so as not to exceed the legal limit, and has a rigid rear frame with sprung bucket seat.

very close together the engine should misfire at low speeds? A short time ago I was overhauling my engine which had been running well, and finding the plug points rather far apart closed them in. The engine fired well at high speeds, but refused to go without misfiring at anything under 20 m.p.h. I tried everything I knew to cure the fault, and eventually widened the sparking plug gaps, when it ran all right again. When I first had my engine it ran well on the throttle down to 6 m.p.h. without altering the magneto advance, but cannot get it to do that now. Why I don't know.—N.H.W.

Obviously, if you take out the air adapter you cannot run at slow speeds. As far as we can gather your magneto is perfectly satisfactory, although the amount of break seems excessive, but we should not recommend you to alter it until you have tried the engine with the air adapter replaced. We cannot understand why bringing the plug points very close together should cause the engine to misfire at slow speeds, unless, of course, they become shorted by particles of carbon. The makers of your magneto recommend the plug points to be .4 mm. apart.

Building Up a Motor Bicycle.

C

For some time past I have been looking for a motor bicycle that would exactly suit my requirements, and not having found one yet I have been thinking that perhaps I might be able to build one on my own lines, buying the parts separately and putting them together myself. Would there be any special knowledge wanted in doing this? Of course, I should like to be able to assemble it myself, but if you think this would be difficult for one who has not touched that sort of work before, I could have it built by an engineer.—C.E.H.

A certain amount of special knowledge would be required in building up a motor bicycle, and unless you have had considerable experience with motor cycle building and engineering we should not advise you to attempt to build your own machine. Far better

place the order with an experienced local assembler. If you like to send us a specification of the machine you propose to have built for you we will give you our opinion on it.

If "An Interested Reader," Christiania, will send us his correct name and address, and enclose a stamped and addressed envelope, we shall be happy to reply to his letter. We should also like to point out that unless correspondents in the British Isles accompany their queries by a stamped and addressed envelope they are liable to be overlooked.

THE NEW PENNY EDITION OF "THE AUTOCAR."

Readers of "The Motor Cycle" who are interested in motor cars are reminded of the new Penny Edition of "The Autocar," now obtainable of all Newsagents and Booksellers every Friday Morning.

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Roc Motor Cycle Works
Birmingham

160 VARIATIONS OF GEAR RATIO

are obtained with the

"GRADUA" GEAR

Do you realise what this means?

12 variations between 3₁ and 4 to 1, i.e., 3₁, 3₂¹, 3₃¹, 3₄¹, 3₅¹, 3₆¹, 3₇¹, 3₈¹, 3₉¹, 3₁₀¹, 3₁₁¹, 3₁₂¹, 4.

24 variations between 4 to 1 and 5 to 1, i.e., 4₁¹, 4₂¹, 4₃¹, 4₄¹, 4₅¹, 4₆¹, 4₇¹, 4₈¹, 4₉¹, 4₁₀¹, 4₁₁¹, 4₁₂¹, 5, etc., etc.

24 variations between 5 to 1 and 6 to 1, i.e., 5₁¹, 5₂¹, 5₃¹, 5₄¹, 5₅¹, 5₆¹, 5₇¹, 5₈¹, 5₉¹, 5₁₀¹, 5₁₁¹, 5₁₂¹, 6, etc., etc., etc., etc., etc., etc.

24 variations between 6 to 1 and 7 to 1: 24 variations between 7 and 8 to 1:

24 variations between 8 and 9 to 1: 24 variations between 9 and 10 to 1.

ALSO FREE ENGINE.

ONE HUNDRED AND SIXTY VARIATIONS BETWEEN $3\frac{1}{2}$ to 1 AND FREE ENGINE.

A turn of a small wheel—that's all. No pedalling. No sudden jamming in.

➡ The "Gradua" gear is the most important invention ever brought out in connection with motor cycling. ➡
As the pneumatic tyre is superior to the old solid, so is the "Gradua" gear to any other contrivance.

An adjustment is provided for tightening the belt, which reduces the necessity of shortening it.

The "Gradua" gear is fitted to our "Zenith" (rigid frame, spring forks,) motor bicycle, also to the well-known "Zenette" (double-scissors) spring frame bicycle. It has had twelve months' thorough test before being offered to the motor cycling public, and has splendidly acquitted itself in ev-ry competition in which it has been entered, such as Land's End to John-o'-Groat's; London to Plymouth and back; A.C.U. Penalty Run; A.C.U. Quarterly Trials, etc., etc., and in various Hill Climbs—Sutton Bank; Cudham; Lippetts Hill; Newnham Hill, etc., etc.

To prevent needless correspondence we may say that we are NOT disposed to undertake conversions of other machines.

ZENITH MOTORS, LTD., (Showrooms) 119, STROUD GREEN ROAD, FINSBURY PARK.

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or sent to London (20, Tudor Street, E.C.), the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.
Yorkshire and Lancashire.

SECTION III.
Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Lincoln, Leicester, Rutland, Northampton, and Warwick.

SECTION V.
Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.
Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

1909 TRIUMPHS.

PROMPT DELIVERY OF A LIMITED NUMBER FROM STOCK.

DEFERRED PAYMENTS.
EXCHANGES.

SHOP-SOILED and SECOND-HAND SINGLE CYLINDERS.

TRIUMPH, 1908 (October), with costly extras and spares, as new	£47 10
TRIUMPH, 1908, Palmer back tyre and other extras accessories, perfect	£35 0
TRIUMPH, 1908, very good order	£32 0
TRIUMPH, 1907, delivered June 1908, new cylinder and piston, overhauled	£28 0
TRIUMPH, 1906, magneto, perfect order	£23 0
TRIUMPH, 1905, accumulator, no faults	£18 0
ROC, 1908, two-speed, magneto, 4 h.p.	£33 0
N.S.U., 1908, magneto, 3½ h.p., shop-soiled, £50 machine	£30 0
N.S.U., 1907, spring forks, Roc two-speed gear	£28 0
VINDEC two-speed, 1907, magneto, perfect ..	£26 0
ROC, 1907, magneto, clutch, spring forks ...	£19 0
WARWICK, 1908, shop-soiled, two-speed, clutch, magneto, spring forks, £50 machine ..	£31 0
SINGER, 3 h.p., magneto, belt drive, Mabon clutch, perfect order	£15 0
ASTER, spring forks, Longuemare carburettor, tyres sound, good order	£9 0
WHITLEY, 3 h.p., spray, carburettor, girder forks	£5 10
B.S.A., M.M.C. engine, 3½ h.p., Druid forks, Lomax band, grand condition	£11 0
WERNER, good appearance and running order ..	£3 0

TWINS.

N.S.U., 1908, magneto, 4 h.p., shop-soiled, £50 machine	£39 0
BROWN, 1908, shop-soiled, 5½ h.p., two-speed, Palmer tyres, cost over £67	£45 0
ROC TWIN, 5 h.p., magneto, clutch, show model, done 300 miles, perfect	£30 0
N.S.U., 1907, 6 h.p., magneto 2½ in. tyres, perfect order	£28 0
ROC, 5 h.p., Peugeot engine, magneto, clutch ..	£22 0
REX TOURIST, 5 h.p., magneto, spring forks ..	£25 0
REX, 5 h.p., spring seat, spring forks	£17 0
MILLS & FULFORD SIDECAR, shop-soiled, Palmer cord 2½ in. tyre	£9 10
REXETTE TWIN, 9 h.p., two-speed, three-seater, pump circulation, perfect order ..	£45 0

THE NEW PREMIER HORNS.

BINOTE. TRINOTE.
BETTER THAN THE ORDINARY HORN,
because their sound carries twice as far and is less offensive—more musical.



You will not realise how superior these are to the old type of horn until you have handled one. Send us remittance 7/6 or 10/- and we will send one on THREE DAYS' APPROVAL, returning your money at once if you send it back for any reason whatsoever

7/6. 10/-.

PREMIER TUBULAR CARRIERS
fit ALL makes of machines. **8/6.**

Approval.

PREMIER TUBULAR STANDS, 7/6.

Approval.

WRITE FOR LISTS OF ACCESSORIES.

We have a limited number of Shop-soiled and Second-hand PREMIER Lamps, Stands and Carriers, etc., at Clearance Prices. List free.

PREMIER MOTOR CO., LTD.

Aston Road, BIRMINGHAM.

Telephone 4,310. Telegrams: "Primus, B'ham."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

IMPORTANT NOTICE.

Owing to the
CHRISTMAS HOLIDAYS

Advertisements for the issue of 23rd inst. must reach Coventry not later than first post on Thursday, 17th Dec., and for the issue of 30th inst. not later than Wednesday, Dec. 23rd.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

N.S.U. 6 h.p. Twin, new condition, two-speed gear, spring forks, magneto, 24 by 2½ tyres, also new Chater-Lea coach-built sidecar for same; any trial given; the lot £29. no offers.—7, Railway Terrace, North Shields.

SECTION II.

York and Lancashire.

5 h.p. Twin Rex, fitted new pistons, cylinders, valves, etc.; £13 10s.—Max Woods, Rock Villa, Latchford.

1908 Triumph, splendid condition, complete, headlight, horn, tools; £36.—Cross, jeweller, Rotherham.

3 h.p. Fafnir, cylinder; piston, valves, etc., grand order; cash offers, or exchange.—Judson, 142, Belgrave Road, Oldham.

TRIUMPHS and N.S.U.'s, 1909 models; early deliveries; any make supplied.—Moldgreen Engineering Works, Huddersfield.

TRIUMPH, 1908, brand new; £44; complete, accessories; 1909 models now in stock.—Hitchings, Ltd., 74, Bold Street, Liverpool.

2½ h.p., Inclined Minerva Engine, new tyre, 22 Whittle belt and spares, good condition; £10.—Box 1,338, The Motor Cycle Offices, Coventry.

7 h.p. Peugeot, Druids, Jap carburettor, very low, spares, guaranteed perfect; cheap.—Hall, 26, Oxford Road, Waterloo, Liverpool.

As the largest dealers in Rex motor cycles, we can offer the remaining stock of brand new 1908 2½, 3½, and 5 h.p. Rexas at prices to "lick creation." Wire offers. Luke Sharp.—Halifax Motor Exchange, Westgate, Halifax.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

HUMBER, 2½ h.p., chain drive, fast and reliable, perfect, only requires cleaning; will accept £5 10s. to clear. — 26, Offerton Lane, Stockport.

1908 Triumph, in splendid condition, Shamrock-Excelsior tyres, lamp, horn, and spares; £36. — Rev. Ellison, Billinge, Fairhaven Road, St. Anne's-on-Sea.

32 h.p. Griffon, strong and fast, new Continental tyres, two spare Palmers, footboards, lamp, horn; £12.—67, Laughton Road, Dinnington, Rotherham.

TRIUMPH, 1908, handle-bar control, not ridden 500 miles, perfect condition; bought car; can be seen; what offers?—Apply, 1,339, *The Motor Cycle* Offices, Coventry.

VIBRATIONLESS Douglas Twin Lightweights, absolutely perfect workmanship; inspection invited; lists free.—From sole agents, Hitchings, Ltd., 74, Bold Street, Liverpool.

31 h.p. Minerva, tip-top condition, recently thoroughly overhauled, dry cell ignition; dirt cheap, £16; buying tricar; see also Sidecars.—Vickerman, Dragon Avenue, Harrogate.

1908 Triumph, new August, guaranteed perfect condition, makers' date, June 13th, 1908, Ricca tube, lamp, horn, spares, tools, etc.; approval, deposit, willingly. — Dove, Stocksbridge, near Sheffield.

24 h.p. Cycle, Clarendon detachable fore-car, £15, or near; 5½ h.p. Rex twin, many spares, new condition, 1907 model, 5½ h.p. Humber engine, pair wheels and tyres; offers wanted.—Bebington, Widnes.

31 h.p. Magneto Tourist Trophy J.A.P., winner Manchester Motor Club hill-climb, Jap carburetter, handle-bar control, two rubber studded tyres; £35, or offer.—41, Aked Street, Stockport Road, Manchester.

ROC, 4 h.p., 1907, new, magneto ignition, Roc free engine clutch, non-skid tyres, £28; Rex, 5½ h.p., new, 1907 model, must be cleared, £20 10s.—L. F. Harvey and Co., 6, Chapel Street, off Victoria Street, Manchester.

SHOP-SOILED 1908 Magneto Rex Featherweight, £19 19s.; 3½ h.p. 1908 Tourist Rex, ball bearing engine, handle-bar control, £27 10s., unridden; exchanges entertained; cash offers wanted. — Booth's Motories, Halifax.

31 h.p. Rex, 1906, newly fitted with 2½ in. Peter-Unions, Fuller Syntonic coil, two accumulators, and all accessories, newly aluminiumed, footboards or pedals; £15; would take push bike part payment.—Kelvey, architect, St. Annes-on-Sea.

MAUDE'S can deliver 1909 Minervas and Moto-Reves from stock; Phelon-Moores, Triumphs, Vindecs, F.N.'s, and Douglas motors within fourteen days of order; exchanges; terms upon request. — Maude's Motor Mart, Powell Street, Halifax.

A GENUINE Bargain. — Built February, 1908. 2½ h.p. Triumph, Chater-Lea frame, F.N. carburetter, built to own ideas, marvellous hill-climber, beat 5 h.p. twins on hills, never overheats, long, and low position; sacrifice £12 10s.—Millard, Dinnington, Rotherham.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chester Road, Old Trafford.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

31 h.p. Rex, 1905, spring forks, sound condition; £11.—R. Crawley, Rangemore, Burton-on-Trent.

1907 Triumph, little used, searchlight, horn, spare cover and tube, valves, etc., guaranteed perfect; £30.

MINERVA, 4½ h.p., two-cylinder, spare cover, valves, stand, spring forks, not run 1,000 miles, guaranteed perfect; £22.—Magnier, Derby Street, Leek.

F.N. Lightweight, as new, hardly soiled; any examination; only wants seeing; £18.—Wallis, Eckington, Derbyshire.

CASH OFFERS WANTED.

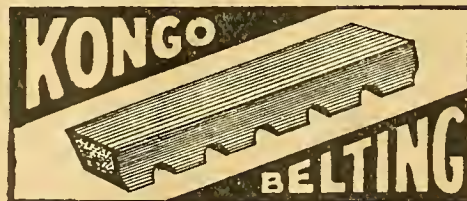
Pounds saved by buying now. Reduction in stock necessary prior to removal. 200 machines in stock. **Oldest established motor cycle dealers in England.**

Several new 1908 REXES		Offers
3½ h.p. REX, Tourist Model (1908), magneto, ball-bearing engine, handle-bar control, listed at £40, soiled	.....	£27 10
5 h.p. REX TWIN, Tourist, soiled, 1908 model, magneto, ball-bearing engine, listed £43	.....	29 10
2½ h.p. REX FEATHERWEIGHT, soiled, magneto, weight about 90 lbs.	.....	19 10
4 h.p. N.S.U., 1908, magneto, twin, two speeds	.....	28 10
4 h.p. N.S.U. TWIN, magneto, smart, two speeds	.....	25 0
4½ h.p. TWIN MINERVA, magneto, 2½ in. tyres	.....	25 0
5 h.p. TWIN G.B., magneto, up to date	.....	25 0
5 h.p. TWIN VINDEC (1907), magneto	.....	29 10
5 h.p. TWIN ANTOINE, new	.....	22 10
6 h.p. TWIN REX and Sidecar, four speeds	.....	20 0
3½ h.p. TWIN WERNER, spring forks	.....	11 10
3½ h.p. REX, 1907, very smart	.....	15 15
3½ h.p. REX (1906), low built	.....	14 14
4 h.p. ANTOINE, magneto, Roc two-speed clutch, magneto	.....	20 10
4 h.p. ZENITH BICAR, free engine	.....	27 10
3 h.p. RALEIGH, Phoenix two-speed gear	.....	16 16
3½ h.p. ARIEL, M.O.V., low built	.....	11 10
3½ h.p. MINERVA, Chater-Lea	.....	14 14
4 h.p. ANTOINE, M.O.V., low	.....	13 13
3 h.p. BRADBURY, vertical engine	.....	12 12
3 h.p. QUADRANT, spring forks	.....	10 10
3 h.p. ARIEL, M.O.V., low	.....	10 10
5 h.p. TWIN REX, Osborne four-speed	.....	17 17
2½ h.p. WERNER, vertical, low built	.....	9 10
2½ h.p. MINERVA, 26 in. wheels	.....	9 10
2½ h.p. SPARK, magneto, low built	.....	9 10
3 h.p. SIMMS, magneto	.....	10 10
2½ h.p. NOBLE, M.O.V., vertical	.....	10 10
3½ h.p. REX, vertical engine	.....	8 10
2 h.p. REX, vertical engine	.....	7 10
2 h.p. ORIENTAL, B. and B carburetter	.....	5 0
1½ h.p. MINERVA, spray, good	.....	4 15
2½ h.p. J.A.P., light and good	.....	8 0

Extended payments arranged.

SIDECARS, etc.		
BRITISH STANDARD, good order	.....	£3 15
MONTGOMERY, flexible joints, case	.....	5 0
MILLS-FULFORD, nearly new	.....	5 15
FORECAR ATTACHMENT, side stays	.....	4 15
TRICAR CHASSIS and Wheels, sprung	.....	3 15

TRICARS.		
5 h.p. ASTER, open frame, two speeds	.....	£15 15
5 h.p. QUADRANT, two speeds, coach built	.....	19 19
10 h.p. REXETTE, two speeds, open frame	.....	29 10
5½ h.p. REXETTE, two speeds, open frame	.....	27 10
6½ h.p. HUMBERETTE, Two-seater Car, three speeds, reverse, artillery wheels, three lamps, Stepney wheel	.....	39 10



RUBBER AND CANVAS.

Correct angle. Non-stretching. Very clean.
 ½ in. 9d., ¾ in. 11d., 1 in. 1/2, 1 1/8 in. 1/5
 Approval. Sample free.



CORONET VARIABLE SPEED PULLEY.

14/- each.

Special Terms to the Trade.

Standard makes can be had without sending old pulley for pattern.

The screwed flange is securely held in any position by a simple yet ingenious contrivance that distinguishes it as the most improved pulley made.

GRIPSKIN BELTING.

Scientifically made from selected parts of hides. An efficient belt at a popular price. Outlasts two rubber belts. Correct angle, perfect drive, non-stretching. We send on approval on receipt of P.O.

½ in. 9d., ¾ in. 10½d., 1 in. 1/5, 1 1/8 in. 1/1.

Special Terms to the Trade.

Booth's Motor Exchange, CORONET WORKS, WADE ST., HALIFAX.
 Telephone 108v.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1908, been running five months, perfect condition. — Apply, W. Whitehurst, Cotton Cottage, Milwich, Stone.

3 h.p. Enfield, in excellent condition, thoroughly reliable, good hill-climber; genuine bargain, £12 10s.—24, Harcourt Street, Derby.

TRIUMPH, 3½ h.p., 1907, in perfect running order, new rubber studded tyre on back; owner getting 1909; £30.—Kitchen, chemist, Winsford, Cheshire.

4½ h.p. Twin Roc, fast, reliable, Roc clutch, footboards, built very low, in splendid condition, accumulator ignition; bargain, £16.—24, Harcourt Street, Derby.

3½ h.p. Royal Enfield, splendid condition, very fast, good hill-climber, spring seat, Eadie coaster hub; trial willingly; £18, or offer.—Knight, Cheddleton, Leek, Staffs.

3½ h.p. Minerva, new June, 1908, magneto, spare butted tube, lamp, tools, etc., very little used; can be ridden away; owner giving up riding; £22 10s.—1,343, *The Motor Cycle* Offices, Coventry.

3 h.p. Scout Motor, just built; £9 17s. 6d., cost double; Palmer motor cover, 26 by 2, Clincher ditto, scarcely worn, 6s. each, tubes 3s.; pair wheels, to suit driving rim, complete, never used, 10s.; extra thick Palmer driving wheel tube, 26 by 2½, 4s. 6d.; belt, 2s.; nearly new trembler coil, 7s. 6d.; large motor horn, new, 3s.; automatic carburetter, 3 h., new, 4s. 6d.—29, Chester Street, Wolverhampton.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

£4 10s.—23 h.p., 26 in. wheels, good tyres.—66, Alderman's Drive, Peterborough.

3½ h.p. N.S.U., perfect condition; £24.—F. Henry, Phoenix Cottage, Forest Road, Leicester.

QUADRANT, 3½ h.p., 1907, low built, spring forks, grand motor; offer wanted.—12, Bull Ring, Birmingham.

ROVER Motor Cycle, 3½ h.p., 26 wheels, Brooks B90 saddle, splendid motor; sell, bargain, £13.—12, Bull Ring, Birmingham.

3½ h.p. Wolf, two speeds, bucket seat, non-skid, good running order; £15.—St. Edmund's Garage, Abington Square, Northampton.

3½ h.p. Magneto Rex, black and gold, fast and powerful, condition as new; bargain, £20.—Holmes, Spencer Street, Leamington.

3 h.p. Ariel, new in May last, spring forks, footrests, etc., in thorough working order; £15.—7, Farm Road, Sparkbrook, Birmingham.

TWIN Roc, 5-6 h.p., with coach-built fore-car, excellent condition; £37 10s. net.—G.H., c/o A. W. Wall, Ltd., Roc Motor Works, Birmingham.

MOTOSACOCHE, latest, new November 2nd, 1908, been tried half a dozen times; cost £30, sacrifice £22 10s.—6, Clemens Street, Leamington.

F.N., 5-6 h.p., 1903, new October, perfect condition, many extras, all spares, no faults; £39 10s.—Motorist, West End House, Geddington, Kettering.

REX de Luxe, 5½ h.p. twin, free engine, magneto, perfect running order; any trial and expert inspection; £24 10s.—22, Victoria Terrace, Leamington.

ARIEL, 2½ h.p., new this season, scarcely soiled, spring forks; cost £35, offered £23; owner buying larger power motor.—A. Titcombe, 28, Grove Street, Leamington.

FOR Sale, £15, or exchange for good light Motosacocche or Moto-Reve, a 3½ h.p. Rex, splendid condition; too powerful for owner.—67, King Richard Street, Coventry.

QUADRANT, 3½ h.p., 1907, magneto, Whittle belt, guaranteed good condition, Lomax non-skid, powerful bike; bought tricar; £18.—Potter, 210, Addison Road, King's Heath, Birmingham.

N.S.U., brand new, 1908, 3½ h.p., magneto ignition, spring forks, Shamrock-Excelsior back tyre, tool case and set tools, £45 model; sell, great bargain, £29.—Brown's Stores, 12, Bull Ring, Birmingham.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

1 h.p. Twin-cylinder Rex, magneto ignition, spring forks; accept £18 10s., bargain.—12, Bull Ring, Birmingham.

1 h.p. Minerva, specially low Chater, just overhauled, new tyres, Miraculum, yo-speed clutch, B.B. handle-bar, footboards with boxes, splendid winter machine; cash offers.—Lomax, University, Birmingham.

S.U., 6 h.p., as new, twin-cylinder, magneto, handle-bar control, 2½ in. tyres, 1 accessories; cost £55, sell or exchange for good two-seated car or tricar, cash adjustment.—No. 1337, *The Motor Cycle Offices*, Coventry.

1 h.p. Ariel, Palmer tyres, B. and B. carburettor, N.A.B. spring seat, Wataata belt, cylinder re-bored, new piston and rings fitted; £10, or near cash offer.—Seen Tom Lukeman's, cycle agent, High Street, Methwick.

TRIUMPH, 1908, perfect condition, Shamrock Excelsior, rubber studded back, inch front, unpunctured, F.R.S. lamp, id generator, spare contact breaker, horn, c.; buying 1909; £37. — Shanklin House, Seacia Road, Leamington.

SECTION V.

orfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

3 h.p. F.N., Chater-Lea frame, Palmers, 4 accumulator ignition, good condition; bargain, £13.—Below.

9 h.p. Bat, latest, just won twin scratch on Brooklands, doing over 70 miles p.h., three pulleys, speeds from ten m.p.h., cost with spares over £80, take £50.—Parker, St. es, Hunts.

3 h.p. Brown, very low frame, torpedo tank, fast machine; bargain, £10.—ox, 25, St. Andrews Street, Cambridge.

1 h.p. Triumph, 1907, been carefully used, adjustable pulley, £4 worth spares; guineas, lowest. — B. Cumberland, The ynchet, Luton.

h.p. Chase, just overhauled and enamelled French grey, torpedo tank, R.O.M., ry fast, low built; £20, or nearest offer.—lebrooke, Cherryhinton Road, Cambridge.

BARGAINS.—Brand new 1908 motor cycles. 3½ h.p. magneto Triumph, £42; 5-6 h.p. magneto F.N., £45; 3½ h.p. magneto N.S.U., £50; all guaranteed—Storey, Bridge Street, Cambridge.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

TRIUMPH, 3½ h.p., late 1907, perfect running order, Palmer cords, spares; £27. Edward Webb, Redditch.

MINERVA, 2 h.p., M.O.V., girder forks, 26in. wheels, light, fast, good hill-climber; bargain, £9 10s.—Preece, Bridge Street, Kingston.

1 h.p. Minerva, 1908 model, perfect; £35, 2 or will exchange for screw-cutting the, tools, and cash.—Butterfield, Stechard, Worcestershire.

MINERVA, 2½ h.p., vertical, M.O.V., just been overhauled, low, in excellent condition, £8 15s.; also Fuller charging battery, ur cells, 30s.—Preece, Bridge Street, Kingston, Herefordshire.

VERY Reliable 3 h.p. Humber, chain drive, vertical free engine, starts from standing, back tyre studded, long bars, low seat, tools, stand, etc., equal to any up-to-date machine; £14. — Ward's, 24, Portman Road, Cardiff.

SECTION VII.

iloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

3 h.p. De Dion, Chater-Lea, good condition; £6, bargain.—Firminger, Boty, Hants.

ROC, special model, open frame, free engine clutch, 5-7 h.p. Peugeot twin, Palmer cords, extra exhaust lifter under saddle, magneto, carrier, lamp, horn, 12 months old. E. di Villa, "Holm Lea," Swaythling Lawn, Southampton.

BARGAINS IN EVERY DEPARTMENT.

Offers wanted in cash, exchange, or easy terms.

1908 3½ h.p. QUADRANT, Bosch magneto, Clincher tyres, shop-soiled only, reduced to	£28 0
1907 5½ h.p. Twin REXES, magneto ignition, spring forks, cantilever seats.....	£22 0
5-6 h.p. REX-DE-LUXE, twin tyres, clutch	£24 0
3 h.p. CLYDE, magneto, M.O.V.	£16 0
3 h.p. TRIUMPH, 26in. wheels	£15 0
5½ h.p. TWIN REX, magnificent goer	£19 0
5½ h.p. TWIN REX and Sidecar	£23 0
5-6 h.p. REX-DE-LUXE, magneto, Rocclutch	£27 0

5. READY MONEY BARGAINS 5.

or Good Push Bike and a Little Cash.	
2½ h.p. SINGER, magneto ignition	£8 0
2½ h.p. HUMBER, spray carburettor	£8 0
1½ h.p. MINERVA, good	£5 0
2½ h.p. ANTOINE, spray carburettor	£7 0
3 h.p. DE DION, vertical, spray ..	£8 0

FOUR 5 h.p. MAGNETO TWIN REXES.
1907 machines, Bosch magneto, spring forks, fine sidecar machines, £22, or exchange.

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N.S.U., 24in. wheel, plated rim, rigid	£5 0
ALBION, 26in. wheel, plated rim, rigid	£5 0
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£3 DOWN Secures any of the following Machines. Balance 5/- per week.

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4 h.p. ANTOINE, vertical, M.O.V., spray..	£12 0
3½ h.p. ARIEL MINERVA, M.O.V., spray..	£12 0
3½ h.p. BRADBURY, 26in. wheels	£12 0
3½ h.p. WADDINGTON, vertical, spray....	£10 0
3½ h.p. MINERVA, M.O.V., spring forks ..	£14 0
3½ h.p. CLARENDON, M.O.V., spray	£12 0
3 h.p. MINERVA, M.O.V., spray	£11 0
3½ h.p. REX vertical, a flyer	£10 0
3 h.p. CLARENDON, M.O.V., spray	£10 0
3½ h.p. 1906 REX, 26in. wheels.....	£15 15
3½ h.p. ARIEL, M.O.V., 26in. wheels.....	£14 0
3 h.p. FLEET, Ariel, 26in. wheels.....	£12 0
2½ h.p. KERRY, spray, 26in. wheels	£10 0
3½ h.p. CENTAUR, belt drive	£12 0
3 h.p. WHITELEY, vertical, spray	£10 0
3½ h.p. "DUX," M.O.V., spray	£10 0
3½ h.p. 1905 REX, 26in. wheels, M.O.V. ..	£13 0
3 h.p. M.M.C., extra low built	£12 0
3 h.p. EXCELSIOR, spray carb.	£10 0
2½ h.p. SINGER, magneto	£10 0
2½ h.p. R. and P., vertical, 26in. wheels....	£9 0
2 h.p. QUADRANT, spray.....	£7 10
2½ h.p. WHITELEY, Longuemare	£9 0
2½ h.p. CLEMENT-GARRARD, fine goer ..	£10 0
2½ h.p. PHENIX MINERVA, 26in wheels	£10 0

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3½ Standard	£4 10	4½ Simms	£7 10
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3½ Quadrant, new 16 19	2½ De Dion pattern		37/6

CAMEL BELTING.

Rubber and Canvas V Belting. Absolutely the BEST belt on the market. ½ in., 9d; ¾ in., 1/-; 1 in., 1/4; 1¼ in., 1/8 per foot. Any length cut. Fasteners 6d. each.

BARGAINS—TRICARS, &c.

Forecar Attachment, 26in. wheels	£4 10
4 h.p. BAT, spring frame, 26in. wheels....	£15 0
5 h.p. REXETTE, two speeds	£22 0
4½ h.p. QUADCAR, water-cooled, two speeds	£12 0
TRICAR FRAME, o en, for wheel steering	£3 10
DRUMMOND 3½ in. Treadle Lathe	£11 11
LYCETT'S Lightning Stands	4/9 per pair.
R.O.M. Contact Breaker	10/-

CONTINENTAL TYRES	CLINCHER COVERS.
Cover. Tube.	New, unused, beaded edge.
26 X 2 .. 20/6 7/9	with Clincher name on.
26 X 2½ .. 24/- 8/-	26 X 2.....17/6
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28 X 2 .. 22/- 8/-	28 X 2½.....23/-
28 X 2½ .. 24/- 9/-	3/- allowed for old covers.

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ALBION WORKS, SQUARE ROAD, HALIFAX.

MOTOR BICYCLES FOR SALE.

4 h.p. Automoto, Chater-Lea, Longuemare, 4 spring forks, splendid condition; £10.—F. Piner, Colnbrook, Slough.

MOTOSACOCHE, perfect condition; £16; particulars, trial ride reasonable distance.—Stark, Cherwell, Oxford.

23 h.p. Fairy Lightweight Motor Bicycle, 24 twin-cylinder engine, as good as new; £18.—Montgomery, Queen's Road, Clifton, Bristol.

31 h.p. Kelecom, splendid machine, quick 32 starting, reliable, speedy, and good hill-climber, lamp, spare non-skid; 13 guineas.—18, Melrose Avenue, Reading.

1906 Twin Rex, spring forks, cantilever, Whittles, new 25 amp. accumulator, perfect; trial; £20, or near offer.—414, Portswood Road, Portsmouth, Southampton.

5 h.p. Twin Kerry, in splendid condition; any test given if desired; bag and spares; genuine bargain, £20, no offers; owner buying car.—Watkins, Thornville, Anstey, Alton, Hants.

33 h.p. Quadrant, magneto (silver model), 34 winner A.C.U. Hill-climb, very powerful, splendid condition; accept £25.—Photograph and particulars, Box 1,299, *The Motor Cycle Offices*, Coventry.

CHATER-LEA factory-built No. 6 frame, tanks, saddle, handle-bars, pedalling gear, 26 by 2½ Dunlop back, Wearwell front, B. and B. carburettor, complete, minus engine and magneto, only three months old, not scratched; £18, nearest offer.—50, Logan Road, Bristol.

23 h.p. F.N. Motor Cycle, good condition, 24 £10; Liberty sidecar, upholstered green, with apron, new condition, £2 10s.; 2 h.p. lightweight attachment, Stevens engine, carburettor, and silencer, brand new, with tank and belt rim, £2. — For particulars, apply, West, High Street, Goring, Oxon.

21 Guineas for brand new 1908 2½ h.p. Minerva, magneto, spring forks, handle-bar control, as advertised fortnight ago, just done 80 mile trial run, very quiet, flexible and smooth running, ride 60 miles to buyer; any trial; a genuine bargain, cost £39.—John Webber, Craufurdrise, Maidenhead.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

GENN.—3 h.p. Humber, chain driver, long bars; £7 10s.

GENN.—2½ h.p. Minerva, Chater-Lea fittings, Longuemare, Model B., tyres good; £8 10s.

GENN.—3 h.p. Fafnir, Chater-Lea fittings, Dunlops, light, low, fast; £15 10s.—Gap Road, Wimbledon.

3 h.p. F.N. Cycle, footboards; £12, or offer. —Motor, 174, Kingsland Road, N.

F.N., four-cylinder, perfect condition, late 1907; £25.—S., 21, Duke's Avenue, Muswell Hill.

FOUR-CYLINDER F.N., late type, magneto, spring forks, almost new; bargain, £23 10s.—Below.

ROC, 3½ h.p., magneto, clutch, handle-bar control, beautiful order; cheap, £19 19s.—Below.

ROVER, 3½ h.p., late model, perfect; great bargain, £10 15s.—Whittle, 41, Skelbrook Street, Wandsworth.

STAMFORD HILL.—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL.—1½ h.p. Quadrant Lightweight, Minerva engine, two brakes, all in very good condition, and perfect order; £5 10s.

STAMFORD HILL.—2½ h.p. Precision engineered lightweight, in good running order, and very good condition; £6 15s.

STAMFORD HILL.—3 h.p. Progress, magneto, 26 by 2½ tyres, perfect condition; £10 10s.—128, High Road, Stamford Hill.

STAMFORD HILL.—5½ h.p. twin Brown, Palmer cord tyres, Osborne four speeds, shop-soiled, bought few weeks; £45. — 128, High Road, Stamford Hill.

MOTOR BICYCLES FOR SALE.

h.p. Roc. Jap engine, Phelon and Moore two-speed gear, also a coach-built side with starting handle attachment and d.; £28 the whole combination; inspection invited.—At Wauchope's, 9, Shoe Lane, St. Street, London, E.C.

h.p. Phoenix, Minerva engine, Palmer cord tyres, gauge glasses to tank, as headlight, just been thoroughly overhauled; £13, or will exchange for motor accessories or tools.—F. Grannaway, High Street, Theale, near Reading, Berks.

INDEC Special, 3½ h.p. F.N. engine, Truffault suspension, magneto, Palmers, ring seat-pillar, new Dermatine belt, and more, F.R.S. lamp, spares, and tools, excellent condition, and thoroughly reliable; £20. Waddon, 14, Stodart Road, Anerley.

1907 6 h.p. Twin Rex de Luxe, double back tyres, low frame (as latest pattern), ring forks, cantilever spring seat, everything in new condition, not done 500 miles, ab anything with sidecar; £22.—Motorist, Colvestone Crescent, Dalston, London.

1908 Triumph, 3½ h.p., magneto, spring forks, complete with Triumph tool kit, up, horn, and spares, engine is perfect (could willingly dismantle), enamel and painting as new; £35 10s.; seen by appointment.—Holly Bank, Manor Road, Leyton.

h.p. 80 by 82 Kerry, long and low, detachable brass bound rubber footboards, Clinchers, Bates bands, unpunctured, two new Kerry accumulators, set of res, plating, etc., as new; £18, or near Greenfield, 16, Semperley Road, Baln.

GENUINE 3½ h.p. 1907 N.S.U., magneto, spring forks, large saddle, spare tyre, lamp, hooter, pump, coat and breeches, all accessories in toolbag, ready for any journey; £20 the lot; practically new. — Broke House, 22, The Avenue, Bruceve.

TRIUMPH, 3½ h.p., magneto, special saddle, new Shamrock belt, tyres unpunctured, non-skid back, tools, spares, including contact breaker, horn, number plates, absolutely as new; only wants see; 32 guineas.—214, High Road, Leytonne, E.

1908 N.S.U., magneto, 3½ h.p., brand new condition, not ridden 200 miles, very fine, Shamrock rubber studded back cover, are tyres, spares for engine and magneto, kit, one of the finest machines extant; —Hoffman, 60, Chiswell Street, Finsbury Lane, London.

OC 1908 Military Model, 4 h.p., two-speed, free engine, magneto, Autoclipse lamp, Mills-Fulford sidecar, quantity tools, res, including two tyres, three belts, accident and third-party insurance policy; accept reasonable offer, or would sell separately.—H.E.C., Ingledell, Grilford Avenue, Surbiton.

IGHT Low 2½ h.p. F.N., just re-bushed throughout, brass tanks, spring forks, advance adjustable pulley, New Departure, Bowden hand belt rim brakes, new per and tube, registration numbers, merous spares; sacrifice £12. — L.S., 19, Curry Street, Fulham.

OWERFUL 3½-4 h.p. (latest) M.M.C., low, long bars, Chater-Lea, footboards, Plarcords, Brooks B100, new condition, nothing for sidecar work, £13 10s.; must; also sidecar, fit any machine, 2½ tyre, holstered green, as new, £3 15s., bargain. 14, Bishopsgate Street Without, E.C.

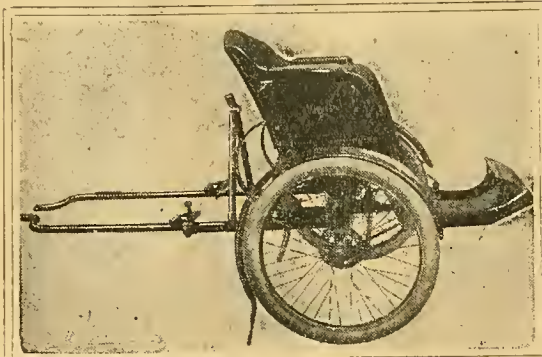
1908 F.N. Lightweight, hardly used, exactly same as machine at Stanley Show, all refinements, including spring footboards and forks, magneto ignition, very powerful, fast and reliable, ideal winter mount; ce, including all accessories, £25.—S. rris, 41, Albert Road, Stratford, E.

h.p. Minerva, new last June, new studded cover, lamp, horn, watch, carrier, and, two new spare covers, only ridden 10 miles, everything as new, £32; four-inder F.N., in perfect condition, all accessories and spares, £22; Gaulois cover, h band, new, £1; F.R.S. lamp, new, 17s. 3in. Watawata (nearly new), 7s. 6d.; Gloria, 5s.; 3in. Lycett, 5s.; leaving land; must sell everything motorish; us by appointment.—Baxter, Lyndhurst,oter's Hill Road, Blackheath.

Why run
risk



of Side-
slip



When you can fit the PHOENIX attachment for £12 10s.
For Passenger, from £15 10s. Lists by return.
PHOENIX MOTORS, LTD., Blundell St., LONDON, N.

26 x 2 Clincher A WONS

FITTED WITH

LOMAX STEEL-STUDDED NON-SKID TREADS.

37/6 each
complete.

TERMS TO TRADE.

LOMAX TYRE CO.,
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REX. REX. REX. REPLACEMENTS AND REPAIRS.

WE STOCK
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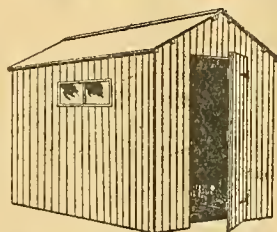
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ANTOINE ENGINE PARTS.

ALL SPARES SUP-
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LOW PRICES.

THE PREMIER MOTOR CO., LTD.,
ASTON ROAD, BIRMINGHAM.

MOTOR CYCLE SHEDS.



Special offer in thoroughly well
made Portable Sheds. Sizes.
6ft. x 4ft., 7ft. high £1 12 0.
ft. x 5ft. ditto £2 5 0.
9ft. x 7ft., 8ft. high £3 16 6.
10ft. x 8ft., 9ft. high £5 4 0.

Complete with strong floor,
window glazed, strong lock and
hinges to door, and treated with
our special wood preservative.
Packed free on rails upon
receipt of cash.

Satisfaction guaranteed or
amount paid refunded. Can be fitted with Bench and
Cupboard for spares, etc., at small extra cost.

Complete catalogue upon application.
WM. GARDAM & SONS, LTD., The Wharf, Staines.

MOTOR BICYCLES FOR SALE.**SECTION IX.**

Somerset, Devon, Dorset, and Cornwall.

4 h.p. Antoine, perfect running order, footboards, accumulator and dry battery; £18.—Bent, Duart, Bideford, Devon.

1908 Roc, 3½ h.p., free engine, two-speed gear, Rex spring forks, Amac carburetter, magneto, splendid winter machine; £25.—Cullum, 27, Butts Hill, Frome.

ARIEL, 3 h.p., in good condition, Clincher 26in. wheels, M. and B. switch; £11 11s., or exchange and cash for tricar.—Marriott, Ashley Terrace, Upper Parkstone, Dorset.

HUMBER, 2½ h.p., and sidecar, has Norman two-speed gear, and cone clutch, tyres and all in first-class order, upholstery light blue, re-nickelled and enamelled; price, including spares; £15.—Toby, Lauriston Villa, Torquay.

1908 Triumph, complete; £40; property of naval officer, not ridden 1,300 miles, cyclometer, handle-bar mirror, extra toolbag, Hella lamp, generator on tank, two spare inner tubes, new Shamrock belt, complete spare valve, studded back tyre.—Seen at Mr. D. Guy, cycle agent, Weymouth, Dorset.

SECTION X.

Scotland.

3½ h.p. Motor Cycle, in good order; exchange 1908 Motosacoche, cash adjustment.—Particulars, Howieson, Robertson, Abington.

3½ h.p. Humber, also 3 h.p. Ormonde, both good climbers; exchange for low 3½ h.p. magneto bike, offers.—77, Craigton Road, Govan.

3½ h.p. Minerva, low, £10 10s.; three 26 by 32 2 outer covers, two 23 by 2, £1 the lot. — Knight, Woodhall Terrace, Mossend, Lanarkshire, Scotland.

3½ h.p. N.S.U., magneto, two-speed, tyres perfect, stand, carrier, horn, spare tyre, tube, first-class order, also rigid sidecar; lowest £24.—Wise, Uddingston.

EDINBURGH.—Vindecs, Quadrants, Rexes, Adlers, Moto Reves, Ariels, Zeniths, Minervas, Griffons, Nortons, N.S.U., Advances, Rocs, etc., in stock, and to be seen at Alexander's Motor Exchange, Edinburgh.

3½ h.p. 1907 Magneto N.S.U., two-speed gear, 24 by 2½ Peter-Union tyres, unpunctured, horn, stand, carrier, tools, and spare valves, etc., grand order; great bargain, £22 10s., or best cash offer. — Park, Clothier, New Cumnock.

3 h.p. Fafnir, Chater-Lea fittings throughout, B. and B. latest handle-bar controlled carburetter, Castle accumulator, trembler coil, spring forks, XI'all saddle-pillar, vibrationless, will climb anything; inspection invited.—Johnstone, Alloway, Ayr.

BRAND New 1908 Models to clear.—2½ h.p. (25 guinea) Rex, £19 10s.; 3½ h.p. (35 guinea) Rex Tourist, £28 10s.; 2½ h.p. (£39) Ariel lightweight, £34 5s.; 2½ h.p. (£29) Minerva, £25 10s.; 3½ h.p. (£42 10s.) Griffon, £34 10s.; 3 h.p. (£41 10s.) Adler, £33; 3½ h.p. (£48 10s.) Vindec, £43 10s.; 5 h.p. (£52 10s.) Norton, £46. First cheque secures any of the above chances, which cannot be repeated.—Alexander's Motor Exchange, 110, Lothian Road, Edinburgh.

GUARANTEED Bargains; all in perfect condition.—3 h.p. Quadrant, £10; Clement-Garrard lightweight, £8 10s.; 2½ h.p. F.N., £12; 3½ h.p. Bradbury, almost new, £20; 3½ h.p. N.S.U., two-speed, £26; 5 h.p. Antoine, hill-climb winner, £19 10s.; 4 h.p. Roc, two speeds, £28; 2 h.p. Moto-Reve, £27; 3½ h.p. Griffon, £24; 5 h.p. Rex Triette, four speeds, £27 10s.; 5 h.p. 1903 Vindec, good as new, Truffault forks, record-holder, £39 10s.; 4 h.p. Adler, 1908, with detachable forecar, two speeds, ridden twenty miles, cost £72, special sacrifice £42.—Alexander's Motor Exchange, 108 and 110, Lothian Road, Edinburgh.

SECTION XI.

Ireland and Isle of Man.

1908 N.S.U. Motor Cycle, 6 h.p. twin, with N.S.U. rigid sidecar, magneto, free engine, two-speed gear, Continental tyres, 24in. by 2½in., spares, has not run 500 miles; cost £73; offers wanted.—M. Sweeney, Main Street, Loughrea, Co. Galway, Ireland.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

TRICARS FOR SALE.

STAMFORD HILL.—Phoenix Trimco, Minerva engine, fine condition; £12 10s.

STAMFORD HILL.—6 h.p. Riley, twin w.c. engine, Chater-Lea open frame, coach-built tricar, two speeds, overhauled; £47 10s.

STAMFORD HILL.—5 h.p. twin Hamilton, Mills-Fullford forecarriage, splendid cane body, excellent condition; £20.

STAMFORD HILL.—5 h.p. twin Kerry, R.O.M., Millford front wicker body, grand condition; £28.—128, High Road, Stamford Hill.

STAMFORD HILL.—5½ h.p. Twin Brown, Millford duplex steering sidecar, Palmer cord tyres, four speed pulley, brand new few weeks; £50, cost £75.—128, High Road, Stamford Hill.

£15 15s., must sell.—5 h.p. w.c., engine as new, Osborne four-speed gear; 25s.—134, Highgate Road, Kentish Town.

3½ h.p. Rover Tricar, perfect condition, cost £65, nearest offer to £24.—Cox, 25, St. Andrews Street, Cambridge.

HUMBER Tricar, 3½ h.p., cane body, upholstered, first-class order; bargain, £11 15s.—12, Bull Ring, Birmingham.

£20.—Bat, 4 h.p., water-cooled, coach-built, two-speed, chain driven; 50 miles trial.—Alexander, Grosvenor Villas, Bath.

5 h.p. Twin Kerry, forecarriage, good condition, tyres new; sell cheap first reasonable offer.—51, Hatfield Road, Gloucester.

6 h.p. Aster, Water-cooled Tricar, coach-built seats, very powerful; give any trial; £32.—H., 112, New King's Road, Fulham.

WHITE and Poppe, M.O.V., 4½ h.p., Chater-Lea, three speeds, Palmers, etc.; £24, or good bike and cash.—171, High Street, Tonbridge.

LAGONDA, 10-12 h.p., perfect condition; first reasonable cash accepted; will pay half carriage.—Gorham, Middle Pavement, Nottingham.

CHATER-LEA Tricar, with 4 h.p. Stevens engine, good as new; trial; all spares, etc.; £26.—Emerson, 2, Burley Road, Custom House, Essex.

PHENIX Tricar, coach-built, two speeds, perfect condition, many improvements, splendid light touring machine. — Kemp, Chesham Bois, Bucks.

1907 6 h.p. Twin Rex Triette, practically new, powerful, fast, and reliable, take two anywhere; £22 10s.—17, Kenmore Road, Hackney Road, London.

£20, or near offer for quick sale.—Reliable Humber tricar, free engine, starting handle, good order, had very little wear.—Durham, Bocking, Essex.

RALEIGHETTE Tricar, 3½ h.p., two speeds, climbs anything, Palmer, perfect; £35, exchange 3½ h.p. Triumph, 1908.—Herwin, 36, William Street, Woolwich.

OPEN Frame Tricar Chassis, complete with wheels, tyres, Hans Renold chains, two-speed gear, brakes; £8 17s. 6d. the lot.—Booth's Motories, Halifax.

3½ h.p., two-speed gear, fan-cooled, in perfect running order, excellent condition, all tools, spares, etc.; £20, or near offer.—Tricar, 19, Pavilion Road, S.W.

5½ h.p. Water-cooled Two-speed Rexette Tricar, good condition throughout; inspection invited; cheap for cash, or exchange.—21, Portland Street, Taunton.

TRICAR, Hamilton engine, 4½ h.p., water-cooled, coach-built, wheel steering, two speeds, free engine; sell, bargain, £19 10s.; photo sent.—12, Bull Ring, Birmingham

TRICAR, 5 h.p. twin Kerry, open frame, wheel steering, coach-built, two-speed, just been overhauled; £32, motor bike part.—Sansom, Lynchford Road, Farnborough.

REXETTE, 8-10 h.p., water-cooled, three-seater, wheel steering, car sprung, Dunlop car tyres, steel non-skid, particulars and photo; £40 or nearest cash offer.—37, Church Street, Mansfield.

9 h.p. Riley, Palmer cords, steel studded back, one brass headlight and two side, electric tail lamp, spares, etc., perfect; £60; fuller particulars and photo on application.—No. L3,767, The Motor Cycle Offices, 20, Tudor Street, E.C.

A SEASONABLE GIFT

acceptable to every Motor Cyclist.

The Service Coldweather Jacket

Made by our own Tailors, and

Unsurpassed for FIT, STYLE, & VALUE.

Our Price **25/6** State chest measurement. All sizes stocked, length 32in.

Approval, deposit.



Made in Grey Yorkshire Frieze, body and sleeves lined throughout with good quality Tan Leather, fitted with windcuffs. Pattern post free.

The Service Allweather Suit.

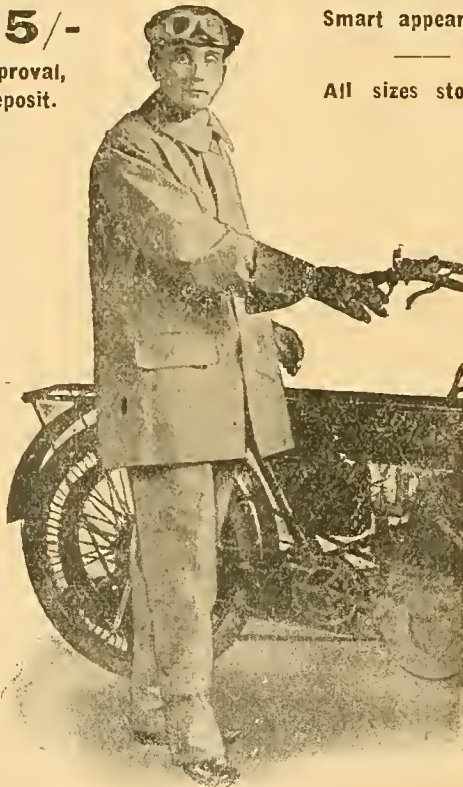
The most RELIABLE Motor Cyclist WATERPROOF SUIT ever offered. GUARANTEED Waterproof.

25/-

Approval, deposit.

Smart appearance.

All sizes stocked.



Double Texture Fawn Material, seam stitched and solutioned, fitted with storm cuffs; length 34 and 36 inches; loose fitting, easily slipped on. Write at once, our stock is limited.

A BARGAIN IN GLOVES.

The "Service" Winter Gloves, Tan Cape, Stout, Sac Wrist, Wool lined, 10½in. deep.

3/3 post free.

No Gift could be more acceptable to a Motor Cyclist at this Season, than something to add to his personal comfort a wheel. Our list will give you a wide choice of suitable gifts.

THE SERVICE COMPANY, LTD.,

292 & 293, HIGH HOLBORN, W.C.

TRICARS FOR SALE.

LEEDS.—5 h.p. Gerrard Tricar, water-cooled, three speeds, large clutch, first-class order; £32 10s.

LEEDS.—Triette Tricar, 5 h.p. twin engine, just been overhauled and frame enamelled, large footboards; £22 10s.

LEEDS.—3½ h.p. Minerva Tricar, chain driven, fitted with Kent three-speed gear, fast and good hill-climber, fan-cooled, does not overheat; a bargain, £20.

LEEDS.—Exchanges entertained on above machines.—The Leeds Motor Exchange, 28, Dock Street, Leeds.

BAT, 6 h.p. w.c. Fafnir, two speeds, clutch sprung frame, wheel steering, coach-built, to seat three, tyres almost new; £10s. or motor cycle and cash.—50, Manor Road, Brockley.

CENTURY Tricar, 6½ h.p. Aster, w.c., two speeds, free engine, coach-built sea wheel steering, Renold chains, fair condition; £25.—Hollick, 1, Carlton Mansion Clapham Road, S.W.

5½ h.p. Lagonda Tricar for sale, first-class condition, clutch, handle-starting, fast and reliable, nearly new tyres, or would suit a twin or four-cylinder bike. 11, Sheldon Street, Leicester.

8-10 h.p. Rexette, three-seater, nearly new, no reasonable offer refused (exchanges entertained); also lathe, 5in. centre, 4 back geared, gap bed, compound slide rest 5in. Cushman's chuck, £5.—Jackson, 9, Seewick Street, Homerton, N.E.

4 h.p. Ormonde (Kelecom engine), water-cooled, coach-built forecar attachment, splendid running order, handle-bar counter spring handles and seat-pillar, three lamp car horn, and spares, tools, etc.; £15; trial given.—Richmond, Matlock Road, Brighton.

6 h.p. Twin Antoine, chain drive, Chater-Lea throughout, three-speed gear, Peter-Union tyres, non-skid, coach-built seat, lamps, tools, spares, perfect machine little used; £29, or motor cycle and cash. J.S.R., 3, St. Peter's Road, Kingsland, London.

4½ h.p. Tricar, water-cooled, coach-built open frame, wheel steering, two speeds, chain drive, foot clutch, new tyre steel studded back; £35; will take good motor cycle with sidecar and cash; offer all answered.—Sellman, Mill Street, Croydon, Staffs.

1907 6 h.p. Quadrant Carrette (tricar), light coach-built, two speeds, handle steering, wheel steering, absolutely new condition throughout, perfect control, well sprung, fast, very powerful, thoroughly reliable; £38.—Tricar, 86, Colvestone Cresce Dalston, London

NEW 5½ h.p. Rex Tricar, 1907 model, new to clear, room wanted, £30; Rexette h.p., two cylinders, twin back wheel, two speeds and reverse, three-seater, new, clear £75; exchanges entertained on above.—L. F. Harvey and Co., 6, Chapel Street, Victoria Street, Manchester.

TRICAR, 3½ h.p. Lloyds engine, less cylinder, coil and accumulator, Clinche 2½ handle starting, B100 saddle, with front and front wheel to convert into cycle, good condition, sell together or separate; who offers?—Seen at The Forward Cycle Co., Edmund Street, Birmingham.

HALIFAX.—5½ h.p. spring frame Rexette £35; 8-10 h.p. Rexette, £47 10s.; 4½ h.p. water-cooled Bradbury, open frame, £35; h.p. Stevens, two-speed, £30; 4½ h.p. Stevens, water-cooled, two-speed, £27 10s.; Rex two-speed tricar, £18 10s.; coach-built Rex tricar, £13 10s.—Halifax Motor Exchange, Wigan Gate, Halifax.

TRICAR, well-known make, two-cylinder Stevens, 8-10 h.p., open frame, side doors for driver, painted white and gold, new condition, with £20 worth of spare Cape cart hood, R.O.M. contact breaker, electric lamps, Marconi coil; £65, lowest, or change for good small car.—Apply to Collier, 119, Victoria Street, London, S.W.

REXETTE, 8-10 h.p., coach-built, dark red black bead, white lines, seats three, water-cooled, two speeds, Michelin tyres front. Continental back, studded, two spare tyres and tubes, four lamps, spares, approx. splendid condition, very powerful, climb anything; must sell; cash needed; £35, nearest offer; Kent.—Box 1,349, The Motor Cycle Offices, Coventry.

TRICARS FOR SALE.

POWERFUL Tricar, $\frac{1}{2}$ h.p. Stevens, gas lamps and spares, machine illustrated last issue *The Motor Cycle*; £25.—132, Lumley Road, Horley.

GARRARD Tricar, three-speed, handle starting, water-cooled, wicker body, good order; cash £21, or exchange motor cycle.—Bennett, Pawnbroker, Heckmond-wike.

COACH-BUILT Tricar, fitted two-cylinder water-cooled White and Poppe engines, clutch, gear box, three speeds and reverse, foot and side lever brakes, wheel steering, 700 by 85 car tyres, chain drive; £50; car wanted.—Goddard, Brickfields, Southall.

SIDECARS AND FORECARS.

MONTGOMERY, flexible, 26in., new condition; £4 5s.—Lewis.

LIBERTY, cane, 26in., upholstered green, apron, perfect; £4.—Lewis.

PHENIX Forecar, cane, 26in., upholstered red, complete, less tyres, first 65s. secures; with new Clinchers, 95s.—Lewis, 23, Arden Road, Handsworth.

MONTGOMERY Sidecar; cost with basket £11; only used three times; £7.—785, High Road, Leytonstone.

LATEST Chater-Lea Sidecar (genuine), fitted with spring wheel, brand new; £7 7s.—C. Sullivan, Larkhall Lane, S.W.

CHATER-LEA Tricycle Attachment, been fitted to No. 6 frame, as new; £3 10s., lowest, cost £12 12s.—24, Southgate Road, London.

PRACTICALLY New Montgomery Flexible Sidecar, not run 100 miles; £5; buying tricar.—Vickerman, Dragon Avenue, Harrogate.

LATEST 1909 Spring Wheel Sidecars, built with genuine Chater-Lea fittings; 7 guineas.—Silverthorne Automobile Co., Larkhall Lane, S.W.

COACH-BUILT Sidecar, rigid frame, in excellent condition; £5 15s.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

LIBERTY Sidecar, cane, like new, £4 10s.; Montgomery sidecar, de luxe fitting, non-skid attachment, flexible, £6 10s.—Rey, 5, Heath Street, Hampstead.

STAMFORD HILL—Famous rigid sidecars, instant delivery, none better, fit your machine, £4 18s. 6d.; Mills-Fulford, £4; forecar, side stays, band brakes, £4 10s., wing guards.—128, High Road, Tottenham.

BRAND New Rigid Sidecar, collected from the Stanley Show, upholstered in red; £6 10s.; unprecedented opportunity. — At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

MAUDE'S can deliver from stock all 1909 models of Millford sidecars; also latest spring frame model; exchange your present crock for a modern sidecar.—Maude's Motor Mart, Powell Street, Halifax.

BEFORE the Show we had 150 sidecars in stock, but now we have only 50 left, and still we can't build them fast enough to keep pace with the demand, so we advise all those desirous of enjoying the delights of an Oakleigh sidecar during the Xmas holidays to place their orders now; price £5; write for list; Mills-Fulford forecar attachment, less tyres and basket, 35s.—Oakleigh Motors, 65a, Rosendale Road, West Dulwich.

TRAILERS.

TRAILER, 2 guineas, Reflex Clipper tyres, as new.—Dell, South Pickenham Rectory, Swaffham.

QUADCARS.

PHENIX Quadcar, new condition; cost £130, offers invited.—Motorist, 17, Mayfield Road, Dalston, London.

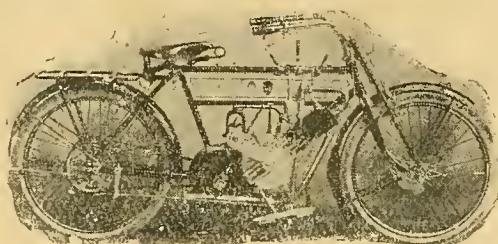
PHENIX Quadcar, four-cylinder Fafnir engine, Continental car tyres, very fast, powerful hill-climber, just thoroughly overhauled; cost £160, offered £75; any trial.—F. W. Blumfield, 108, Balsall Heath Road, Birmingham.

The Ideal Car

FOR THE

MAN OF MODERATE MEANS.

Have you tried the P. and M. Two-speed Motor Cycle with castor wheel sidecar? It is as easy to drive and as safe and comfortable as a car; but the cost of upkeep is quite another story. There is no necessity to rush hills. The P. and M. can be driven at a crawl, or will romp up if desired. The sidecar is easily and quickly detached, enabling the machine to be used for solo work, and saves storage room.



THE NEW P. & M.—Handle starting, handle-bar control, magneto ignition, two-speed gear.

Price £52 10s., or complete with sidecar, £65.

Trial runs by appointment. Early deliveries arranged.

Owing to our foresight in placing our contracts early we are in a position to accept orders for delivery to suit your own convenience for—

1909 TRIUMPHS.

1909 F.N.

1909 REXES.

1909 L.M.C.

1909 DOUGLAS.

1909 MOTO-REVE.

1909 BROWNS.

1909 VINDEC SPECIALS.

1909 N.S.U.

1909 ZENETTE.

1909 PHANOMEN.

1909 HUMBERS, etc.

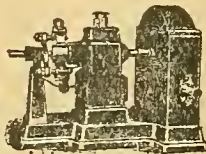
Any make taken in part exchange. Extended payments arranged if desired.

If you favour a good-class second-hand machine, write for our Bargain List.

SPECIALITIES.

Carbide Carriers.—Will hold spare charge of carbide and matches, striker, and lighting-up calendar combined. Fixes between ordinary pump clips. PRICE 3/- Post 2d.

Stevenson Valve Spring Lifter.—Useful to novice and expert. Holds valve down while spring is lifted. Adjustable to fit any engine. PRICE 3/3. For Triumphs only, 2/3. Post 2d.



Turbinamo.—Charge your accumulators at home, and save expense, time, and temper. Connected to the house tap. PRICE, complete, £3.

Lamps.—A good light for night riding is essential. The "SERVICE" Mirror Lens Lamp will give you absolute satisfaction. PRICE, lamp only, 18/9; or complete with generator and tubing, 26/6. Carriage paid.

Belt Carriers.—The "SERVICE" new model. Fits top or side of carrier. Rot-proof. Neat and accessible. PRICE, complete, 5/-

SEASONABLE GIFTS.

Has it occurred to you that the most acceptable gift for a motor cyclist is some fitting for his machine? Our list gives a very large selection of suitable articles at all prices. Write for a copy.

THE SERVICE CO., Ltd.,
292, HIGH HOLBORN
(almost facing First Avenue Hotel),
LONDON, W.C.

Telephone 260 Central.
Telegrams: "Admittedly."

CARS FOR SALE.

GLADIATOR, 10-12 h.p. Aster, detachable tonneau; sacrifice £42.—Below.

FIAT, 16-24 h.p., fast, magneto, detachable tonneau; sacrifice £95.—Chauffeur, The Cottage, Melbourne Lodge, Queen's Walk, Ealing.

7 h.p. Decauville, new condition, three speeds, cardan; offers or exchange.—Reive, Old Cumnock.

20 h.p. 1907 Side Entrance Winton, two ignitions, Cape hood; £150.—Below.

18-28 h.p. Mercedes, limousine, seats five, magnificent car; £220.—Below.

8-10 h.p. Ariel, tonneau, seats four, latest type, hood, etc., suit traveller; £55; any trial.—9, Parkholme Road, Dalston.

8 h.p. De Dion (fully licensed), three speeds, new non-skids, lamps, spares, tonneau, good order; £85; buying four-cylinder.—Capt. Harvey, 6, Salisbury Terrace, Devonport.

PALMER— $\frac{1}{2}$ h.p. Humberette, two-seater, two speeds, reverse, good condition; £29.

PALMER—8 h.p. Beaufort, four-seater, three speeds, reverse, magneto, artillery wheels; £35.

PALMER—9 h.p. Sizaire et Naudin, two bucket seats, lamps, horn, perfect; £75.

PALMER—12-16 h.p. Valkyrie, 1907, four-cylinder, side entrance, Eisemann magneto, Hele-Shaw clutch, pressed steel, nearly new; £145.

PALMER—15 h.p. Flying Darracq, two bucket seats, four-cylinder, push pedals; £95.

PALMER—16 h.p. De Dietrich, five-seater, four-cylinder, magneto, fast, reliable, highest grade; £110.

PALMER—16-22 h.p. Gladiator, side entrance, four-cylinder Aster, valves each side, disc clutch; £140.

PALMER—24 h.p. Hurst, side entrance, four-cylinder, Cape hood, splendid powerful car; £80.

PALMER—16 h.p. Corre, five-seater, four-cylinder, M.O.V., nearly new; £110.—L. N. Palmer, 190, Mellison Road, Tooting. Telephone, 208, Streatham.

$\frac{1}{2}$ h.p. De Dion Car, two speeds, seats three, excellent condition; £25; trial given.—Hubbard, 97, Bristol Street, Birmingham.

6 h.p. De Dion (two speeds), just overhauled and re-painted, new tyres on back; £85.—Below.

8 h.p. De Dion, with side entrance body, three speeds and reverse, good tyres, spares; £150.—Below.

10 h.p. Two-cylinder De Dion Car, with canopy and glass wind shield, and side curtains, just been overhauled and re-painted; £175.—W. Paull, 88, Barrack Street, Colchester.

8 h.p. De Dion, two-seater, Cape hood, lamps, triple horn, tyres new, splendid condition; £65, or twin and sidecar part payment.—Roberts, 10, Grove Place, Hampstead, N.W.

9 h.p. De Dion-Prunel, detachable tonneau, three speeds, reverse, hood, screen; £58, or part exchange.—Below.

6 $\frac{1}{2}$ h.p. Darracq, detachable tonneau, three speeds; £38, or part exchange.—98, Potternewton Lane, Leeds.

8 h.p. Argyll, detachable tonneau, three speeds and reverse, good condition, two lamps, pump, jack, tools, many spares; bought larger car; £48 only.—Parker, St. Ives, Hunts.

STAMFORD HILL— $\frac{1}{2}$ h.p. M.M.C., three speeds and reverse, two-seater, equal artillery wheels, splendid condition; trial; £32 10s.; sound, reliable car.

STAMFORD HILL—6 h.p. Oldsmobile, two-seater, two speeds and reverse, excellent condition, and fine running order; £20.

STAMFORD HILL—Motor cycles, accessories, and motor cars bought, sold, and exchanged.—128, High Road, Stamford Hill.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

CARS FOR SALE.

8-24 h.p. Belsize, four-cylinder, side entrance, screen, hood, five lamps, teputney, splendid condition; £145.—Below.

24 h.p. Mutel, four-cylinder, tonneau, pressed steel, perfect order; bargain, £80.—Below.

10 h.p. Panhard type, two-cylinder, tonneau, three speeds, reverse, fine running order; £36.—Below.

3 h.p. Swift, De Dion, two-seater, hood, smart doctor's runabout; £50.—Below.

3 h.p. M.M.C., two-seater, three speeds, reverse, in very nice condition; £32 0s.—Below.

31 h.p. Darracq, tonneau, three speeds, reverse, cardan, very reliable; £24.—Below.

31 h.p. Rex Bike and Ariel sidecar, Palmers, scarcely used; bargain, £16.—Below.

10-12 h.p. Peugeot, tonneau, honeycomb, two ignitions, hood, fine order; £80.—Eclipse Eng. and Motor Co., 255, Earlsfield Road, Wandsworth. Phone, 1135, Putney.

BROWN Car, 10 h.p., for sale through lack of accommodation, four-seater faultless condition; £120; will accept tricar as part payment.—Shepherd, 10, Westow Street, Upper Norwood.

DARRACQ, 10-12 h.p., twin, three speeds and reverse, gears new, seats five, back entrance, recently re-painted and overhauled; £60.—Hollick, 1, Carlton Mansions, Clapham Road, S.W.

7-9 h.p. Peugeot Car, two-seater, three speeds and reverse, artillery wheels, lamps, tools, thorough running order; bargain, £35; good motor cycle part.—Philpott, Rangeworthy, Gloucestershire.

HALIFAX. — 6½ h.p. Humberette, three speeds and reverse, £39 10s.; 10-12 h.p. Brush car, tonneau body, three speeds and reverse; £55, cycle taken part payment.—Halifax Motor Exchange, Westgate, Halifax.

1-7 h.p. Wolseley Small Four-seater, equal artillery wheels, solids, also one pair back wheels, 3½ Dunlop, complete, for above; trial here; £25, or motor cycle and cash, or offer.—Fairweather, Millhouse, Kirkcudbright.

10-12 h.p. Cottereau, tonneau, M.O.V., pressed steel chassis, Mercedes shape radiator, fan, three speeds, direct drive, fast, handsome little car; £52 10s.; trial by appointment.—Letters, H., 32, Rylett Road, London, W.

6 h.p. Genuine Panhard, single-cylinder, three speeds and reverse, artilleries, two or three seats, all accessories, spares, guaranteed not run 2,000 miles, consequently excellent condition; £55, or motor cycle and cash.—Box No. 1,347, The Motor Cycle Offices, Coventry.

ROVER, 6 h.p., £150 model, new June, 1908, battery and magneto ignition, 700 by 35 Dunlops, unpunctured, special bodywork and springs, up-to-date, comfortable, reliable, and good condition; Warwickshire; what offers?—1,285, The Motor Cycle Offices, Coventry.

FOR Sale, 7-11 h.p. two-cylinder M.M.C. waggonette, seats nine, new solids, lamps, horn, etc., £25; also 5½ h.p. Humberette, bucket seats, lamps, horn, pump, etc., £20; both in exceptionally good condition; seen in London; photos.—43, Bouverie Road West, Folkestone.

15 h.p. Side Entrance Long Chassis Four-cylinder Darracq, glass screen, five lamps, spare covers and tube, tools, etc., absolute genuine bargain, perfectly quiet, and can do 40 m.p.h., tyres and general condition all that could possibly be desired; price to realise £125.—Below.

20-32 h.p. Side Entrance Long Chassis Four-cylinder Darracq, fitted with nice detachable canopy top, curtains at side, two screens (folding), two ignitions, five lamps (electric light inside), Smith's best speedometer, half dozen spare covers (worth at least £20 alone), four tubes, tools, and everything; price to realise £165; car has been recently repainted and overhauled at considerable cost, is just a new car again, was purchased new in April, 1906, runs beautifully; trial either car any time.—Hurlock, jun., 70, Walworth Road, London. Phone, 14942, Central.

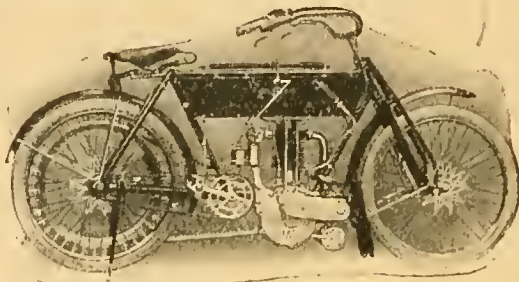
MATCHLESS MOTORS!!

LATEST SUCCESS ON
STANDARD 7-8 h.p. T.T. TWIN.

WORLD'S RECORD.

70 miles 105 yards in 60 minutes.

Brooklands, Oct. 8th, 1908.



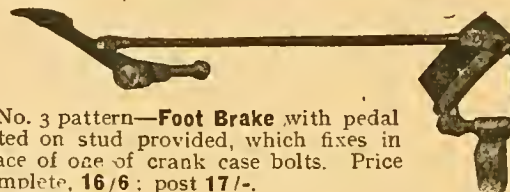
Tourist Trophy, 1907, First
Tourist Trophy, 1908, Second

158½ miles in 3 hrs. 57 min. 6½ sec. Bore 85, stroke 76 mm. Average speed 40 m.p.h., only ½ m.p.h. less than the winner, of 57,000 cubic millimetres greater cylinder capacity. Beating 21 twin-cylinder machines from 3½ h.p. to 7 h.p., and 12 single-cylinder machines of other makes.

No. 1 pattern—Back Pedalling Brake. Machines can be wheeled backwards. Extremely powerful. Price, 15/-; post, 15/6.



No. 2 pattern—Footrest Brake, complete, price £1 7s. Footrests only, price 13/-, with either ½ in. or 1 ½ in. clip. Post 13/6.



No. 3 pattern—Foot Brake with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete, 16/6; post 17/-.



THE MATCHLESS
SILENCERS.

Up to 3 h.p., 10/-; from 3½ to 5 h.p., 12/- Cut out 5/- extra. Two connections for twins with separate exhaust pipes, 4/- extra.

NOTE.—70 miles an hour with a standard machine fitted with this silencer, proving absence of back pressure.

Catalogues of "Matchless" Motor Cycles and Accessories on application to

H. COLLIER & SONS, LTD.,

Motor Experts & General Engineers.

Offices and Showrooms:

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(Nearest Station: Woolwich Arsenal.)

Telephone: 232, Woolwich.

CARS FOR SALE.

TWO-SEATER Baby Argyll, vertical steering, wire wheels, 6 h.p. engine in front, cardan drive, three speeds, going order, £18; also mahogany motor punt, 3 h.p., fine condition, £45; exchange both for good 6 h.p. De Dion three-speed or similar car.—Gale, Cycle Works, Caversham-on-Thames.

DIXI, 18 h.p., four cylinders, handsome and roomy, side entrance body, Dunlop tyres, wind screen, and lamps, perfect condition; open to any trial or expert examination; would consider motor cycle, tricar, or 6 h.p. Rover car in part payment; price £14.—Louis Davis and Son, Moseley, Birmingham.

SMALL Car Parts.—6, 8, 10, and 12 h.p. chassis, or any part supplied; gear boxes from £8; back axles, £10; flywheels, clutches, engines, from £10; also 8 h.p. M and B. car, two or four-seater, cardan drive three speeds, modern, splendid condition, £45.—Motors, 140a, Camden Road, London, N.W.

£70.—Comfortable little four-seater Decauville two-cylinder car, four speeds and reverse, direct drive on top speed, Dunlop grooved tyres, two spare covers and tube, lamps, and tools, dark green, yellow wheels, in splendid running order; photo.—Address, H. Hazlewood, Hazledene Villa, Earlsdon, Coventry.

ROVER 8 h.p. Two-seater, in really tip-top condition throughout, good hill-climber and most reliable, wire wheels, full set of tools and spares, Alpha head lamp and Lucas side and tail lamps, electric horn, spare cover and tubes; trial run by appointment; £115, or near offer.—Box No. 1,209, The Motor Cycle Offices, Coventry.

ROVER Cars. — You never know what a skid means when you drive a Rover. Now the days of muddy roads are here are you not thinking of the pleasures that would be yours if you owned a car? Write us for the amount we will allow you for your skiddy mount in exchange for a Rover at £135.—Louis Davis and Son, Moseley, Birmingham.

MOTOR BICYCLES FOR HIRE.

31 h.p. Motor for hire; good opportunity for novices; 30s. per week; write for particulars.—Louth, 173, Vauxhall Bridge Road, S.W.

LOST AND FOUND.

LOST, between Brighton and Fareham, on Monday, 23rd November, 3in. Centipede belt.—Will finder communicate with Mr. G. Evered, 141, Lowther Road, Bournemouth.

MOTOR EXPERTS.

W. W. GENN.—Every description of motors overhauled, repaired, or built to order; any make supplied; old machines part payment; write for particulars of my spring seat-pillar; also 3½ h.p. Fafnir, Charter-Lea parts, Dunlops, at 25 guineas.—Gap Road, Wimbledon.

FINANCIAL.

CAPITALIST Wanted, to join syndicate controlling valuable motor cycle accessories; splendid investment.—Box 1,344, The Motor Cycle Offices, Coventry.

PARTNER wanted, about £200, to extend flourishing motor business, money to include share in valuable patent.—Box No. 1,351, "Evening News," London.

CAPITAL Wanted, to buy out present partners in small private limited company manufacturing motor components and accessories, name well established.—Apply, Box, 1,346, The Motor Cycle Offices, Coventry.

INSURANCE.

PLEASE send for full covering Motor Cycle Policy, from 19s. per annum.—Bass, Insurance Broker, Ongar.

INSURANCE Policies for motor cycles are issued by Hugh J. Boswell, insurance broker Norwich, at exceptionally low rates. Please write for particulars.

ACCUMULATORS.

ACCUMULATORS Going Cheap; take coils part payment.—United Accumulator Co., 50, Mistress Lane, Armley, Leeds

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

EXCHANGE.

EXCHANGE, 5 h.p. Vindec Special, Roc free engine, handle-bar control, for push cycle and cash, or sell £20; photo. — Holland, 118, Devonshire Road, Chorley.

WANTED.

SPARE Wheel and Tyre, 750 by 85.—Below

OFFERS for 1908 latest model Moto-Reve (as new).—Paull, 88, Barrack Street, Colchester.

FITALL Gear for 3½ h.p. M.M.C., 3in. belt.—Brampton, Pollard Street, Kettering.

WANTED, coach-built front seat, for tri-car.—H. Leverett, 9, Goswell Road, E.C.

WANTED, motor cycle, any condition, also parts.—25, Grafton Road, Plaistow, E.

WANTED, twin R.O.M. contact breaker, for Rex.—Scorrer, 141, Coltman Street, Hull.

WANTED, Two-speed Gear for 2½ h.p. Minerva.—11, Drury Buildings, Liverpool.

WANTED, second-hand magneto, good condition.—F. Pikesley, Woburn Sands, Bucks.

WANTED, cheap Sidecar for motor.—Leslie, 65, Lexham Gardens, Kensington, W.

WANTED, good studded non-skid cover, beaded edge, 24 by 2½.—Kelham, Bourne.

WANTED, Triumph, F.N.'s, or Vindec; must be cheap.—5, Heath Street, Lampstead.

WANTED, good motor cycle, long, low, reliable.—10, Radnor Park West, Colkestone.

WANTED, motor cycle, any condition, cheap, also parts.—25, Grafton Road, Plaistow, E.

WANTED, 2½ h.p. engine, Minerva preferred.—Wm. Pollard, 157, Severn Road, Cardiff.

WANTED, Magneto for single, Bosch or good make; cheap.—Wolff, Castleknock, Dublin.

WANTED, 28in. by 2in. cover, beaded.—Snell, 6, Vickers Buildings, Newton Street, Lincoln.

LOYD'S 2½ h.p. Cylinder and Piston, complete.—Particulars to T. Gratrix, Garage, Patricroft.

WANTED, Givaudan cylinder, 2½ bore, for twin Givaudan.—R. Hill, Greatham, Lockton-on-Tees.

12 cash offered for motor bicycle, with magneto ignition.—1,298, *The Motor Cycle* Offices, Coventry.

NEW Three-speed Bicycle, leading make, for motor bicycle.—24, Aldbourne Road, Shepherd's Bush.

WANTED, 3½ h.p. Engine, 1908 Jap or Minerva; cheap for cash.—Knight, Maypole House, Bexley.

WANTED, Frame and Tank, exchange Root's fan, new, or cash offers.—Good, New Cumnock.

WANTED, 2½ h.p. cylinder head, for 1906 pattern Werner.—Faulkner, Bungaw, Hassocks, Sussex.

TRICAR, open frame, light, strong; twin Rex part exchange.—1,345, *The Motor Cycle* Offices, Coventry.

1 h.p. Engine, good make, magneto preferred; approval.—S. Bridger, Admiral Street, Liverpool.

8IN. by 2in. Wired Cover, 3in. belt, coil, accumulator, saddle, brake.—B. Bramm, Heath, Bedfordshire.

WANTED, about 4 h.p. w.c. Engine, will give 3½ h.p. Kerry engine, a.c., and sh.—235, Boulevard, Hull.

POWERFUL Motor Cycle; state full particulars and lowest cash price.—Pollard, Wood Street, Taunton.

WANTED, Motor Cycle, recent model, Triumph preferred.—Motorist, 17, Mayfield Road, Dalston, London.

WANTED, free engine clutch, or Osborne pulley, for N.S.U.; cheap for cash.—Derby Street, Burton-on-Trent.



Price 1/11½
Postage 2d.

All-Rubber Motor Goggles, with extra pair of Tinted Lenses. Light and Comfortable.

WARMTH AND PERFECT CIRCULATION.



WOOLLEN WRISTLET GLOVES.



5/3 per pair,
postage 1½d.

ALL RUBBER.

FUR MITTS, LINED OHAMOIIS PALMS, 5/11 PERPAIR
postage 1½d.

Black or Tan, lined wool, double palms, very strong.

The most comfortable Glove on the market, can be worn over or under coat sleeves. Send for our illustrated Motor Clothing and Accessories Catalogue, post free IT will save you money.

JOHN PIGGOTT, Ltd.,
117-118, Cheapside, and Milk Street, LONDON, E.C.

WANTED.

WANTED, 1908 Bat or Roc, two-speed preferred; full particulars, photo.—Scott, Napier Gardens, Hythe, Kent.

SPOT Cash Offers wanted for new 1908 3½ and 5 h.p. magneto Rexes.—Halifax Motor Exchange, Westgate, Halifax.

WANTED, Four-speed gear, the Temple-Crowsley, also 20in. Rex belt rim.—C.H., 55, Pepys Road, Wimbledon, S.W.

WANTED, good cycle accumulator, carrier, footrests, and foot rim brake.—Letters, Evans, 18, Alma Street, Hoxton.

3½ or more h.p. Magneto Motor Cycle, good make and condition, not more than £15.—Hughes, 2, Grove Park, Colwyn Bay.

WANTED, Chater No. 6 frame and tanks, genuine fittings only, or complete machine.—Knight, Maypole House, Bexley.

MAGNETO Wanted, low tension, also ignition coil (trembler), in good order; approval.—Cumming, 106, King's Gate, Aberdeen.

3½ h.p. Twin Peugeot Engine, magneto, also light low frame; cash or exchange 3½ h.p. Minerva.—Sanders, Hopwood, Alvechurch.

3-3½ h.p. Water-cooled Engine, good make, good condition, wanted, cheap for cash.—Hill, Alcester Road, King's Heath, Birmingham.

FIRST-CLASS Magneto Motor Cycle, also double-seated light forecarriage, without springs; cheap, cash.—R. Else, Leawood, near Matlock.

WANTED, motor cycle, light; exchange three-speed cycle, little cash.—23, Anstey Road, Cambria Road, Loughborough Junction, S.E.

WANTED, 4 to 6 h.p. Engine, enclosed flywheels, with or without cylinder; on approval; cheap.—Reynolds, Sparrow Hill, Loughborough.

WANTED, 3½ h.p. Triumph, 1908, part exchange for 10 h.p. Richard-Brasier motor car.—Francis, 20, Claremont Road, Tunbridge Wells.

WANTED, Lloyd's Cylinder for 2½ h.p. engine; also single-cylinder H.T. magneto.—Davies, 19, Poplar Street, Troedyrhiw, Glam.

WANTED, Motor Cycle, Vindec preferred, exchange triple rack Triunial lantern; cost £80; photo.—Particulars, 18, Newstead Road, Liverpool.

MOTORISTS wanted as agents for well-known motor oils, excellent commission; sample tins free.—No. 1,350, *The Motor Cycle* Offices, Coventry.

WANTED, Triumph, 1906, magneto, spring forks, perfect; expert examination; or approval; £20, or nearest.—No. 1,348, *The Motor Cycle* Offices, Coventry.

LOW-POWERED Tricar, suitable for person without feet, or which could be altered, about 3 h.p., free engine preferred.—Nicholson, engineer, Annan.

WANTED, Mills and Fulford sidecar, with castor wheel, for left side, 24 or 26 wheel, about 2½ tyre.—Price, etc., F. Heath, 1, North Cray Road, Bexley, Kent.

WANTED, motor cycle, modern design, 2½ h.p., magneto, vertical engine, good tyres, must be low built, cheap for cash.—Davies, engineer, Manor Road, Rugby.

TRICAR Runabout, single-seated, wanted, shaped and controlled like a car, but very light; cash.—Submit offers for inspection to Racecourse Garage, Doncaster.

WANTED, Drummond or other lathe, radial drilling machine, portable hearth, enamelling oven; exchange motor cycles.—Booth's Motories, Wade Street, Halifax.

1½ h.p. F.N. Lightweight, must be in good condition; will give photographic apparatus in exchange, choice of Reflex, with focal plane shutter, whole-plate, and two half-plate cameras; full particulars.—Alford, 43, Palmerston Road, Boscombe.

S. J. FAIR, the Motor Cycle Exchange, Cheltenham Road, Bristol.—Wanted, 25 second-hand motor cycles, any makes, 1½ to 6 h.p., for shipment abroad; motor cycles sold on commission, or purchased outright; cash remitted by return; bankers' references if desired.



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WANTED.

MOTOR Bicycle and Sidecar; exchange Benz two-seater car, solid tyres, and lady-back tandem (push); sell £9 9s., £7 7s.—Blenkarne, 64, Forthbridge Road, Clapham Common.

WANTED, 1908 Motor Cycle for cash, or would exchange my 60-guinea piano (new two years ago) and drawing-room suite.—Pembroke House, 22, The Avenue, Bruce Grove, London, N.

1908 F.N., or good make, up to 3½ h.p., magneto, good condition; cash or exchange 23 guinea Lea and Francis bicycle, as good as new, and cash.—Ehlers, 42, Gauden Road, Clapham, London.

WANTED, 3½ h.p. Minerva engine, with two-speed, good, sound condition, or 4½ h.p. twin same make; exchange high-class photo outfit, value about £8 8s.—Reply, 1,303, *The Motor Cycle* Offices, Coventry.

WANTED, modern Vindecs, Bats, Triumphs, Phelon-Moore's, Minervas, Rexes, F.N.'s, etc., either in payment for 1909 motors, or for spot cash; no rubbish.—Maude's Motor Mart, Powell Street, Halifax.

WANTED, 1907 Triumph, new condition, second-hand, or 1908 Triumph ditto, would give cash adjustment and brand new 1908 Minerva, 2½ h.p., magneto, spring forks, for the 1908.—John Webber, Craufurdrise, Maidenhead.

4 h.p. Roc, or any 3½ h.p. best make motor cycle, with free engine and two speeds, either with or without sidecar, must be in first-class order, and stand full expert examination and trial.—Full particulars to A. Daynes, 17, Sheep Street, Rugby.

MISCELLANEOUS.

BOOTH.—Wide mudguards, with stays and screws; 3in., 2s. 11d.; 4in., 3s. 6d.

BOOTH.—500 Fuller's Midget plain coils, 10s. 6d.; 200 Fuller's Midget trembler coils, 17s. 6d.

BOOTH takes your old coil in part payment; part with troublesome coils.

BOOTH.—Fuller accumulators, 20 amp., 17s.; Rex type, 16s.; Minerva, 16s.; Midget, 16s.

BOOTH.—5s. 6d. allowed for your old accumulator in part payment for Fullers.

BOOTH.—50 pairs XI'all spring forks; immediate delivery; N.A.B. seat-pillar, 3s. 6d.

BOOTH.—Long motor cycle handle-bars, heavy gauge, best quality plating; 5s. 6d.

BOOTH.—Silent silencers, for engines to 5 h.p., very efficient, no back pressure; 3s. 3d.

BOOTH.—Frames, £1 5s.; wheels, 9s. 6d. pair; plain coils, 2s. 11d.; trembler coils, 5s. 6d.

BOOTH.—Send for list of oddments, speed gears, tanks, etc.; clearance bargains.

BOOTH.—Brown-Barlow carburetter, twin inlets, 10s. 6d.; L.T. magneto, new, 22s. 6d.—Booth's Motories, Wade Street, Halifax.

ANTOINE and Kelecom Parts in stock.—Crypto Co., 14, Mortimer Street, London.

LONG Motor Handle-bars, 21in., heavy gauge, well plated, any size; 5s. 6d.—Farrar.

LOOP Frame, for vertical engine, with front forks and handle-bar; 32s. 6d.—Farrar.

GENUINE Camel Rubber and Canvas Belting, best on the market; send cash for length on approval; 3in. 9d., 2in. 1s., 1in. 1s. 3d., 1in. 1s. 9d. foot.—Farrar.

GET My Price List of accessories; pounds saved.—Farrar, Square Road, Halifax.

MADISON Dynamo, 50 volts 12 amps., good as new; £5.—4, Louisville Road, Tooting.

3 h.p. Motor Bike, nearly complete, new frame, etc.; £4 15s.—5, Kingcroft Road, Harpenden.

COMPLETE Cycle Motor Attachment, good condition; £4.—Sumner, Queen Road, Alton.

TAN Leather Waistcoat, chest 38 inches; 15s.—Imlay, 44, Richmond Hill Place, Aberdeen.

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MISCELLANEOUS.

OVERCOATS, thick, warm, latest cut; 21s.—Write for patterns, Booth, tailor, Longton.

WHIPCORD Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, tailor, Longton, Staffs.

OUR Automatic Pulley is marvellous; throw away speed gears.—Particulars, Walker, Lutterworth.

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MOTOR Car Paraffin Side Lamps, cost £5. equal new; £2 10s.—Bygrave, 13, Canterbury Road, Brixton, London.

ALVASTON Bargains.—Cuttriss dynamo, 20 amp., 100 volt, suitable lighting or charging, as new; accept £8 10s.

ALVASTON Bargains.—Another Gialoli high tension four-cylinder magneto, superb instrument, brand new, fully guaranteed, ball bearings; accept £5 10s.

ALVASTON Bargains.—Brand new Star double cylinder (only), M.O.V. type, 34in. bore; accept 30s.

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ALVASTON Bargains.—Look. 3 h.p. water-cooled Simms motor, fitted with magneto ignition, perfect order; immediate sale £6 10s.; suit boat or stationary.

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283 Copies "Motor Cycle," since 1903; what offers? money or goods.—Cochrane, Victoria Bridge, Manchester.

STHENOS Carburetter, suit tricar or small car; 30s., or near offer.—H. Hazlewood, Rochester Road, Earlsdon, Coventry.

BELT Rim Brakes, flexible cable, hand applied, easily fitted, stop anything, 9s. 6d., usual price 15s.—Slack's Garage, Stockport.

AUTOGENOUS Welding.—Send that broken casting to the Alvaston Motors, Derby to be welded by patent process; metal reunited.

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FRAMES, latest types, from 50s.; No. 6, 60s. special frames built to any requirements, racing, etc., wheels, etc., to suit.—Below.

TANKS, any shape or pattern, from 5s. long handle-bars, 4s.; swan-neck saddle-pins, 2s. 6d.; quotations free.—Green, 14, Avondale Road, Peckham, S.E.—Works, McDermott Road.

GOODLAD Speedometer (dial on bars), like new, £1; two accumulators, good condition, 12s.—Motorist, Hookstile, South Godstone, Surrey.

WOLF New Motor Set, complete, brand new, just cost £15 15s., accept £10.—Edwards, Strathmore, Washington Road, Worcester Park.

MABON Free Engine Clutch and Pulley complete, as new, suit Triumph, etc. handle-bar control; 25s.—Wm. Beaumont, Birds Royd, Brighouse.

OSBORNE Four-speed Pulley and Free Engine, just delivered, never been fitted, cost over £5, offers.—Apply, No. 1,333, *The Motor Cycle* Offices, Coventry.

MOTOR Cycle Frame, suit 3½ h.p., inclined complete with pedalling gear and mudguards, quite sound; 15s.—Motorist, 32, Crose Street, Sandown, Isle of Wight.

MISCELLANEOUS.

O fine pair small acetylene Projector side lamps, complete with separate rator, car sizes, 35s. per set, quite as cost treble (splendid tricar headlights). low.

E Pair Lucas black and plated side lamps, medium size; 17s. 6d.—Below.

E Pair Lucas black and brass side lamps, usual car size; 23s.—Below.

E Pair all-brass Lucas side lamps, usual car size; 25s., cost treble.—Below.

O deep tone car horns, long tubing, nickel plated (one Lucas), other same, no makers' name), cost £2 10s. each, pt £1 and 15s. respectively; absolutely unsoiled.—Below.

GH Tension Wire, best quality, guaranteed, new, fresh stock, 1s. per yard—w.

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ONG Handle-bars, 4s.; swan-neck saddle-pillars, 2s. 6d.; tanks, frames, etc., all your own requirements.—Green, 14, Avou-e Road, Peckham, S.E.

h.p. Quadrant Engine, Longuemare, ex-haust and inlet pipes, valve lifter, pul-; £2, or Brown and Barlow and cash.—ham, 50, Gilstead Road, Fulham.

h.p. M.M.C. Engine, water-cooled, start-ing handle, £10; three-speed reverse r box, £3 10s., good condition.—Chew, nd Street, Moss Side, Manchester.

AUNTON Speed Indicator, registers up to 35 miles, new, suitable for motor e, complete, ready for fixing; cash offers. ral, 14, Arthur Road, Holloway.

OWDEN Back Band Brake, new, 12s. 6d.; N.S.U. cranks and chain wheel, new, Clement exhaust valve, 2½, new, 1s. 6d.—gson, 10, Horton Road, Bradford.

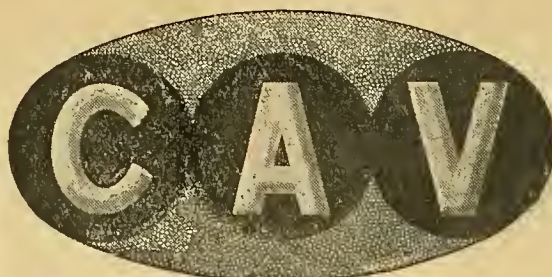
OR Sale, XI'all spring forks, perfect, spare spring, 11s.; wanted, carburetter, one p.p., handle-bar control, one for 2½ h.p. ner.—Dunbar, 3, Alderston Avenue, Ayr.

SBORNE Four-speed Locking Device Pul-ley, free engine, latest automatic jockey ey, ball bearing, to adjust belt; £2, or rest.—Hambleton, 551, Lower Bredbury, kport.

ISH Cycle, B.S.A., with strengthening bars, and belt rim, £2; or with 2 h.p. chment, tanks, and fittings, ready for , £5 10s.—Arnold, 31, Hammond Road , Southall Green.

LARGEMENTS (bromide) from amateurs' negatives; 8 by 6 9d., 10 by 8 10d., 12 by d., 15 by 12 1s. 1d.; from prints 6d. extra; , satisfaction guaranteed.—Greame, esley, Whyteleafe.

ATERSON Plain Twin Coil, 15s.; Parsons non-skid, 10s.; studded non-skid, 18s.; r tank, carburetter, switch, levers, etc., ew, 9s.; wanted, tricar paraffin lamps. lmes, Laira, Plymouth.



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MISCELLANEOUS.

CASH, credit, or exchanges entertained. What offers? One Kerry motor cycle, 3½ h.p., spring fork, handle-bar control, new 20 amp accumulator, good lamp, and horn, ready for the road.

ONE Humber Motor Cycle, 1½ h.p., direct chain drive, a splendid lightweight, thoroughly reliable.

ONE Coach-built Trailer, slightly soiled, splendid condition; £1 10s. buys it.

ONE Bosch Magneto, new, shop-soiled.

ACCUMULATORS, new.—Twelve, 10 amp. 4 volt; twelve, 20 amp. 4 volt; twelve, 40 amp. 4 volt; bargain prices; don't miss one.—W. Harris, Lee, 152, Bolton Road, Bradford.

FLEXIBLE as a chain, strong as steel, lin. belts; 12s. 6d.—Venn, Lawley Street, Birmingham.

USE K. Brand Oils and start easily; testing sample free.—Kelly and Company, Bridge End, Leeds.

2 h.p. F.N., Rich's tubes, adjustable pulley, girder forks; £12, bargain.—Cross, Ham, Old Windsor.

SMART Whipcord Motor Cycling Breeches; 8s. 6d.; post free; patterns.—Meredith's, Wearwell, Northwich.

NEW 35s. tricar headlight, 15s.; 70 mm. cylinder head, 5s. 6d.; 24in. Chater wheel, tyre, tube, forks, 11s., perfect.—8, Crieff Road, Wandsworth.

WHAT Offers?—Eisemann's magneto and coil, for single-cylinder motor; also Clincher tyre and tube, 26 by 2½, new cona-tion.—Pickles, 10, Lambton Street, Hull.

BARGAINS in Cars and Tyres.—4½ h.p. two-seated De Dion, good running order, with wind screen; £16.

10-12 h.p. Belsize, two-cylinder, seats four, good running order, tyres, etc., good; £27.

TWO Covers, 700 by 85, 10s. each; good selec-tion of other sizes very cheap; 18 tubes, various, 880 by 120, 920 by 120, 875 by 135, 815 by 105, 910 by 90, 10s. each, good second-hand; also Whitworth screw-cutting lathe, 8ft. bed, £17, weight about 1 ton; and a quantity of 3 and 4-jaw lathe chucks, cheap.—Carey's, Elephant Road, London, S.E. Phone, 2052 Central.

KENT Two-speed Gear, foot clutch, motor cycle frame, tank, and 26 by 2½ back wheel, all complete; £4 18s., genuine bargain.—George, 47, Montague Road, Dalston, Lon-don.

3 h.p. Fafnir, special racing engine, will do 50, No. 6 frame, enamelled dark green, Chater spring forks, Brooks saddle, Clin-chers, and Continental tyres, both new, cop-per torpedo oil and petrol tank, footrests, two 20 amp. C.A.V. accumulators, Matchless foot brake, inlet and exhaust valves, usual tools and spares, machine three months old, guaranteed in perfect condition, plating and enamel as new; price £20.

RIGID Sidecar, 26 by 2½in. Michelin tyre, upholstered wickerwork; 35s.

23 h.p. Fleet, Minerva engine, complete with 24 Minerva carburetter, perfect, used very little; £4.

NO. 6 Pattern Frame, less front forks; 15s.

SOLID Drawn Brass Torpedo Petrol Tank, to fit No. 6 frame; 12s. 6d.

THREE 28 by 2in. Beaded Edge Covers, two second-hand, one quite new; the lot £1.

NEW Python Brass Motor Horn, with flex-ible tube and bulb, deep note; 18s. 6d.

CARRIAGE paid on any of above on re-ceipt of P.O., to Motor Works, Liphook, Hants.

STAND Carrier, 3s. 6d.; large treble-twist horn and tube, 8s. 6d.; car mirror, 2s. 9d.; large brass tail lamp, 7s. 6d.; car coil, perfect, 7s.; Phare Ducellier headlight, 35s.; approval.—Sydney, 34, Bedford Square, Lon-don.

TANKS, torpedo and ordinary, from 5s.; long handle-bars, 4s.; swan-neck saddle pillars, 2s. 6d.; frames from 50s.; all repairs and alterations; please note, business transferred to larger premises.—Arrow Motor Works, 83, Rye Lane, Peckham.

MISCELLANEOUS.

£2 10s., or offer.—Osborne four-speed gear late pattern, had little wear, good condition.—B. E. Sutton, Eaton Bray, Dunstable.

DON'T Scrap that cracked cylinder. Try Barker's iron cement; stands great heat; 1s. tin saves pounds.—Oxford Road, Worthing.

LOW Frame, wheels, tyres, 70s.; M.M.C. cylinder, 100 by 100, patched water-jacket perfect, 25s.; flywheel, 5s.; coil, 5s.—8, Princes Street, Swindon.

TWO Dunlop Covers, brand new, 26 by 2, beaded, 16s. 6d. each; new heavy charging dynamo, 120 watts, 38s. 6d. — 8, Southchurch Lane, Bishop Auckland.

MOTOR Cycle Frame and forks, brass petrol and oil tank, £3 5s.; Bowden band brake, 15s.; separate generator lamp, 10s. 6d.—Thwaites, 4, High Street, Stoke Newington.

HANDLE-BAR Controls, brand new, with two cables, 3ft. 6in. long, best make and finished nickel plate; 5s. 6d. each; easily fitted; approval.—22, Hall Street, Southport.

X RAY Outfit, complete; will take £25, or exchange for 1908 Triumph or Rex lightweight motor cycle, cash adjustment either way.—Dr. Hirst, Birchfield House, Gildersome, near Leeds.

EXTRA Heavy Clincher, 15s., tubes, 4s.; F.R.S. 15s., generator 12s. 6d.; Continental belt, 10s., 3in., 90; two-speed clutch, £3 10s.; Lucas guinea horn, 10s.; offers approval.—Lomax, University, Birmingham.

GRIPWELL Motor Cycle Brakes, to fit any make machine, delivered from stock; price 15s. 6d.; any spare parts supplied.—Sole manufacturer, W. Cocks, The Durham Motor Works, opposite station, South Ealing, W.

F.R.S. Lamp, new, and large generator, 25s.; 10 amp. P. and R. accumulator, charged twice, 10s.; three 3in. belts, 15s.; syren, 6s.; fur cap, new, 15s.; toolbag, 2s. 6d.; leather suit, 10s.—Grove House, Whyte-leafe.

MOTOR Overcoat, latest cut, waterproof, wool lined, suit man 5ft. 6in., or taller, 9s.; leather jacket, almost new, 6s.; three new Lanco mica plugs, 2s. 6d.; Express voltmeter, new, 5s.—76, Kerbey Street, Bromley, London.

CAPE Hoods, direct from the manufacturers, from £3 10s.; wind screens from £2 10s.; sample material and measurement forms on application; best house in the trade.—Universal Motor Co., 37, Chestergate Stockport.

MOTOR Cyclist's Double Breasted Fricze Jacket, £1; leather waistcoat, 15s.; chamois leather pants, 8s.; the lot for £2, cost £4 5s.; little worn, excellent condition.—King, Walton House, Surbiton Road, Kingston-on-Thames.

THREE Speeds, free engine pulleys, £2 5s.; adjustable and free engine pulleys, £1 15s.; free engine pulleys, £1 5s.; adjustable pulleys, 10s.; all guaranteed, 1909 models.—New Nonpareil Motor Fittings, Ashtree Road, Starchley, Birmingham.

TERMINALS made of heavy gauge copper, high and low tension; no need to run nut or screw right out to make connection; self-locking; no lock nuts or screws; send 7d. P.O. for one dozen assorted.—Rouse Bros. and Coles, 576, Streatham High Road, S.W.

ORMONDE Frame, with tank, 15s.; front wheel, 28 by 2, good Dunlop tyre, 10s. 6d.; 3in. belt rim, 1s.; 3in. pulley, 1s. 6d.; 25 amp. C.A.V., good, 8s. 6d.; exchange small accumulator, spring forks, stand, lamp.—Motors, Polvernock, Sanguhar.

CLINCHER 26in. by 24in. Covers, ribbed, practically unused, 15s.; lens projector lamp, with generator, new, 17s. 6d.; Frankonia, complete, new, 10s.; Dermatine 3in. belt, 7ft. 6in., new, 7s. 6d.—No. 1,336, The Motor Cycle Offices, Coventry.

760 by 90 Cover, retreaded with Moseley non-skid, not used since, £3; ditto plain tread, £2 10s.; tubes 15s. each; 810 by 90 grooved Dunlop, good, 25s.; ditto tube, 15s.; leather coat, 15s.; charging battery, four-cell, 10s. 6d.; Harvey-Frost model A. workshop vulcaniser, perfect, £5; 12 h.p. side entrance car, tyres new, five-seated, perfect, hood Stepney, will accept tricar or small car part.—Dagley, Kempston, Beds.

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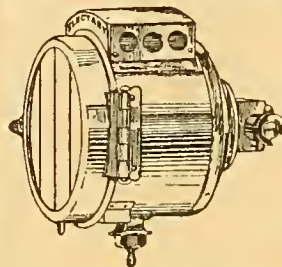
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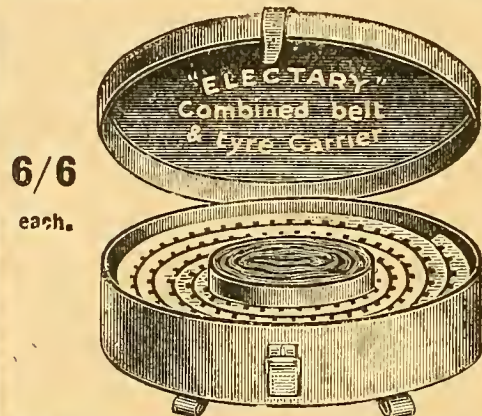


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RICH DETACHABLE AIR TUBE.

24" x 2"	13/6	26" x 2 1/2"	14/6
24" x 2 1/4"	14/-	26" x 2 1/2"	15/6
24" x 2 1/2"	15/-	26" x 3"	22/-
26" x 2"	14/-	28" x 2"	14/6

Please write for Special List, with full prices and particulars of all sizes, together with instructions and hints. Your OWN TUBE CONVERTED. Write for prices.

MISCELLANEOUS.

COLUMBIA Grand Concert Phonograph, cost £25, and £2 worth of records, will take £15, or exchange for 1908 Triumph or Rex lightweight motor cycle.—Westmoreland, Little Fountain Street, Morley, Yorks.

READERS having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium; 1d. per word, minimum 9d.—Address, "Photography and Focus" Offices, 20, Tudor Street, London, E.C.

PULLEYS for any motor, De Dion, M.M.C. 6s. 6d.; Antoine, Kelecom, N.S.U., 5s. 9d.; Peugeot, Brown 5s.; Triumph, Fafnir, Sarolea, Minerva, 4s. 9d.; Rex, 5s. 9d. and 4s. 9d.; plated, guaranteed; carriage paid.—J. Perkins, 299, High Road, Leyton, London.

FOR Sale, one pair of brand new Dunlop tyres, complete, on rims, 26 by 2, 50s.; Edison phonograph, two horns and stand, and 42 records, 50s.; 118 copies "Motor Journal," 147 copies "Commercial Motor," offers.—801, Oldham Road, Newton Heath, Manchester.

"LENS Arrived Safely. It is a perfect fit, and I am very pleased with it." Send me your rim for conversion. Plano-convex lenses, 2 1/2in. to 3 1/2in., 1s. 9d.; 3 1/2in., 2s.; 4in., 2s. 6d.; 4 1/2in., 2s. 9d.; 4 1/2in., 3s.; 4 3/4in., 3s. 6d.; 5in., 4s.—Payne, Metchley Lane, Harborne.

BRAND New Steel Studded Tyre, 26 by 2 1/2, Smith's patent, cost £3 5s., sacrifice 27s. 6d.; powerful pair Powell-Hammer's tricar lamps, cost 45s., take 20s.; electric tricar horn, complete, 5s.; Main-Hilton stand and carrier, 5s.—R. Else, Leawood, near Matlock.

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DON'T Spoil the appearance of your motor cycle by poor number plates. The finishing touch to a high-class machine is our number plates. Letters and numbers in white metal, not paint; A shape for front and square for back; any number, 2s. 6d. pair; post free; worth 10s.; every user delighted.—Horton, 166, Lightwoods Road, Smethwick.

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CASH Bargains.—Prested 12 amp. accumulators, 9s. 6d.; two-way switches, 2s. J.B.D. silencers, 4s. 6d.; searchlight lamp with separate generator, 22s.; volt or am meters, 4s. 6d.; large double-twist horn 5s. 6d.; belt fasteners, 8d.; belt punches, 3d.; ratchet plated control levers, 1s. 6d.; belting, best quality leather, V., 3in., 3 1/2in., at 8d., 10d., 1s. per foot; rubber canvas, 1in., 1s. 2d. per foot; motor cycle covers, wired edge, 26 by 2, 2 1/2, and 11s. 6d.; 28 by 2, 2 1/2, and 2 1/2, 12s. 6d.; beaded edge, 2s. extra; Clincher motor cycle tube 26 by 2 1/2, 6s. 9d.; Macintosh tubes, 26 by 28 by 2, 6s. 9d.; Clincher A Won motor cycle covers, B.E., 28 by 2 1/2, 21s.; approval against cash.—Bastone, 215 and 217, Pentonville Road, King's Cross, London, N. Telephone, 2481 North.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."



THE MOTOR CYCLE



Vol. 6. No. 299. CONTENTS. Dec. 16, 1908.

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

Interesting Accessories at the Paris Salon.

AMONG the numerous accessories exhibited at the Paris Salon was the Fixator locking washer, which also serves for locking the position of control levers at any point desired, yet leaving them quite free when it is the desire of the operator to move them. The principle upon which the Fixator acts will be best understood by reference to the line sketch (fig. 1). The coil spring A is a fairly tight fit on the shaft B, and, the two ends A₁ and A₂ being bent at right angles, it will be noticed that if pressure is brought to bear at the ends in the direction of the arrows S S₁ it will be impossible to turn the coil, because such pressure only tends to further tighten the coil on to the shaft. If pressure is brought to bear in the contrary direction, *i.e.*, in the direction of the arrows V V₁, the tendency of such pressure is to expand the coil, when, of course, it can be moved without the slightest effort. In adapting the device for locking nuts the extremity of the coil B (fig. 3) has a right angle claw or stud, which is fixed in a hole bored in the part on which the nut is to press. This permits the nut to be turned in the direction of screwing up, but if one attempts to unscrew it the contraction of the coil offers considerable resistance—in fact, it is almost impossible to turn back the nut with ordinary means, as the harder one tries to turn it the tighter the coil grasps the plain portion of the nut around which it fits. If it becomes necessary to unscrew the nut all that is required is a slight application of force to the extremity A in the opposite direction to the

way in which the nut tightens, when it can be removed without difficulty. We think it is in its application to levers that it will meet with most consideration from motor cyclists, and, we understand, it is the intention of the makers, the British Fixator, Ltd., 73, Moor-gate Street, E.C., to market shortly a handle-bar control with two levers for operating the air and throttle openings of motor cycle carburetters.

Another small accessory which will interest motor cyclists is the Vulcan vulcaniser. This was exhibited by J. Lacoste et Cie., and consists of a very small vulcanising apparatus, which, it is claimed, will vulcanise perfectly the air tube or cover of a motor cycle or motor car. The chief claim in connection with it is that the heat is automatically governed, and that it requires no thermometer and no regulation of the means of producing heat. The heating lamp is contained in the cylindrical portion A, and when this is taken out it is filled with alcohol until it overflows. The cost of alcohol for each operation, it is said, does not exceed one-tenth of a penny. After the lamp is filled it is returned to its place. The door B is then

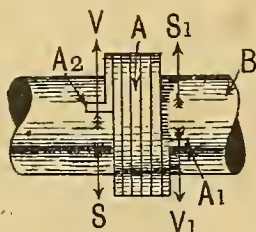


FIG. 1.

A. Coil spring.
B. Shaft.

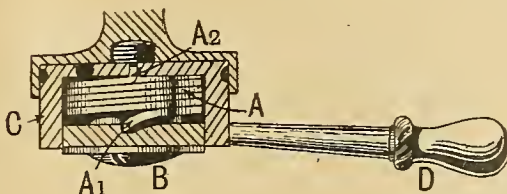


FIG. 2.

The Fixator principle of locking levers and nuts.

A1. Right hand end of coil.
A2. Left hand end of coil.

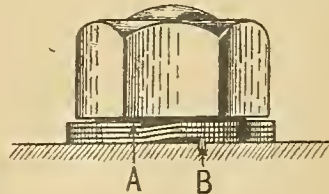


FIG. 3.

C. Coil spring case.
D. Handle-bar control lever.

LUBRICATION.

By VICTOR W. PAGE, M.E.

It was with interest that I perused "Ixion's" comment on lubrication which appeared in *The Motor Cycle* of September 16th, and I agree with the opinions expressed in every particular. It is true that some form of automatic oil feed would be superior to the present inefficient, hit or miss hand force pump system of oil injection as commonly fitted to machines all over the world.

I have been advocating improvements in lubrication systems for several years, and have been in communication with the manufacturers of the various makes of motor cycles which I have owned from time to time, but all that I get for my pains is that any system of oiling other than the simple one provided will introduce an element of complication which is undesirable, the object being to simplify the motor cycle, and not add to the mechanism.

This is the same argument that has been advanced in this country (America) against the adoption of the magneto or the two-speed gears, which are considered almost as essential as the motor in England. As a general thing, the roads of the U.S.A. are not good, and the country is rolling, especially in New England. While there are many miles of excellent highways built

tion to ride with certainty or safety. In spite of this fact, but little consideration is given to the two-speed gear, which I regard as absolutely necessary. Imagine the pleasures (?) of operating a 3 h.p. tricar without either free engine clutch or change-speed gear through three or four inches of sand. Our American makers do not favour the two-speed gear—it "increases complication"—and have the same attitude in respect to fitting an improved system of lubrication.

I give in this article a few sketches made by me and used in a communication in a recent issue of a prominent American motoring paper (the *New England Automobile Journal*), which illustrate the subject under discussion, and I hope will interest your readers who are concerned in the improvement of the modern motor cycle. There is nothing radical about either of the proposed improvements, these being essentially the same as used by prominent makers of motor cars, and I do not see that there will be any great increase in complication by their use. There has been no attempt to preserve proper proportion, the drawings being merely to illustrate principles involved.

The Lubrication Problem.

There is no condition more important than continued and efficient lubrication in obtaining continued service from any piece of mechanism, and the internal combustion motor is no exception to the rule, especially those of the type used for motor cycle propulsion. These engines are for the most part air-cooled, and as the temperatures of operation and speed are high, proper lubrication is imperative. The method in use in the majority of cases is by splash, and this has much to commend it, being simple, cheap, and easily applied. In some motors the level is maintained by constant drip feed direct to the crank case, in others a hand force pump is used to force the lubricant from the container into the engine base. Too much oil is as bad as not enough, and a practical lubrication system must not only be automatic, but supply the lubricant in the proper quantities for various speeds at which the engine is run. The splash system as commonly fitted does not do this, and as a result many cases of imperfect operation or defective motors can be traced directly to neglect of oil supply.

The Splash System.

The splash system is illustrated in fig. 1, the position of the oil tank and force pump being identically the same as on the most popular of American motor cycles, the Indian. The oil in the crank case is maintained at such a level that the revolving parts dip into the lubricant, which is supplied to the parts needing it in the form of a spray or mist. If the level is properly maintained, the entire internal mechanism will be positively lubricated, but there is no absolute certainty of this being done. The judgment of the operator is the only criterion, and if he be an expert the chances are in favour of proper lubrication. If a novice, too much or too little oil may be supplied, and as a result the cylinder will be either flooded or starved, and neither condition is conducive to efficient power output.

One cannot blame the novice for not supplying oil properly, as manufacturers' instructions are rather

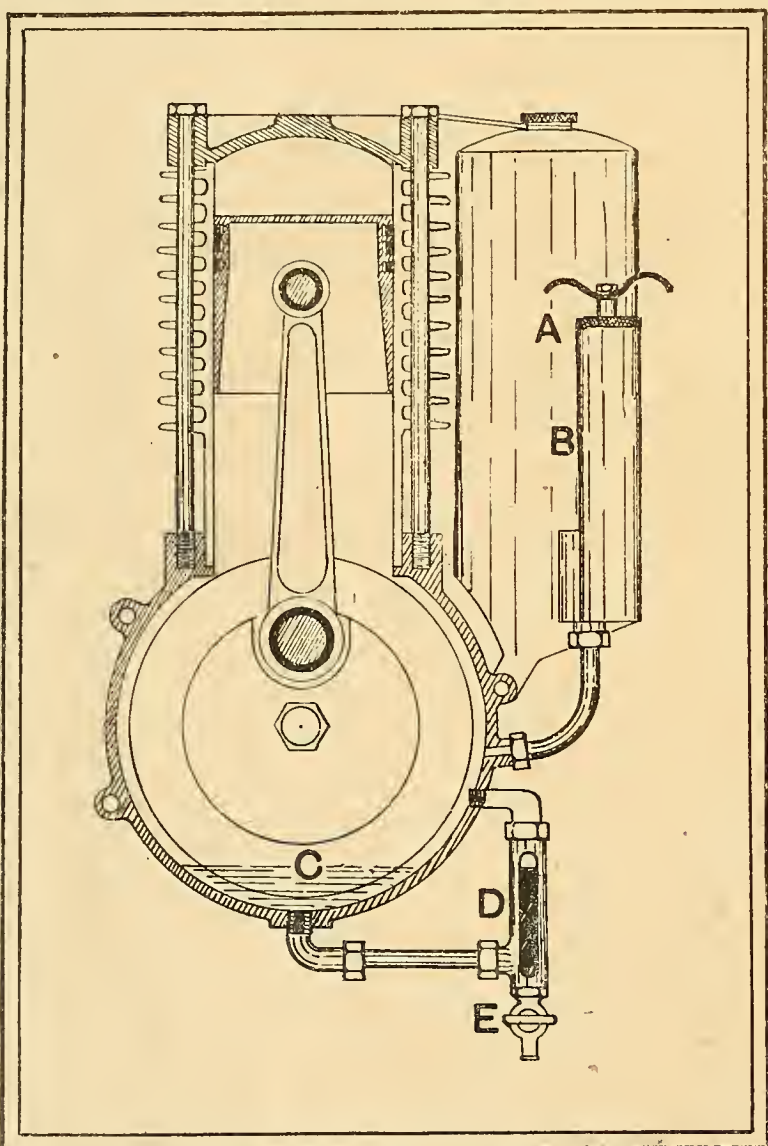


FIG. 1.—Simple Splash System of Lubrication.

- | | |
|---------------|----------------|
| A. Oil tank. | D. Gauge. |
| B. Oil pump. | E. Drain cock. |
| C. Oil level. | |

under supervision of the various state governments, the country roads are in most cases dirt, sand, or gravel with a loose surface, which demands careful manipula-

Lubrication.—

vague in this respect, generally being expressed as "give it a pumpful every eight, ten, or twelve miles." Absolutely no mention is made that this is entirely dependent upon the speed of operation, and not always upon the distance the motor runs. Under some conditions, such as racing at top speed, it might be necessary to oil the motor every four or five miles; under other conditions, replenishing the supply oftener than every fifteen or eighteen miles would be a waste of good oil.

One good feature of the Indian system is the provision of a sight gauge glass to indicate the oil level, but as this cannot be seen without dismounting, and as it is seldom marked to designate the proper height, oil is supplied in most cases without consulting it at all.

Level Maintained by Pump.

Fig. 2 illustrates the general principles of a system which has recently become very popular among manufacturers of motor cars, inasmuch as it is a self-contained method of lubrication which ensures the automatic maintenance of proper level. In this the oil is maintained at a proper height by means of a pump, which constantly supplies fresh lubricant to the case, the surplus being allowed to drain back into the container, which is integral with the base, through an overflow. Before passing into the pump, the oil is filtered and all particles of foreign matter removed, and because of this the oil may be used over and over again for some time, thus ensuring positive lubrication as long as the proper attention is paid to the amount of lubricant in the tank.

With regard to increased complication, the only apparatus required in addition to the oil tank is the filter and pump, the latter being of the gear type and driven positively by the engine. As the pump is used to promote circulation of none but clean oil, there will be but little wear evidenced during the life of the mechanism. The filter is arranged so that it can be easily removed for cleaning, and a drain cock or plug is provided, so that the oil may be drained from the system periodically and fresh lubricant supplied. The body of the gear pump could be well incorporated in the crank case casting, cast integral, and the mechanism could be driven by direct gear connection from the camshaft or crankshaft. The gears could be enclosed, as are the timing gears, and but little power would be consumed in driving the pump.

Advantages Outlined.

The advantages of such a system as they appear to the writer are: (1) Positive lubrication with but little attention; (2) the level would be maintained regardless of engine speed; (3) economical use of lubrication would be assured; (4) the supply of oil would be adjusted when the engine was built; (5) it would remain in proper adjustment indefinitely; (6) the lubricant would not be affected by conditions of temperature or climate; (7) the same grade of oil could be used the entire year; and (8) the system would be automatic in action and could not be tampered with by the inexperienced.

While slightly more complicated than the simple system shown in fig. 1, and more costly to install, the important advantages enumerated should outweigh other considerations, as the use of such a system on a motor cycle would be a refinement of detail which would

be greatly appreciated by the purchaser. Such a method will remove many of the objections which have been advanced against the splash system of lubrication and one filling of oil would run several hundred miles without further attention.

A Direct Feed System.

The writer has always favoured a direct supply of oil to the points needing it, and the elimination of all splash if possible, especially on an air-cooled engine, where the slightest surplus of lubricant will cause a smoky exhaust. The splash systems have disadvantages which must be taken into consideration.

If the engine was to be operated always on the level and over smooth roads, the constant level splash system would be ideal, as there would be absolutely no variation of level at any time, but in practice the

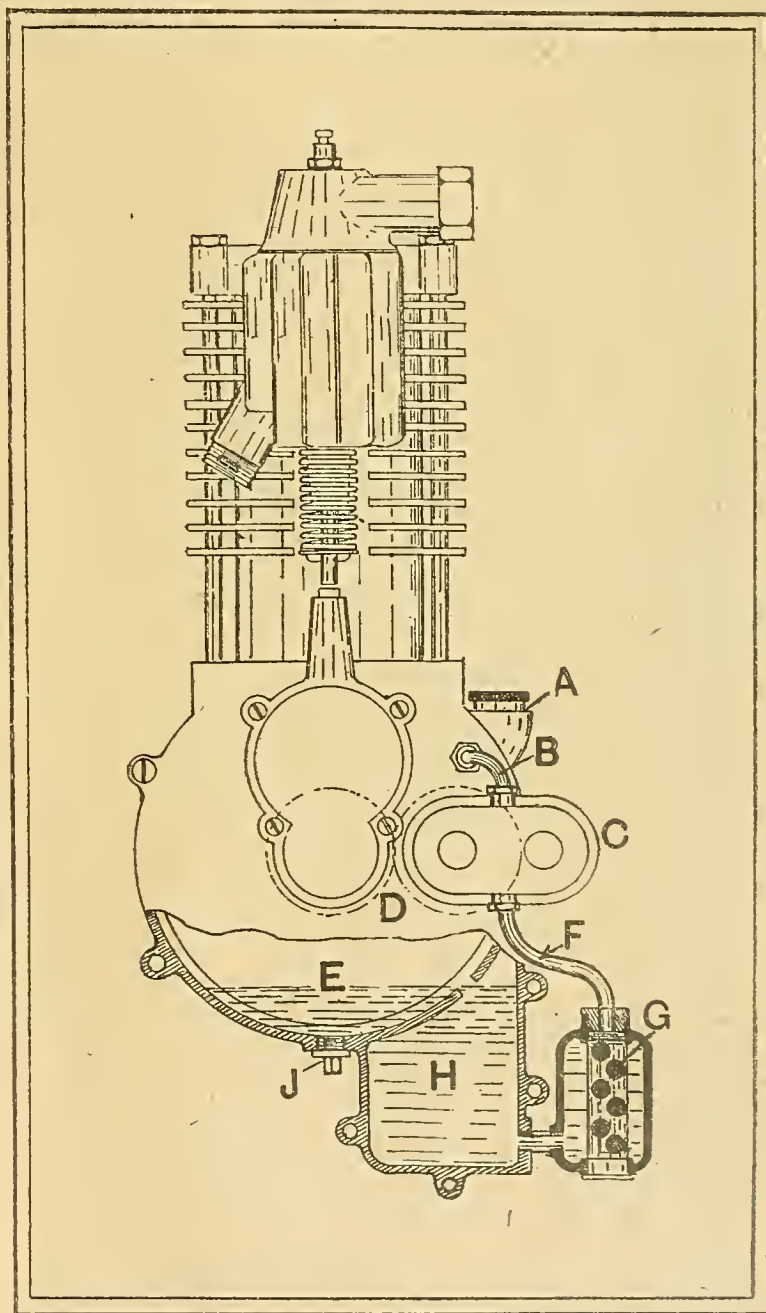


FIG. 2.—Splash System with Constant Level maintained by Pump.

- | | |
|--------------------------|--------------------------------|
| A. Filler cap. | F. Filtered oil from strainer. |
| B. Return to crank case. | G. Strainer. |
| C. Geared pump. | H. Oil tank. |
| D. Pump driving gear. | J. Drain cock. |
| E. Oil level. | |

level is always fluctuating. Various road conditions and gradients will change the location of the pool, and, while lubrication is assured as long as there is any oil to speak of in the case, on the other hand there is danger of too much being distributed. If there is much movement of the oil, greater quantities will be picked up than is necessary.

Lubrication.—

With multiple cylinder motors, especially those of the tandem form, with cylinders in line with the frame, as is the case in motor car construction, and on the F.N. (Belgian) and Pierce (American) motor cycles, where four cylinders are used, the effect is more marked. The writer does not mean to imply that the splash system is not good or that proper lubrication is not obtained when this form of oiling is used, as many designers are apparently well satisfied with the results obtained. The writer has yet to see a motor where the splash system is used which will not at times cause the exhaust to smoke, and in which the lubricant does not get past the piston rings into the combustion chamber, where it will assist in forming undesirable carbon deposits.

In order to eliminate the disadvantages which are inherent with the simple method previously outlined, the writer suggests another method of lubrication, as shown in fig. 3. A double plunger pump is placed on or incorporated with the motor base, the plungers of which could be actuated by any suitable mechanical means; as illustrated, movement is obtained by a small crank and connecting rod driven from the main or camshaft.

Each of these pumps is fitted with two check valves—one inlet check and one outlet check. In fact, they are the same in construction as those commonly used and operated by hand, except that they are much smaller and the plungers are solid. Tight joints can be ensured by the use of miniature stuffing or packing boxes at the top end of the barrel or cylinder.

One of these is used to pump oil from the tank carried at the side of the motor cylinder to the header or manifold fastened to the side of the container, from which one lead goes to the cylinder and one to each main bearing. The other pump takes the oil from the sump below the crank case, passing it through a filter into the main tank, from which it is used again.

A sight feed is used in the system at the header, so that the operator can determine at any time whether the pumps are performing their proper functions or not. The arrangement of piping is plainly marked in illustration, and the oil flows into the sump at the bottom of the case by gravity.

The piston is cast integral with a large oil groove, this registering with the hole through which the oil is forced into the cylinder. A hollow gudgeon pin is employed, through which the oil flows and lubricates the gudgeon pin bushing. After this the oil flows down into the crank case by gravity, and the lower connecting rod bearing is kept properly lubricated by the oil which passes down a copper pipe placed alongside the connecting rod, and which provides a passage from the gudgeon pin to the lower crank pin box. As is obvious, there will be a constant oil mist present while the engine is in operation, and ample lubrication is assured. A four-lead header may be used, the extra lead supplying the timing gears and valve operating mechanism. The same type of pump as shown in fig. 2 may be used with success. The piping may be of comparatively large diameter in either system to minimise danger of stoppage, though this is not likely if one considers the filtering screen which will prevent particles of foreign matter passing.

While this system involves more complication than either of the others previously mentioned, the fact that

more positive lubrication is obtained must be the strong argument in its favour. It is true that this system would be the costliest of all to install, but on further consideration, is not the best the cheapest in the end? Why is the magneto increasing in favour, superseding coil and battery ignition, though costing three times as much? Why the free engine clutch and two-speed gear? Surely a motor cycle will run without them? A mixing valve can be used in place of a float feed carburetter at less cost. Why not use the mixing valve?

It is because it is recognised that the factor of first cost is not the only consideration, but that freedom from trouble, continued operation, and efficient power output are fully as important with discriminating riders.

Advantages of Direct Feed System.

The cost of installing the system presented above would not be high, especially if incorporated in the manufacturer's original design, and suitable provision made for fitting the parts. The small double plunger

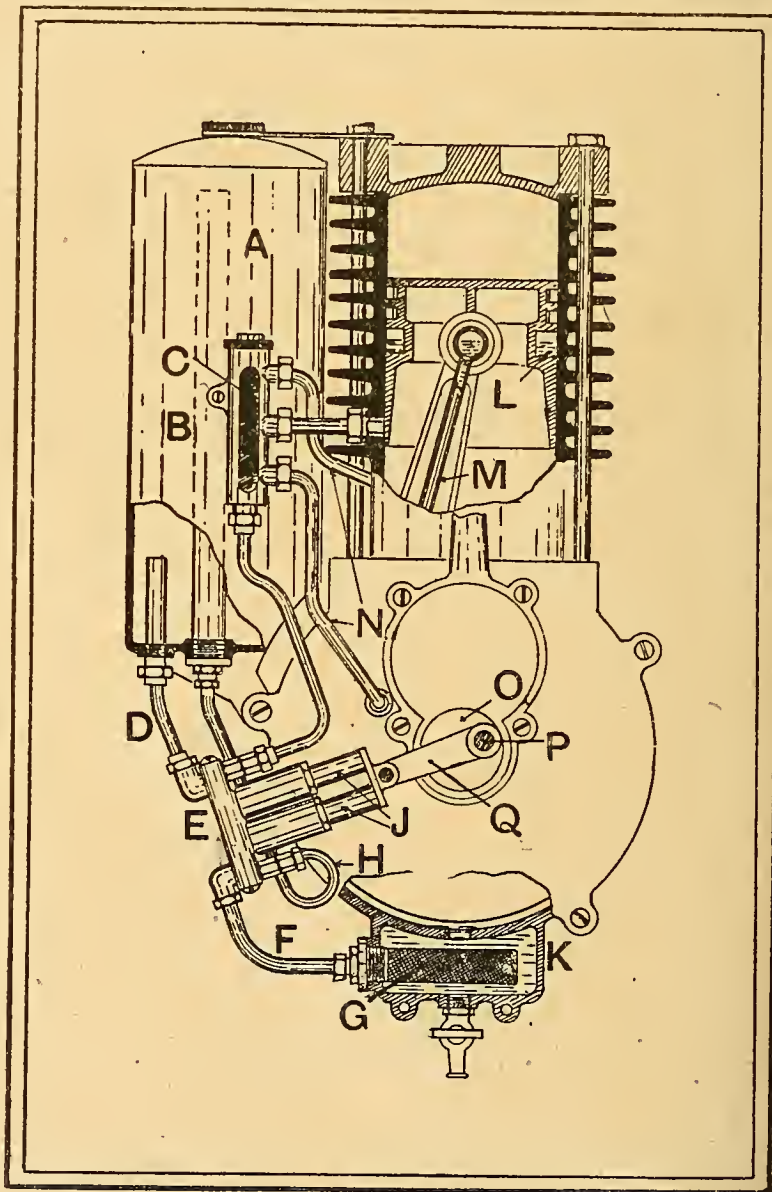


FIG. 3.—Mechanical Force Feed System.

- | | |
|--------------------------|----------------------------------|
| A. Oil tank. | J. J. Plungers. |
| B. Three-lead header. | K. Sump. |
| C. Circulation gauge. | L. Oil groove in piston. |
| D. Oil from tank. | M. Copper tube to crank pin. |
| E. Double-action pump. | N. Pipe to main bearings. |
| F. Filtered oil to pump. | O. Crank disc. |
| G. Filtering screen. | P. Crank pin operating plungers. |
| H. Return to tank. | Q. Connecting link. |

pump used is not costly, neither is the filter, header, nor piping required. The container is necessary no matter what system is used. The pumps working constantly in lubricant would have long life, and best of all, the supply of oil to the cylinder and bearings would be directly proportionate to the speed of the engine.

Lubrication,—

The feed of oil would start with the engine and stop automatically when the engine stopped. No adjustments are necessary, circulation is positive and rapid, and clean oil is used at all times. One filling of the tank should last several hundred miles, and the system is entirely self-contained. It appears to the writer that such a system is a refinement of detail which can well be incorporated in future motor cycles, as there is nothing radical or experimental in the design, and that it will provide positive lubrication is incontrovertible.

This is the solution of the lubrication problem which best appeals to the writer, and it may be adapted to any number of cylinders merely by increasing the capacity of the pumps and adding more leads or feeds to the manifold or header.

Good luck and long life to "Ixion," and may he long continue to give his frank opinions of the various appliances and incidents which are part of motor cycling. I agree with him in most particulars. Though the average reader may consider us as cranks, what care we! Having had our say, we may rest satisfied.

A TYPICAL FRENCH TRICAR.

TO be the only tricar to survive the ordeal of the 1908 Tour de France organised by the Auto Cycle Club de France without penalisation was somewhat of a feather in the cap of the constructor, M. René Bérudeau, and he is justly proud of the achievement of the little machine which he drove himself. Considering the very small facilities he has for building tricars and motor bicycles, M. Bérudeau has every right to be proud of the honour which he earned with his machine, especially as he had as competitors machines constructed in larger and better equipped workshops, and under far more favourable circumstances.

The Bérudeau tricar is a compact little machine, and has several good points. Asked whether he could supply us with drawings of the machine, M. Bérudeau remarked that he had not troubled to make designs, nor had he had time to get out detailed drawings, but he and his assistant had built the machine up with the aid of a few written points as to design. It will be noticed that it is very low built; as a matter of fact, the clearance between the bottom of the crank case and the ground is only four inches. There is only the same clearance under the front seat.

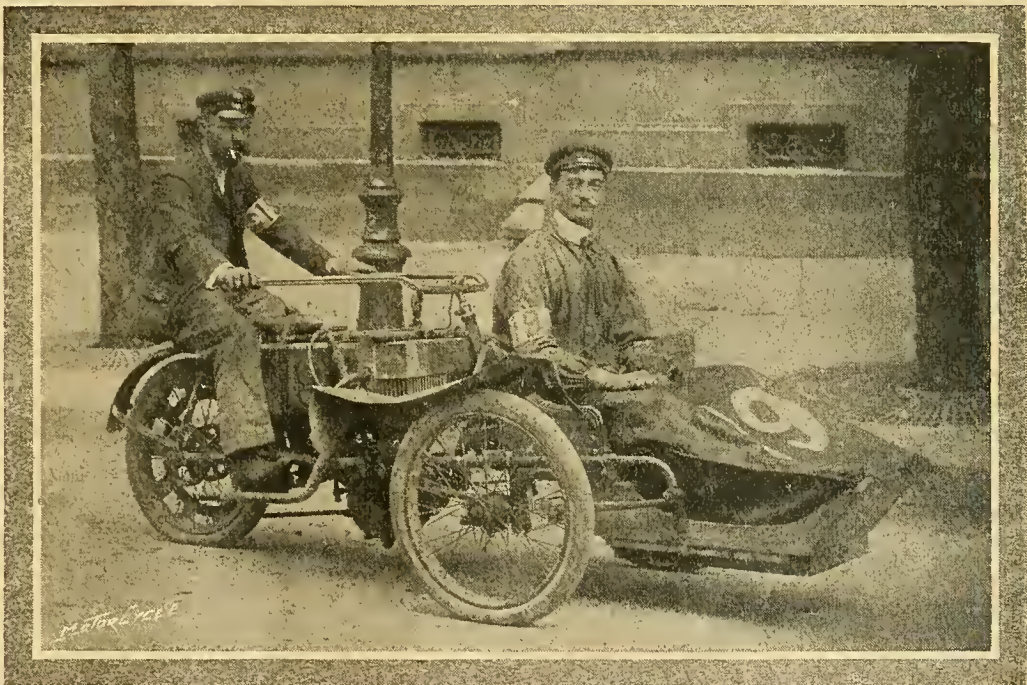
Details of the Tricar.

The chassis is of tubular steel of about $1\frac{1}{2}$ in. diameter, consisting of two side members extending from the axle of the rear wheel to the front of the springs of the forecarriage. The chassis acts as the support of the forecarriage, carries the springs of the front axle, and also bears the weight of the engine. The steering pillar is very strong and rigid, and it will be noticed that the handle-bars are of just sufficient length to make the steering of the machine comfortable.

The engine fitted is a $4\frac{1}{2}$ h.p. De Dion of 84 mm. bore and 90 mm. stroke. This type of engine was chosen because it is considered to be the most flexible engine on the French market, and, having very little vibration, it is the most suitable for tricars. Ignition is by dry batteries, but, of course, magneto can be fitted if desired. The engine is water-cooled on the thermo-syphon system, the radiator being of the vertical copper tube type without gills. This type of radiator, it might be mentioned, is most popular in France; firstly, because it can be made and fitted by any manufacturer without having to pay or obtain any patent rights, and, secondly, because it has been found sufficiently efficient for its purpose. The quantity of

water carried is about 14 litres (roughly, $3\frac{3}{4}$ gallons). The ampleness of the radiating surface can be easily gauged when it is remarked that there are 104 tubes in the radiator, each of about 9 in. in length.

On the engine-shaft is fitted a Bozier two-speed gear, the controlling lever being on the left-hand side of the tank. The drive to the rear wheel is by means of a Hans Renold chain, which the designer thinks cannot be beaten for wear. For keeping his chain in good condition M. Bérudeau has fitted a little arrangement



The only tricar to survive the 1908 Tour de France. It was not exhibited at the Salon.

of his own with which he is rather pleased. In the photograph will be noticed a little torpedo-shaped tank placed near the saddle, and connected with this tank is a rubber tube, the unconnected end of which is allowed to hang just over the chain. Oil is carried in the tank and is allowed to drip on to the chain, so that a constant supply of lubricating oil can be given to the chain when the tricar is running. [It would appear that Frenchmen care little for being bespattered with oil.—ED.]

Leather lined band brakes are fitted to the rear wheel, these being operated by a pedal on the left-hand side. Ordinary 26 in. wire wheels are fitted, having Dunlop tyres, and the overall length of the machine is about 9 ft.

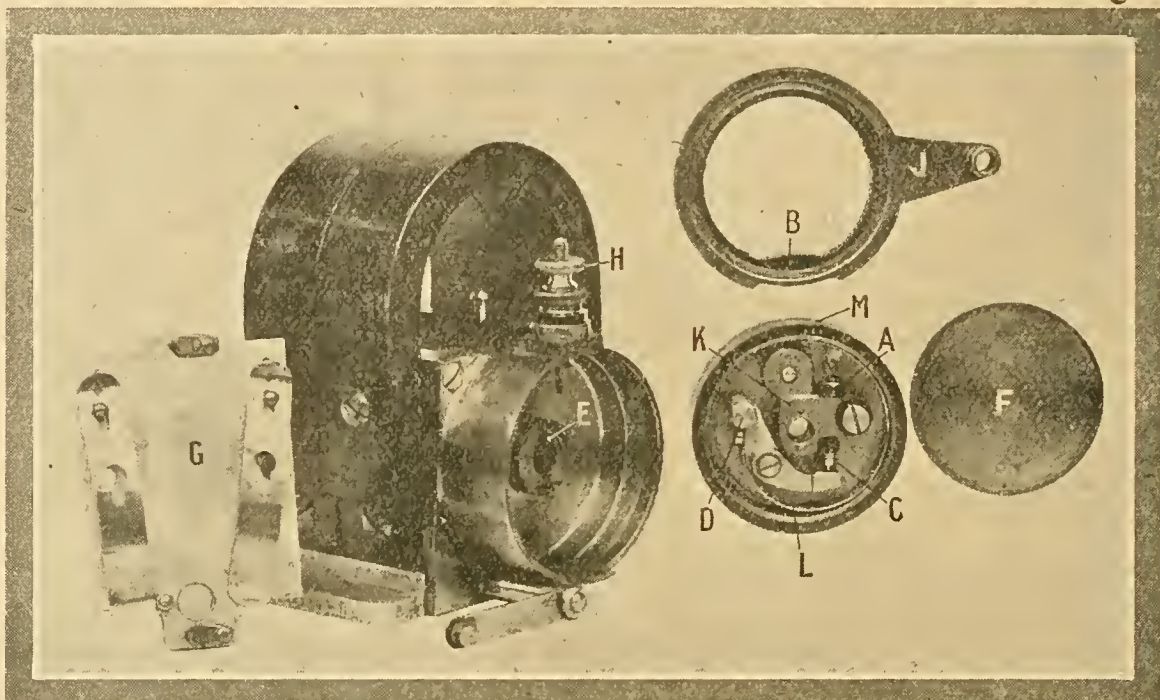
The petrol tank is made to carry 14 litres, and $2\frac{1}{2}$ litres of oil are provided for. It is claimed for this machine that it will travel 100 kilometres (62 miles) on $5\frac{1}{2}$ litres (just under $1\frac{1}{2}$ gallons) of petrol, and 1 litre (slightly over a quart) of lubricating oil.

The Hirst Magneto.

ANOTHER excellently finished motor cycle magneto which is new to our readers is the Hirst. This is a compact machine measuring 4½ in. high and weighing 6 lbs. with the double magnets. One of the best points about this magneto is the substantial contact breaker. In the attempt

to reduce the size and weight of motor cycle magnetos one or two manufacturers have reduced the size of the contact breaker proportionately, but this is not desirable. The contact breaker is practically the only part of a magneto susceptible to wear, and consequently adjustments are from time to time necessary. Naturally the more minute the proportions of the contact breaker the more quickly it will wear, and, moreover, the more difficult it becomes to effect adjustments. In the Hirst magneto the contact breaker parts are of substantial proportions, and should last for a considerable mileage without signs of wear. The insulated contact screw A is adjustable to take up wear on the fibre ring (fixed inside the timing lever J) and platinum points C. The end of the bell crank D is not in contact with the fibre ring for the whole of its circumference, but merely strikes the projecting piece each time the armature is in the "maximum" position. This is the flat spring actuating the bell crank. The condenser M is very neat, and mounted at the back of the contact breaker, and naturally rotates with it. The contact breaker cannot be replaced in a wrong position, as a pin E on the brass recess fits into a corresponding hole in the support K for the insulated screw. It is held in place by a centre screw. The working of the magneto can be noted when the outside

plate F (held by the spring) is removed. The armature can be inspected readily by taking off the cover G, held by spring clips. The Hirst magneto has plain bearings, the ends of the armature-shaft being of phosphor bronze, revolving in hardened steel bearings—the reverse to the usual order of things. The



Another new motor cycle magneto—the Hirst. The letters are referred to in the accompanying text.

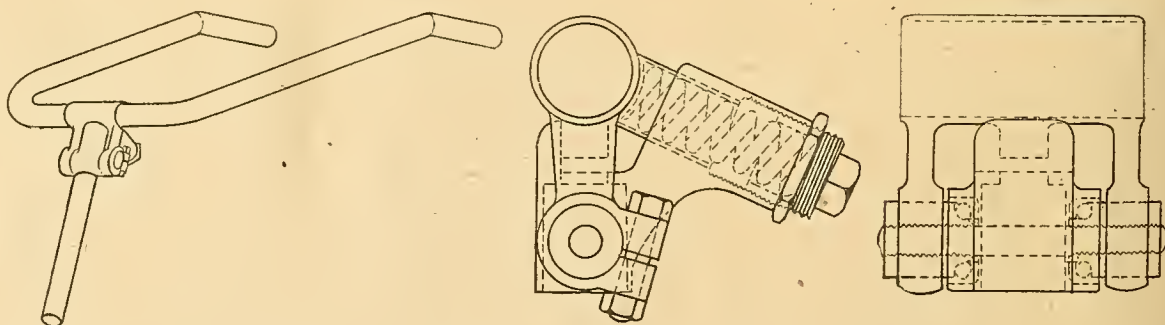
claim for this is that steel does not wear so rapidly, and the bronze shaft will wear equally all round, and not in one place, as is the case when a bush is held stationary. An oil channel is cut in the bearings, but no wicks are provided, so that frequent lubrication will, we imagine, be necessary, owing to the high speed at which a motor cycle armature revolves. The terminal H over the top of the contact breaker is for attaching the handle-bar switch wire. The magnets and pole pieces are mounted upon an aluminium base, and the usual method of attachment by bolts is adopted.

A NEW SPRING HANDLE-BAR.

A SPRING handle-bar for motor cycles is the subject of a recent patent by S. Allen and Co., 8, Elswick Court, Northumberland Street, Newcastle-on-Tyne. The makers claim that the spring handle-bar is superior to a spring fork, as the latter absorbs road shocks directly, allowing the engine vibration to be communicated to the hands of the rider, whereas a good spring handle-bar absorbs all vibration, whether from road or engine. The hinge or working part of the Ideal spring handle-bar shown in the accompanying drawings is fitted with ball bearings, and cannot wear loose. The design does not interfere with the working of the front brakes, owing to the particular angle at which the mechanism has been designed. This renders it applicable to almost any

existing motor cycle, no matter what kind of brakes are used.

The spring can be readily adjusted to any tension by screwing or unscrewing the plug at base of inclined socket.



We are fitting one of these handle-bars to a light tricar, and will let our readers know our opinion of it in due course.

OCCASIONAL COMMENTS.

By "IXION."

Front Stands.

It was in response to an appeal of mine that the first front wheel stand for a motor bicycle was produced, and I feel a pardonable pride in reminding my readers that several patterns were on view at the Agricultural Hall, and so anyone who has felt the need of such a fitment has only got to send in his order. Needless to say, I have not a farthing's interest in any of them.

Accessories.

It was good to see practically every machine fitted with a stand-carrier and tool and luggage bags specially designed for it. The average motor bicycle is designed to look pretty, and its unfortunate purchaser has usually been compelled in the past to tie various unsuitable impedimenta all over it, till it has looked like a newly stocked gipsy caravan.

Things we Overlook.

The steady march towards perfection includes the detail which visitors to an exhibition commonly overlook. To mention a few, I saw the following articles in a far more perfect form than the best samples I have inspected at previous shows: Lamps, generators, non-skids, inner tubes, tool kits, bags of all sorts and sizes, tools, belts, hooters, hooter clips, brakes, oil-cans, belt fasteners, sparking plugs, valves, handle-bars, tanks, magnetos, coils, accumulators, silencers, clothing, gloves, waterproofs, variable gears, number plates, etc.

Pocket Tool Kits.

My note about pocket tool kits has borne fruit. I find some motor cyclists prefer not to open up their main kit for every minor adjustment, and therefore carry half a dozen smaller tools loose in their pockets, to the great detriment thereof. The majority of the pocket kits marketed are faulty in one of two respects. Either they contain too many tools, and are so bulky as to spoil the hang of a coat, or else they fail to include several of the tools we motor cyclists require most frequently. Our catalogue of minor adjustments comprises the magneto, carburetter, sparking plugs, contact-breaker, and belt. Our ideal kit must therefore include a 4in. wrench, contact file, knife, belt punch, carburetter jet broach with holder, borers, and tiny pliers. I am glad to announce that two firms intend to market such a kit shortly.

Transmission Development.

I often appear as rather a bold prophet, but I have some courage in predicting that the belt will eventually disappear from the machine de luxe. These machines are now so skidless, so well protected from mud, and so powerful that it is as easy to make a double century run on them over bad roads as formerly it was over favourable surfaces; but over and over again one is baulked by the belt. The leather belt retains a *queue* of faithful followers as a dry weather transmission, but we all prefer rubber when it rains. Even the rubber belts, however, are none too reliable when grit and dirt are showered on to the belt and pulleys, and if a pulley be worn out of truth further progress may become absolutely impossible when the weather

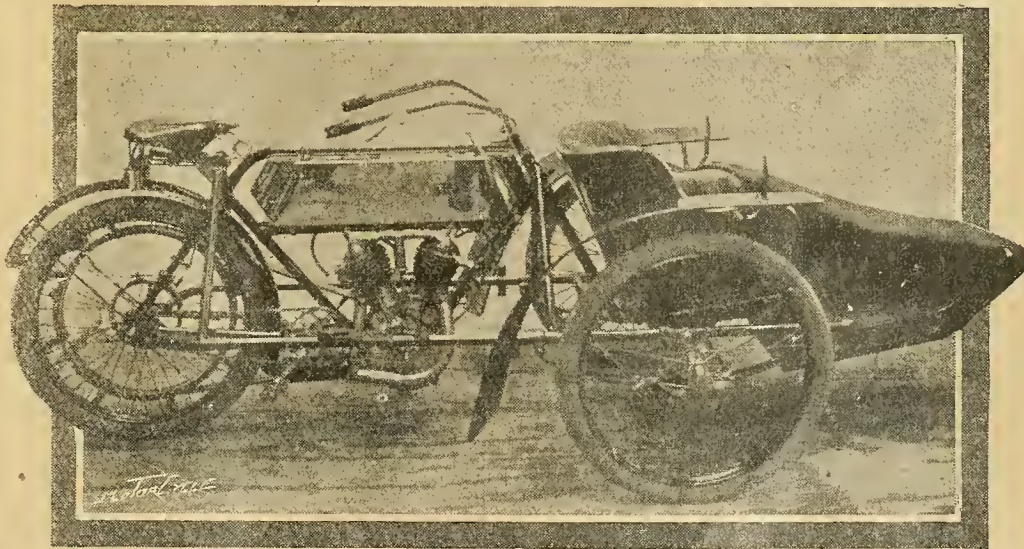
is really bad. Therefore the standardisation of an entirely weatherproof transmission is probably only a matter of time, and I should not be at all surprised to see the higher-priced machines, as a class, fitted with a spring worm drive and a disc clutch before many more years have passed. I shall, however, demand that one safeguard be fitted in such a drive, namely that in the event of either drive or engine suddenly jamming provision shall be made to prevent locking of the rear wheel, with its inevitable consequence of a nasty spill.

A 1909 A.O.I.V.

At the recent show I examined a 1909 type of automatic inlet valve—an improvement so admirable and simple that why we did not have it years ago is one of those things which "no feller can understand." The old cotter, slotted stem, and plain bored sliding cap are for ever discarded. The stalk of the mushroom valve has no slot or keyway, and is screw-threaded for its top ½ in. or so. The cap is internally screw-threaded, and may be set at any height on the thread of the stalk, being fixed by a lock-nut. This method of construction produces five great advantages in practice:

1. Stalk, being solid, is far less likely to break.
2. There is no cotter to come adrift.
3. Amount of "lift" or "opening" can be instantaneously adjusted without calling for a fresh cotter, etc.
4. Alteration of correct opening by wear is negligible.
5. Weak springs can be easily stiffened.

Every alteration usually carries in its train the possibility of one or more entirely new troubles, and scanning this new valve with an ultra-critical eye we can easily see that if the lock-nut came adrift and fell into the cylinder matters would be slightly more serious than if a cotter or split pin became detached. But if the lock-nut is thoroughly tightened, this will be highly improbable, and it could also be safeguarded by the employment of a split pin, which would not weaken the stalk half as much as a big cotter does; or, again, the tip of the stalk could be lightly riveted over, as the direction of adjustment is almost certain to be towards the head of the valve, which would not entail the removal of the nut.



At the Paris Salon. A Rene-Gillett Twin-cylinder Air-cooled Tricar with front springing. The transmission is by a flat belt.

THE WEAR ON MOTOR CYCLE CYLINDERS.

ONE hears various statements made from time to time regarding the amount of wear that takes place on cylinders and pistons of motor cycle engines. One of the favourite contentions concerning cylinders is that they wear oval, and that the top wears more than the bottom. There is no doubt that the last-named allegation is a true one, but when the amount of wear is so small as to be almost negligible we think it is worth recording. Some cylinders wear much quicker than others, and we think it will generally be found that large cylinders wear quicker than small ones. Whether this is due to the lubrication not being quite so effective in the case of large cylinders or not, we will not attempt to prove. The fact remains that cylinders of very high speed engines with small dimensions wear much longer than larger and slower running ones, without reboring. As an instance of the almost infinitesimal amount of wear in the cylinders of a four-cylinder F.N., we print below a letter from an Associate Member of the Institute of Automobile Engineers, who has measured the cylinders of his F.N. four-cylinder after running the engine approximately 132 millions of revolutions, which with a gear of six to one and a road wheel of 26in. diameter equals a distance of over 5,000 miles:

TABLE GIVING THE SIZE OF BORE IN MILLIMETRES OF THE FOUR CYLINDERS OF A F.N. MOTOR CYCLE ENGINE AFTER MAKING APPROXIMATELY 132,000,000 REVOLUTIONS.

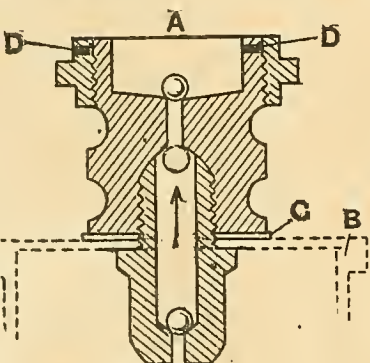
		No. 1 Cylinder.	No. 2 Cylinder.	No. 3 Cylinder.	No. 4 Cylinder.
Measurements on meters parallel to crankshaft	1	45.034	45.034	45.022	45.018
	2	45.072	45.072	45.034	45.021
	3	45.085	45.123	45.060	45.034
	4	45.136	45.161	45.072	45.047
Measurements at right angles to above	1	45.009	45.034	45.034	45.009
	2	45.060	45.072	45.022	45.047
	3	45.060	45.136	45.072	45.047
	4	45.034	45.136	45.060	45.060

NOTE.—No. 1 measurement is taken at the mouth of the cylinder, No. 2 at ¼ in. stroke up, No. 3 at ½ in. stroke up, and No. 4 at the top. The above measurements are guaranteed accurate to the second place of decimals.

J. H. LOUGHBOROUGH, A.M.I.A.E.

A PETROL TANK AIR REGULATOR.

MOTOR cyclists are aware how difficult it is to prevent petrol splashing out of the air vent in the filler cap of the tank when the latter is full. If the cap is bored with a small hole in the side or centre the petrol is usually jerked out when the tank is full, and unless there is a hole in the cap the tank becomes air bound, and the petrol will not flow freely to the carburetter. Mr. James Baxter has introduced a little device which should overcome this difficulty. Reference to the accompanying sectional sketch shows that the hole in the regulator is covered at the top by a steel ball. When the machine is



A. Glass top.
B. Filler cap.
C. Leather washer.
D. Air holes.

ridden the steel ball is shaken from its seating, and air is allowed to enter the tank. When the machine is at rest the ball covers the hole and prevents the petrol from becoming stale. If there is any tendency for the petrol to squirt out the lower ball is lifted by the petrol and held against the bottom seating of the regulator, so preventing the spirit from coming through. With this air regulator in use the petrol tank can be filled to the brim. To fit it to a filler cap a ⅜ in. hole must be bored in the cap, the regulator passed through, and the nut screwed up from underneath, a leather washer being fitted between the two as shown.

A NEW VALVE SPRING ATTACHMENT.

AN ingenious device for simplifying the removal of mechanically operated valves has been submitted to us by the patentee, Mr. C. Newman, 48, Sylvester Street, Sheffield. The accompanying line

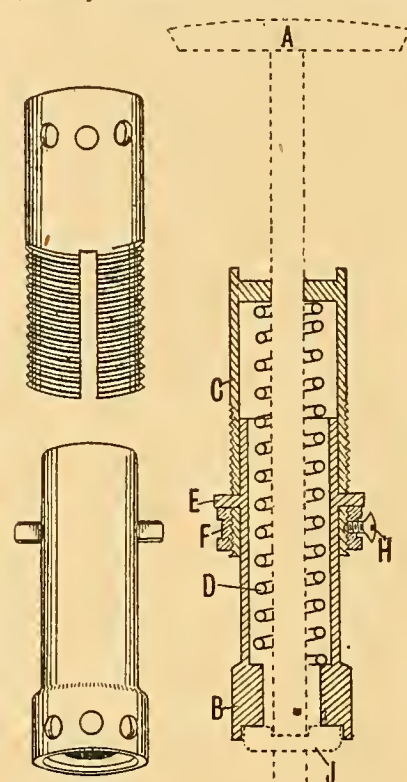


FIG. 1. FIG. 2.
A. Exhaust or inlet valve.
B. Bottom half of case.
C. Top half of case.
D. Valve spring.
E. Studs.
F. Milled nut.
G. Set screw.
H. Valve cotter.

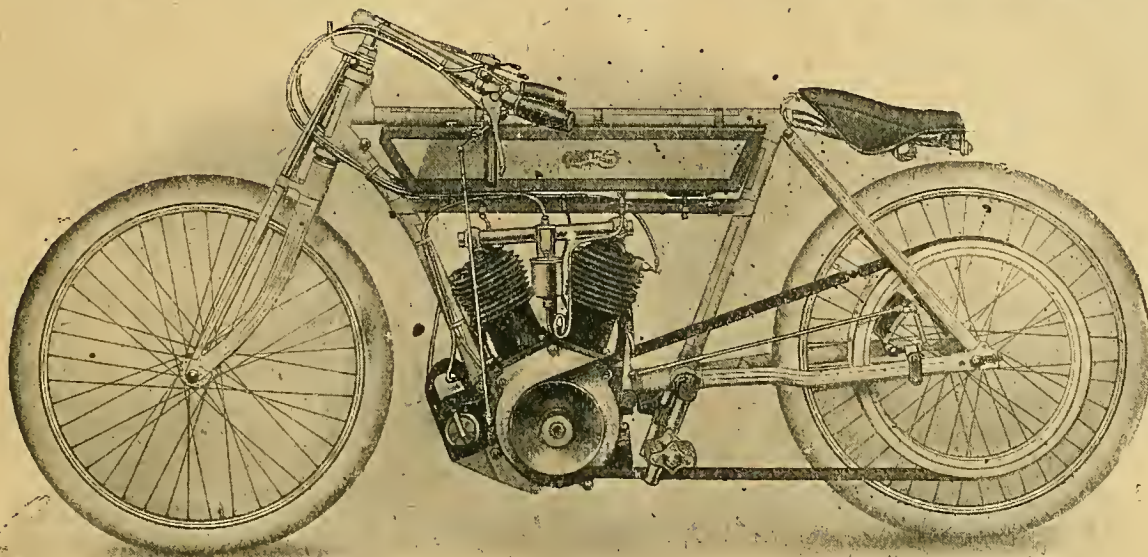
illustration is a sectional drawing of a valve with the device fitted to it. To remove the valve the engine is turned until the valve rests on its seating. then with a screwdriver or other tool the spring is pushed back in the case, and the milled nut screwed up until it compresses the spring sufficiently to allow the cotter in the valve stem to be removed with the fingers only. To replace the valve it is inserted in the usual way through the centre of the spring and case, and when down on its seating the cotter is inserted in the stem and the valve slightly lifted, releasing the strain on the milled nut, which can be screwed back to its former position. A small grub screw is inserted through the milled nut and between the sides of one of the slots in the outer case; this prevents the milled nut from turning round through vibration or any other cause. The milled nut can also be used for slightly altering the tension of the spring if desired. Fig. 1 shows the case drilled with holes at the top and bottom for the circulation of air in the case of a very hot engine.

If any readers are at a loss to know what to select as a Christmas gift for their friends who own and ride a motor cycle, we cannot suggest a better way out of the difficulty than that they should send at once to Messrs. J. B. Brooks and Co., Ltd., Great Charles Street, Birmingham, for particulars of the many equipment specialities which they manufacture. Any one of these would be keenly appreciated, and the many forms of touring bags will, without doubt, form most appropriate gifts. Brooks's bags can be inspected at any of the leading motor cycle depots or agencies.

VINDEC SPECIAL

THE MOTOR CYCLE OF MERIT.

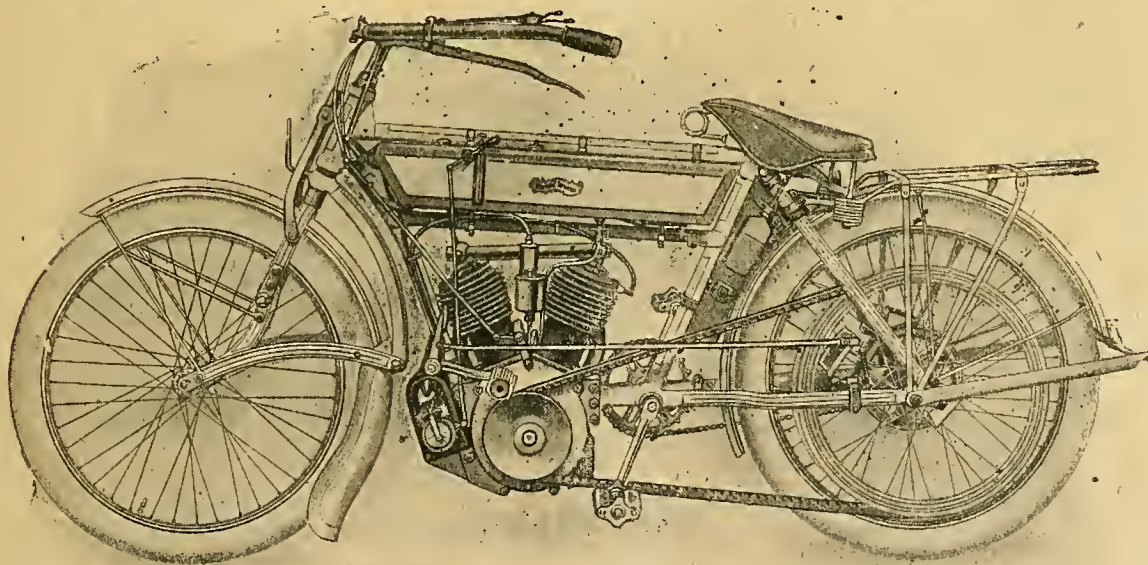
FOR THE SPEED MERCHANT.



7 h.p. Brooklands Racer.

The above is simply an illustration of our standard Model G Light Tourist with mudguards, stand, carrier, and toolbag removed and adjustable handle-bar lowered, and shows how the machine can be stripped down and adjusted for track racing. It can be supplied either with 5 h.p. or 7 h.p. twin-cylinder engine.

FOR THE TOURIST.



Model F. 5 h.p. or 7 h.p.

Our standard Touring Model with Truffault suspension forks and full touring equipment. An ideal machine for those who want solid comfort combined with reliability and speed.

"Vindec" Riders are Satisfied Riders.

Let us send you the Booklet which illustrates and describes our 1909 Models.

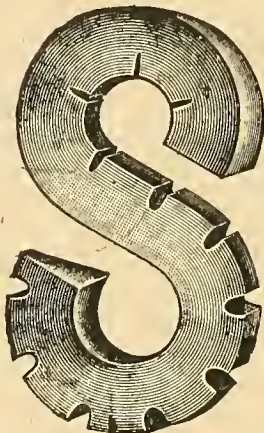
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AUTHORITIES unanimously acclaim our specialities and testify to their good qualities in our new booklet. Ask for a copy.

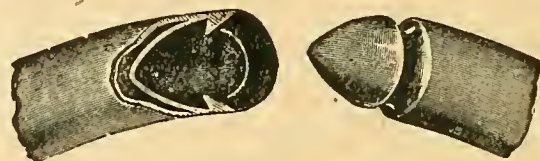
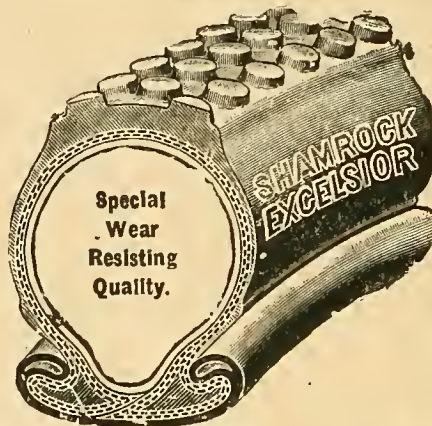
S.E. TYRES OUTCLASS ALL OTHERS.

ALL SIZES, 24 AND 26 in.

REVISED PRICES.

THE
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RUBBER NON SKID.

Your own cover retreaded
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**S.E. BUTT-END INNER TUBES GIVE
THE BEST JOINT. EASIEST TO FIT.**

Stanley Show

50%

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(REMAINDER DIVIDED AMONGST SOME 6 MAKES.)

SOLE MANUFACTURERS,

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MOTORS.

New Models for 1909.

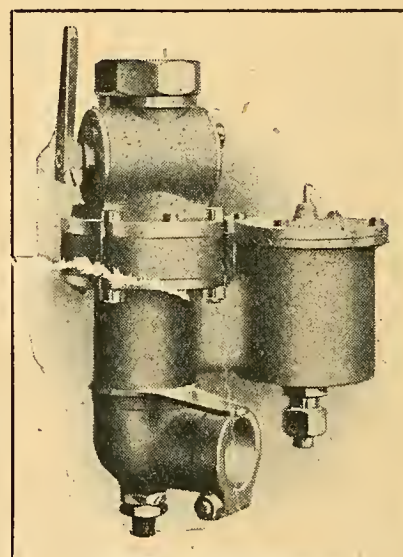
2½ h.p. Single-cylinder A.I.V.

4 h.p. Single-cylinder M.O.I.V.

8 h.p. Twin-cylinder M.O.I.V.

New Model JAP Patent Carburetter.

Send for new Illustrated Catalogue (post free).



JAP Patent Carburetter.

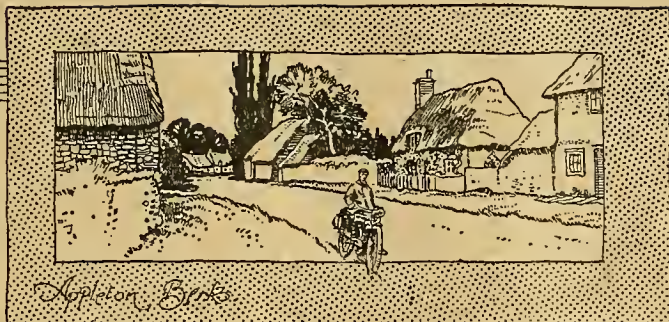
John A. Prestwich & Co. 1, Lansdowne Road, Tottenham, London, N.

Telephone—1822, Tottenham.

Telegrams—"Prestwich, Tottenham."

CURRENT CHAT

Sydney R. Jones



SPECIAL FEATURES

LUBRICATION.

INTERESTING ACCESSORIES AT THE PARIS SALON.

TIME TO LIGHT LAMPS.—Dec. 16th, 4.49 p.m.; Dec. 19th, 4.50 p.m.; Dec. 23rd, 4.51 p.m.

Next Week's Issue.

The next issue of *The Motor Cycle*, which will be dated December 23rd, will contain special and seasonable articles and illustrations.

Motor Cycles and Undergraduates.

A valued correspondent informs us that the rumours and extracts from the new regulations affecting the use of motors by Cambridge undergraduates, which have been published by the daily papers, have caused unnecessary alarm, as they were in the majority of cases inaccurate. Motor cycles are included in the new regulations, but at present the conditions are not for publication.

Ten Miles Limit at Newhaven.

Success has attended the opposition of the Motor Union to the application of the Newhaven Council for an eight mile speed limit on so much of the main road from Brighton to Eastbourne within the urban district of Newhaven as extends from its junction with Lewes Road to its junction with the road leading to the Harbour, on the east side of the railway crossing. The Union asked that the speed should be ten miles instead of eight, and called evidence that it would be unreasonable to expect motor cyclists to travel up the hill leading to Lewes Road at the lower speed. The Local Government Board has adopted the Union's view and refused to make the eight mile limit applied for and granted one of ten. The matter is of importance to motorists touring along the South Coast or crossing to the Continent by the Newhaven-Dieppe route. The restriction comes into force at the beginning of next week.

Imports of Motor Cycles.

While the Board of Trade returns for the eleven months ended 30th November show a falling off in the imports of foreign made motor cycles, the exports of British machines show a considerable increase.

During November thirty-five motor cycles valued at £907 were imported, as against ninety-six (value £2,824) in 1907, and fifty-eight (value £1,826) in 1906. Adding the value of the parts imported the figures for November stand as follows:

1906.	1907.	1908.
£5,414	£4,637	£2,703
The total imports of foreign motor cycles and parts during the eleven months ended 30th November were:		
1906.	1907.	1908.
£76,833	£76,075	£60,709

Exports of British Motor Cycles.

Turning to the exports, 168 complete motor cycles of the value of £6,192 were exported last month, compared with seventy-one (value £2,446) in November, 1907, and eighty-seven (value £2,537) in the same month of 1906. The total November exports were: 1906, £4,755; 1907, £4,072; 1908, £7,449. The British exports during the eleven months ended 30th November were:

Value of complete motor cycles—		
1906.	1907.	1908.
£21,973	£25,186	£33,768
Parts thereof—		
1906.	1907.	1908.
£26,474	£24,461	£18,336
£48,447	£49,647	£52,104

Touring in Germany.

A Bristol member of the Motor Union complains of the tax imposed on a motor bicycle and sidecar during his tour in Germany. Both among Germans and tourists this taxation arouses criticism, and it has engaged the attention of the Ligue Internationale des Associations Touristes, of which the Motor Union is a member. The increased taxation now being levied for Budget purposes renders remote the likelihood of the removal of this tax, consequently still fewer motor cyclists will make Germany a touring ground.

The Hour Record at Brooklands.

Mr. C. R. Collier writes: "I think it only fair to myself that your readers should be acquainted with the details regarding the alteration of the distance of my recent hour record, for on reading your editorial note on same in the last issue, one would imagine that this alteration was due to a wilful breach of rules on my part. On this occasion, before I was given the word 'to go,' I was particularly warned by the official time-keeper of the A.C.U., and also by the secretary himself, to ride outside the 50ft. line, which I was most careful to do, the reason being given that the track was measured from this line. However, I now read in the press that my record has not been passed because a rule of the Union states that I should have ridden on the 10ft. line, which rule, by the way, I had never before heard of, and apparently the secretary also was unaware that any such rule existed. I consider such ruling on the part of the Competitions Committee of the A.C.U. is not only grossly unfair to myself, but must certainly appear very strange to continental motor cyclists who held this record previous to my attempt on October 8th."

Unrolled Stones.

The A.C.U. secretary, 18, Down Street, Piccadilly, W., writes: "With reference to the letter from 'Cedniv-5' in your last issue on the above subject, if he will kindly communicate with me, giving particulars of where such patches of stones are to be found, I will gladly take the matter up with the County or Borough District Council. There is no obligation upon a local authority to place a warning light, but some councils, when the danger of unrolled stones has been pointed out to them, have kindly had warning lights placed there until the stones have been rolled in."

FUTURE EVENTS.

- Dec. 16—Motor Union General Committee Meeting.
- " 19—North West London M.C.C. Second Annual Dinner and Distribution of Prizes.
- Jan. 7—(Provisional) Essex M.C. Paper by Mr. H. M. Wyatt on "Magneto."
- " 16-23—Motor Cycle Show at Madison Square Garden, New York.
- " 23—Essex M.C. Annual Dinner.
- " 23—Coventry M.C. Annual Dinner and Presentation of Prizes.
- " 30—Auto Cycle Union Annual Dinner, preceded by the Council Meeting.

Re-exports of Foreign Machines.

Last month's re-exports were valued at £1,487, as compared with £1,079 in November, 1907, and £418 in November, 1906. During the eleven complete months of 1908 £12,363 worth of motor cycles and parts have been re-exported from this country, £6,060 worth during 1907, and £4,586 worth in 1906.

A Quick Action Repair Pedal.

An American advertisement of a "quick action repair pedal," which will be sent free to any dealer who sends his letter heading to the advertiser reads strangely to English motor cyclists. The quick action repair pedal appears from an illustration in an American journal to be a bar of steel corrugated in the centre and screwed at each end to attach it either to the right or left crank. The bar is intended to be carried in the toolbag. American pedals must be very liable to breakage or the machines to side-slipping to cause anyone to market the "quick action repair pedal."

V 369.

The N.S.U. Motor Co., Ltd., of 186, Great Portland Street, W., would be pleased if the owner of the 3 h.p. motor cycle, accumulator ignition, with plates bearing the above numbers and letters, could communicate with them.

General Meeting of Motor Cyclists.

We direct readers' attention to letter No. 3726 in this issue, signed H. B. Jenner. In this letter the hon. sec. of the South Eastern Auto Cycle Association suggests a monster meet of motor cyclists near to London, and appeals to clubs to elect representatives to arrange details with him. We think that such a meeting would be productive of much good, and shall be happy to give publicity to the movement from time to time.

Motor Cycles at the Paris Salon.

As would be gathered from our descriptive article published on the 9th inst., fewer motor cycles were shown at this year's Paris Salon (which closed on Sunday last) than in 1906 and 1907. Below we give the number of machines shown in 1906-7-8 for comparison:

	1908	1907	1906
Firms showing motor cycles ...	31	45	46
Number of motor cycles ...	79	98	108
Motor bicycles with fore-cars ...	2	5	4
Motor bicycles with trailers ...	1	—	—

Singular Application.

At the South-western Police Court on Friday last, Ebenezer Burt, trading as a cycle dealer, Upper Tooting Road, was summoned for detaining a bicycle belonging to Mr. Herbert Edward Ward, a solicitor, two motor engines, etc., the property of Guy Harrell, of Boyd Road, Merton, and a trailer, the owner of which is Alfred James Munday, residing at "Russellton," Upper Mitcham. Mr. Ward, one of the complainants, supported the summons, and Mr. Hanne defended. The defendant did not put in an appearance, and his absence was made more strange by contradictory statements regarding his whereabouts. A man came forward to state that the defendant was ill. This individual, who seemed very uncertain in his answers,

had been commissioned, it was suggested, by a sister of the defendant to offer this explanation. The woman was ordered to stand forward, and when asked where the defendant was said, "In London." Mr. De Grey (severely): "What address in London? Speak the truth." The woman was subsequently forced to admit that the defendant was away on business and could not attend. Mr. De Grey said she was trying to mislead the court, and directed her to stand down. As regards the bicycle, the evidence did not justify the magistrate making an order, and the summons in respect of this was dismissed. The motor engines were, according to the evidence, placed in the defendant's care, he having agreed to purchase them at 55s. He paid 5s. on account, and offered to send on the balance. This

THE JARROTT CUP.



The handsome cup illustrated was presented to S. G. Frost at the annual dinner of the M.C.C. on Saturday. The trophy was won on a 4½ h.p. Minerva Motor Bicycle in the London to Land's End and Back Run (555 miles) on August 3rd and 4th. The presentation was made by Mrs. Chas. Jarrott.

CLUB NEWS.

Cambridge University M.C.C.

The committee of the C.U.M.C.C. hope that all members of the University who are interested in motor cycling will join the above club. Full particulars can be had from A. H. Moreing, hon. sec., Trinity College.

Coventry M.C.

This club's fifth annual dinner will be held on Saturday, January 23rd, at the Craven Arms Hotel, Coventry, at 6.30 p.m. The prizes won during 1908 will be distributed, and it is hoped that every prize winner will be present to receive his award.

Sheffield and Hallamshire M.C.C.

The above club has decided to affiliate to the Motor-Union instead of the A.C.U. The hon. secretary, Mr. T. F. Turner, writes: "I may say that the A.C.U. themselves are wholly to blame for this change: First, because of the way our club was boycotted at the general meeting at the beginning of the year; also, that it is our firm opinion that they do not want provincial clubs, for if they did they would certainly give us more benefits than they have done."

he failed to do; the owner could neither get back his property nor the money. The defendant was interviewed, when he said, "Cash sale be hanged; the goods are here on sale and exchange, and I can bundle the lot back if I like." Mr. Munday said he entrusted the trailer to the defendant's care. He (witness) had asked for it back six or seven times. Mr. De Grey ordered the return of the things in the last two cases, or the value.

Latest Police Traps.

Readers are advised of the following measured stretches of road:

London - Cheltenham Road. Trap working from Witney to one mile out towards Minster Lovell.

Mortlake District. Flashlight trap working in the East Sheen Road.

Wimbledon. Trap working between Windmill Road and Wimbledon Village.

Bath Road. At Burnham, about midway between Slough and Maidenhead, for exceeding the speed limit.

At Twyford.

Folkestone Road. Between Lee Green and Eltham, working Friday to Monday inclusive at present. One starting point is at the Avenue, Eltham Road.

Mr. Cove's Paper.

A paper, "Motor Cycles at the Stanley Show," was read by Mr. H. G. Cove before members and friends of the Essex M.C. on Thursday, in the comfortable Hertfordshire room of the Great Eastern Hotel, Liverpool Street, and was attended by a large number of motor cyclists. The author was somewhat critical, but though his criticisms were severe they were made in the right spirit, namely, with a view to bringing the motor cycle nearer to perfection. Mr. B. R. Chatterton was in the chair, and introduced the lecturer. All the machines mentioned by the lecturer were fully described and illustrated in our special show numbers. Three of the complete machines—the James, the Humber, and the Light weight twin-cylinder L.M.C.—were by no means spared by the lecturer in his criticisms, who criticised those points in which he thought there was room for improvement. A summary of the discussion will be published next week.

Hull and East Riding A.C.C.

Thursday, December 17th, is to be a ladies' night at the Grosvenor Hotel. Display of lantern slides by the hon. secretary and a good musical programme. Tickets, 1s. each or 1s. 6d. double, can be obtained of members or the hon. secretary. All motor cyclists in the city are invited.

Perth and District M.C.C.

On Thursday last, the 10th inst., Mr. James W. Robertson delivered a lecture in the St. John's Hotel, John Street, on "Motor Cycles for 1909." The lecture was illustrated by a series of lantern slides made from photographs furnished by the Editor of *The Motor Cycle*. A goodly number of members were present, and as each machine was in turn described by Mr. Robertson, there was a general discussion on it. In the absence of the president (Mr. A. T. Paterson), the Vice-president (Mr. T. D. Frew) thanked Mr. James W. Robertson for his lecture, which everyone had enjoyed, and alluded to the immense amount of labour involved in making so many slides. Mr. W. J. Sommerville then proposed a vote of thanks to the Editor of *The Motor Cycle* for so

Club News.—

kindly lending the photographs. Mr. W. Batchelor afterwards proposed a vote of thanks to Mr. Grieve for his assistance at the lantern, which concluded a most enjoyable evening.

Newcastle-under-Lyme M.C.C.

It was decided, at a meeting of motor cyclists in Newcastle (Staffs.) and district, to form a club to protect the interests of its members and organise competitions. It is proposed to affiliate to the Auto Cycle Union. The hon. secretary of the club is J. H. Higson, Northcote Place, Newcastle, Staffs.

Southern M.C.

At a committee meeting held on the 10th inst. it was decided to call the annual general meeting for January 21st. Tickets for the annual dinner will soon be available. It will be held at the Holborn Restaurant on February 4th. Members are requested to keep this date open. The Triumph medal for the single-cylinder motor cycle class in the last hill-climb has been awarded to Mr. J. H. Wheeler (3½ h.p. Triumph). The committee have decided to hold a social evening at the club headquarters every Thursday commencing at 8.30.

Middlesbrough and District M.C.C.

There was a brilliant assembly in the Victoria Hall, Middlesbrough, on Friday night, on the occasion of the annual ball of the Middlesbrough Club. The elaborate decorations in the hall, corridors, and supper room had been carried out by Messrs. J. R. Storry and Sons. Mrs. Ball's catering was most satisfactory, and Mr. J. Burns's band provided an excellent programme of music. There were over 100 couples present, and Messrs. J. Dale, F. Downing, and G. Sanderson ably fulfilled the duties of M.C.'s, and with Mr. S. Gjertson's assistance as hon. secretary were largely responsible for the unqualified success of the gathering.

Southend and District M.C.

By order of the committee, the hon. secretary has lodged with the Local Government Board an objection to the Southend Borough Council application for a ten-mile speed limit in certain streets of the borough of Southend-on-Sea, as being unnecessary for the safety of the public. The date of the inquiry has not yet been fixed.

The committee has decided to give to the members next year a copy free weekly of *The Autocar* if they are car members and of *The Motor Cycle* if they are motor cyclists.

The following gentlemen have recently been elected members: Messrs. A. G. Welch, Percy J. Garon, and Lewis Utton.

The hon. secretary, Mr. A. Warnery, will not, after the annual general meeting of the club, which it is proposed to hold in the latter part of January next, be able to continue the duties of secretary, but it is very gratifying both to the committee and the secretary to report that Mr. H. Greenfield, captain of the club, has been induced to take over the position, if elected. Mr. Greenfield has been a strong supporter of the club, practically from its inception, and the club's interests should be well safeguarded in his hands.

Harrogate and District M.C.C.

The subject of a discussion on the 4th inst. was "Ideas and Improvements at the Stanley Show." Mr. T. Atkinson read an interesting paper on the principal recent alterations. What struck Mr. Atkinson most was the number of new firms entering into competition with the older concerns. He considered that this proved the growing popularity of motor cycling. In the lecturer's opinion most of the improvements and alterations were confined to details, and some of the machines had nearly reached perfection. He said he would very much like to see the cylinders altered. In his opinion the majority of cylinders were made too light for the work they were called upon to do, and he thought that if the makers put more metal into the cylinders we should hear much less of wear of cylinders. It was not real honest wear, but wear caused by warping of the cylinder walls, and this was caused simply by the cylinders being made too light for their work.

Mr. H. Fortune gave a short description of the present-day lightweights. He considered that a machine with an efficient engine of 2½ h.p., with magneto ignition, spring forks, and pedals, was all that was required, provided, of course, the rider was content to travel at the legal limit, and to assist his little steed up exceptional hills. The weight of the

machine should not exceed 100 lbs., including tools, lamp, and horn.

Mr. Berry stated that he possessed a 1½ h.p. motor bicycle, and the way this little engine could work was really wonderful, and he was only called upon to assist with pedals on big hills.

The next gathering will take place early in the New Year, and will take the form of a whist drive.

Walthamstow M.C.

This club held its second annual dinner, followed by a Bohemian concert and the distribution of prizes at the City Arms, St. Mary Axe, E.C., on the 5th inst. Mr. R. J. Holt presided, and was supported by a large muster of members and friends. Many ladies were present. The dinner was followed by a well-arranged programme, which everybody enjoyed. The toasts were as follows: "The King, Queen, and Royal Family," proposed by the Chairman; "The Club," proposed by the Chairman, response by J. W. Percival, hon. sec., who reported the satisfactory progress of the club during the year; "Ladies, Visitors, and Artistes," proposed by Mr. A. H. White, and responded to by Mr. A. J. Jackson on behalf of the visitors; and "Chairman and Vice-chairman," proposed by Mr. W. H. Applebee. The musical programme was much appreciated by the company.

During the interval the prizes were graciously presented by Miss Bazzone to the winners of the 1908 competitions.

During the evening a presentation of a massive marble clock was made on behalf of the club by Mr. W. H. Applebee to Mr. J. W. Percival for his services as hon. sec. of the club. Mr. Percival made a suitable acknowledgment.

Sunderland and District M.C.C.

The annual smoking concert was held at the Grand Hotel, Sunderland, on Wednesday, the 9th inst. Major E. Vaux, D.S.O. (president), occupied the chair for the first part of the evening, and presented the prizes won during the past season, and Captain Maurice Moore was chairman later. Among those present were Mr. W. Dunn (captain of the Newcastle M.C.) and several other members of the Newcastle organisation; Mr. Hodgkin (hon. sec. of the North-eastern Automobile Association), and a detachment of the Territorial Cycle Corps.

Major Vaux urged every local motor cyclist to join the club and become affiliated with the R.A.C. and A.C.U.

Captain Moore endorsed these opinions, and also invited the members to assist the Territorial Cycle Corps in connection with the military manœuvres, and thus do their duty to the country and prove the usefulness and reliability of the motor cycle.

Mr. Fred Turvey offered a challenge shield to the club for competition, which he suggested should take the form of a reliability trial and surprise hill-climb.

Mr. Dunn referred to the good feeling existing between the Newcastle and Sunderland clubs, which he hoped would continue.

The Sunderland M.C.C. now numbers about 45 members.

Mr. Russell Jackson proposed "The Visitors," and Mr. Dunn responded. A pleasant musical programme was contributed during the evening.

ALLEGED BREACH OF CONTRACT.

Holdsworth Bros. v. Hodgson was an action for alleged breach of contract heard at the Halifax County Court on the 1st inst. The amount claimed was £18 10s. The plaintiffs are proprietors of the Halifax Motor Exchange Co., carrying on business at 16, Westgate, Halifax, and the defendant a monumentalist, of Kirkby Stephen. Mr. Charles Clarkson represented the plaintiffs, and Mr. Wm. Rees, of Kirkby Stephen, was for the defendant. The plaintiffs advertised a 3½ h.p. motor cycle, and the defendant entered into correspondence and agreed to exchange a 4 h.p. tricar, and certain other goods for the motor cycle. T. Holdsworth, a member of the firm, in cross-examination, said that he could sell the cycle at present at £17 10s. The defence was that the original contract had been broken, and without calling the defendant his Honour dismissed the claim with costs.—*The Halifax Courier*.

THE NEW PENNY EDITION OF "THE AUTOCAR."

Readers of "The Motor Cycle" who are interested in motor cars are reminded of the new Penny Edition of "The Autocar," now obtainable of all Newsagents and Booksellers every Friday Morning.

Along the Normandy Coast.

[3727.]-Mr. W. H. Thompson, in his interesting article entitled "Along the Normandy Coast," states that the A.C.U. agents' *mécanicien* sent him on the wrong road to Honfleur. Possibly the redoubtable Gustave, who is not given to sending people on the wrong road, mistook the author's pronunciation of Honfleur for Harfleur. The obvious way to reach the former town from Havre is not by road at all, but by one of the small steamers which make the journey daily.

MOTOCYCLETTE.

Silence, Footrests, and Brakes.

[3728.]-Having visited the Stanley Show, and having seen the many important improvements which have been made both in general and in detail design, it seems to me that finality is not even approached, as "Ixon" suggests, either as regards motor bicycles in general, or any of the distinct types into which they may be sub-divided. Three important points strike me as deserving more attention both from designers and critics.

The first is silence. There was a most remarkable contrast between the Stanley and Olympia Shows. At the former few makers laid claim to peculiar silence, and improvements in silencers were few and far between. At the latter almost every maker made a most emphatic claim for very quiet running, and the many remarkable improvements were by no means confined to silencing the exhaust. It is superfluous to point out that, whether motor cyclists want silent machines or not, the public, with their horses and dogs, strongly object to noisy ones, and the notion is still very prevalent that every explosion of a single-cylinder engine communicates a fearful thud to the rider.

The second is the position of footrests. Now that nearly all machines are fortunately built so low that a man of average height can sit on the saddle and comfortably place both feet on the ground, it seems obvious that the footrests should be as low down as is consistent with safety in order to secure the greatest advantage as regards both comfort and stability. Yet the prevailing practice is to place the footrests above the magneto transmission, the Phelon and Moore and Rex machines being notable exceptions.

The third is brakes. Of the two types of pedal applied belt rim brake, the one in which the pull is applied below the pivot of the shoe is still in the minority. Its advantages seemed obvious, even without experience, but having used both types under all conditions, I am surprised that the triumph type has not become universal. "Ixon" in his comments has lauded the pedal applied belt rim brake, but as not, as far as I can remember, ever distinguished between the two types.

LN 5065.

The Future of the Tricar.

[3729.]-I can quite endorse what you say as to your specification of an ideal tricar. I have been driving a similar one to your design, except that it is water-cooled, with tank low down near handle-bar; 2½ in. front tyres, 2½ in. back, and I have had no trouble with them. I have no two-speed gear, and there is not a hill I have failed to get up with a nine stone passenger. I have been up 1 in 12 with twelve stones, gear 6 to 1, although when I first had motor cycle I could not do so. It is a knack in driving.

I have a large silencer 18 in. by 5 in., and can only hear the tapping of the valves. I have accumulator ignition—two accumulators and trembler coil in a box on the footboards. The limit of power for tricars should be 5 h.p., air or water-cooled, belt driven, with two speeds. If you exceed 5 h.p. you only have increased weight, heavy gears, chains, and back-built seats. The heavy type of tricar is a car on three wheels, and can you expect one wheel to stand the strain of two? That is the cause of half the trouble.

Why try to save the small extra license duty and pay six times the amount in tyres alone? If you exceed 5 h.p. you must have four wheels. And why "open" frame when you can get more rigidity with a closed one? What does it matter if the tank is between your knees? You can have heel steering, a bucket seat, and much wider footboards. If we want more we must have a car.

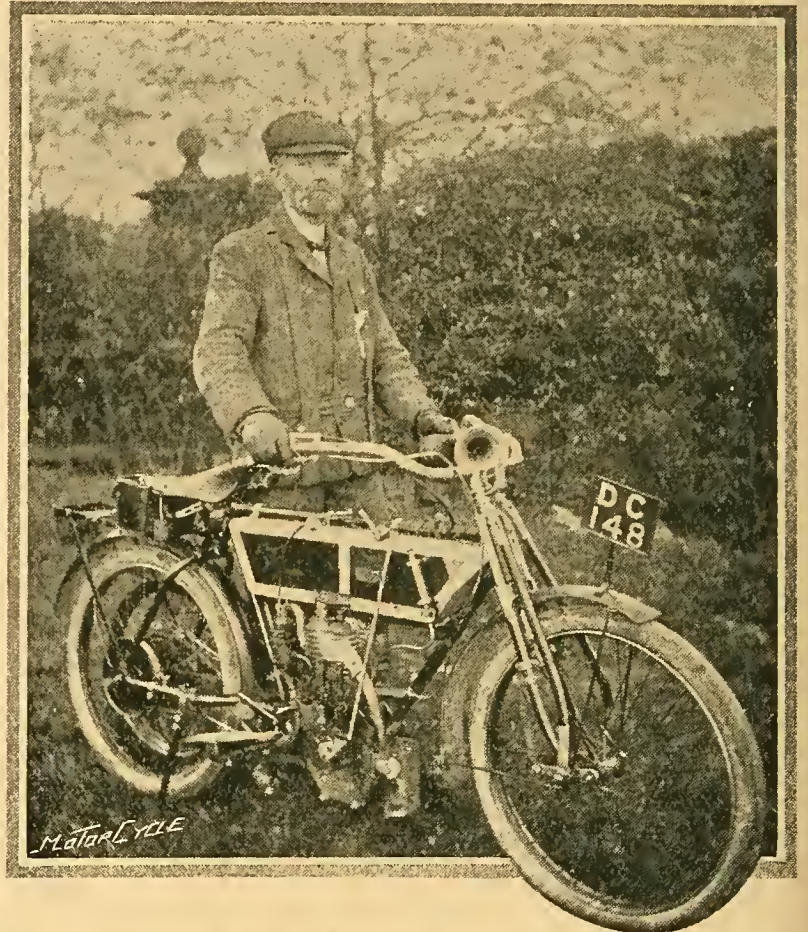
I will not trespass further on your invaluable space, but makers will only build a tricar on the lines you have specified (3½ h.p. and 5 h.p.) they would find a ready sale. There are thousands of people who do not care for motor bicycles, and have never ridden a push bicycle, so cannot

ride, but would buy a light smart and safe tricar. It is most enjoyable to take one's wife, sister, or cousin for a ride. Then again, nearly all motor bicyclists are single men. It is the married man of moderate means who wants the ideal tricar. He does not want a motor bicycle. He does not, in all cases, like a sidecar. He wants a light motor cycle to carry two.

J.B.N.

A Veteran Motor Cyclist.

[3730.]-I send you a photograph of myself and my machine. I am only a young rider, who has just learnt to ride a motor cycle at the age of sixty-two. It is never too



late to learn. I look forward to your Wednesday's issue with relish. It was a good number last week. I have bought "Hints and Tips"; they are very good.

J. CLAYTON.

Magneto Manufacture.

[3731.]-Having read the letter from the Bosch Magneto Co. on the above subject, and the reply given by the Premier Accumulator Co., Ltd., in *The Motor Cycle*, I have a Bosch magneto on my machine, and I have nothing but praise for its reliability, accuracy, and freedom from troubles, etc.

Oh, excellent Bosch magneto, thou hast attained a height of dazzling eminence, so have other magnetos, English and foreign, so has one made by a lad in a back bedroom of his own home; and, if that is so, where does the "special plant," "special tools," and "special materials" from all parts of the world come in, as suggested by the Bosch Co., as the primary essentials?

This lad lives close to Preston. He is 18½ years old, serving his apprenticeship at a large electrical engineering works. He has made a magneto in his special workshop, and his special plant is an old sewing machine, utilised as a kind of winding arrangement, and his special tools are those he uses every day in his daily work. He takes all the turning and lathe work that is required to his shop, and his special materials were bought in Preston, which is only a small dot on the map of England. He only gets 1½d. out of every shilling he earns for spending money, so he cannot roam so far in the world in search of specialities. As for special tools, you would not expect anyone to chase a thread on the end of the armature shaft with a writing pen nib, any more than you would expect a man to carve a chicken with a bicycle pump, yet both instruments are absolutely essential for the purposes for which they are intended.

Oh, Bosch magneto, thou hast been flung from thy lofty pinnacle by a home-spun magneto, which, for simplicity and easy getatableness, is a marvel.

"A Machine for Sidecar work."

*Extract from article, "The Motor Cycle,"
Dec. 9th, 1908.*

....And then, glad day! I purchased a Roc motor bicycle, with Roc two-speed gear and free engine clutch, and it did not take long for me to discover I had got a good thing. No sudden dismounts in traffic! Instead just take the high speed gear out of action with one touch of pedal—bring machine to rest....then with road clear—gradually press pedal and off again without the usual shove to start and leap into the saddle.

I have yet to find a hill the Roc with sidecar won't surmount on the low gear. I would like to answer two objections to the Roc which makes me wonder if they are at all inspired.

(1.) Handle starting. I find no difficulty.

(2.) Slipping of brake bands. I have not experienced this even on steep hills with a weight of 7 cwt.

I have no interest in machine or sidecar other than that of a well-satisfied owner.

(Hundreds of original letters in similar strain are in our possession.)

A. W. WALL, Ltd.,

Roc Motor Cycle Works,
Aston Road, and Dartmouth Street,
BIRMINGHAM.

Tel.: 5712.

Te. g.: ROC, B ham

The ROC

INVITES

THE CLERGYMAN

THE DOCTOR

THE ARTIST

THE TRAVELLER

THE MERCHANT

THE PROFESSIONAL MAN

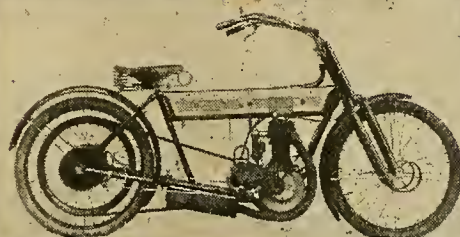
THE COMMERCIAL MAN

THE SPORTSMAN

ROC 1909 Royal Military Model,
with Roc clutch and two-speed gear,
hand-starting

48 gns.

Designated the car on two wheels.



Early deliveries.

Write for lists
also of the
Roc Conversion
Sets at

£10 10 0

THE HOME
OF THE

ZENITH

THE MOTOR CYCLE WHICH HAS
MADE FINSBURY PARK FAMOUS,

will immediately after Christmas be removed to Weybridge, Surrey (30 minutes rail from Waterloo). Commodious works and showrooms have been secured (at 1, Church Street, Weybridge) a few minutes from Brooklands Track.

A few more trial runs can be given at Finsbury Park by appointment only.

To prevent disappointment, orders for machines for early 1909 delivery must be placed immediately.

The "Zenith Bicar" spring-frame motor bicycle, open frame and forkless, **43** guineas nett. It starts with a handle, same way as a car. Absolute safety, as side-slip almost impossible.

The "Zenette" or double-scissors spring-frame motor bicycle, **39** guineas nett. Or fitted with the Gradua variable gear—160 variations between 3½ to 1 and 10 to 1—a turn of a small wheel, that's all—**50** guineas nett.

The "Zenith-Gradua," rigid frame model, with spring forks and Gradua gear, **50** guineas nett. A distinctive pattern; low position of rider, long wheelbase.

The "Zenith" Tricar, spring-frame, 6 h.p. twin-cylinder J.A.P. engine, chain drive, 3-speed gear, **72** guineas. A marvel of value!

"Zenette" Tricar-de-luxe, 6 h.p. twin-cylinder J.A.P. engine, water-cooled, finest coach-built body, open frame, bucket seat, wheel steering, **90** guineas. The handsomest Tricar on the road. Spring frame. Most luxurious in every respect.

ZENITH MOTORS, LD., 119, Stroud Green Road, Finsbury Park, LONDON.

In answering either of these advertisements it is desirable that you mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

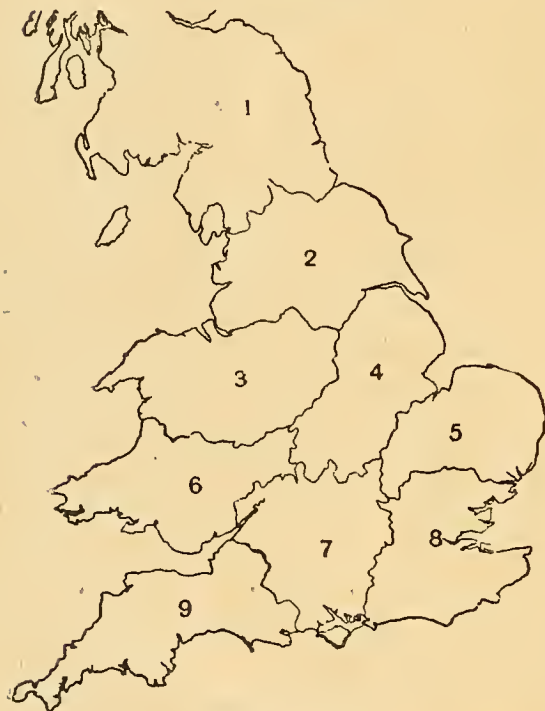
All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or if sent to London (20, Tudor Street, E.C.), by the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

1909 TRIUMPHS.

PROMPT DELIVERY OF A LIMITED NUMBER FROM STOCK.

DEFERRED PAYMENTS.

EXCHANGES.

SHOP-SOILED and SECOND-HAND SINGLE CYLINDERS.

TRIUMPH, 1908 (October,) with costly extras and spares, as new	£47 10
TRIUMPH, 1908, Palmer back tyre and other extras accessories, perfect	£35 0
TRIUMPH, 1908, very good order	£32 0
TRIUMPH, 1907, delivered June 1908, new cylinder and piston, overhauled	£28 0
TRIUMPH, 1906, magneto, perfect order	£23 0
TRIUMPH, 1905, accumulator, no faults	£18 0
ROC, 1908, two-speed, magneto, 4 h.p.	£33 0
N.S.U., 1908, magneto, 3½ h.p., shop-soiled, £40 machine	£30 0
N.S.U., 1907, spring forks, Roc two-speed gear	£28 0
VINDEC two-speed, 1907, magneto, perfect..	£26 0
ROC, 1907, magneto, clutch, spring forks	£19 0
N.S.U. 1907, magneto, 3½ h.p., new Shamrock back tyre, new front, spring fork, perfect throughout	£19 0
WARWICK, 1908, shop-soiled, two-speed, clutch, magneto, spring forks, £50 machine	£31 0
SINGER, 3 h.p., magneto, belt drive, Mabon clutch, perfect order	£15 0
ASTER, spring forks, Longuemare carburetter, tyres sound, good order	£9 0
B.S.A. M.M.C. engine, 3½ h.p., Druid forks, Lomax band, grand condition	£11 0

TWINS.

N.S.U., 1908, magneto, 4 h.p., shop-soiled, £50 machine	£39 0
BROWN, 1908, shop-soiled, 5½ h.p., two-speed, Palmer tyres, cost over £67	£45 0
ROC TWIN, 5 h.p., magneto, clutch, show model, done 300 miles, perfect	£30 0
N.S.U., 1907, 6 h.p., magneto 2½ in. tyres, perfect order	£28 0
REX, 5 h.p., spring seat, spring forks	£17 0
MILLS & FULFORD SIDECAR, shop-soiled, Palmer cord 2½ in. tyre	£9 10
REXETTE TWIN, 9 h.p., two-speed, three-seater, pump circulation, perfect order ..	£45 0

THE NEW PREMIER HORNS.

BINOTE.
TRINOTE.
BETTER
THAN THE ORDINARY
HORN,

because their sound carries twice as far and is less offensive—more musical.

You will not realise how superior these are to the old type of horn until you have handled one. Send us remittance 7/6 or 10/- and we will send one on THREE DAYS' APPROVAL, returning your money as once if you send it back for any reason whatsoever.

7/6. 10/-.

PREMIER TUBULAR CARRIERS
fit ALL makes of machines. 8/6.

Approval.

PREMIER TUBULAR STANDS, 7/6.

Approval.

WRITE FOR LISTS OF ACCESSORIES.

We have a limited number of Shop-soiled and Second-hand PREMIER Lamps, Stands and Carriers, etc., at Clearance Prices. List free.

PREMIER MOTOR CO., LTD.

Aston Road, BIRMINGHAM.

Telephone 4,310. Telegrams: "Primus, B'ham."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20 Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Liffie and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

IMPORTANT NOTICE.

Owing to the
CHRISTMAS HOLIDAYS

Advertisements for the issue of 23rd inst. must reach Coventry not later than first post on Thursday, 17th Dec., and for the issue of 30th inst. not later than Wednesday, Dec. 23rd.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham and Westmoreland.

31 h.p. 1907 Vindec Special, magneto, spring forks, good tyres, guaranteed perfect; trial; £25, offers.—Lloyd Wilson, Ormaithwaite, Keswick.

F.N., four-cylinder, exceptionally good condition, tyres as new, fitted with Shamrock bands last month; approval; £19, or near offer.—Hipkins, 8, Lovaine Avenue North Shields.

SECTION II.

York and Lancashire.

STOCKPORT.—1908 Triumph, very flexible engine, only run 1,200 miles, perfect condition; 34 guineas.

STOCKPORT.—Two 1907 Triumphs, one look brand new. £28; other guaranteed perfect, £25.

STOCKPORT.—3½ h.p. Minerva, £15; two speed Midget bicar, 1908, handle-bar control, spring forks, £30.

STOCKPORT.—Do you want a Corah Light weight for nothing? Write for particulars to sole Northern concessionaires.

STOCKPORT.—Orders should be placed early for 1909 Midget bicars. Many detail improvements; 1909 will be a bicar year.—Lund and Sergeant, Princes Street Stockport.

1909 Rexes, N.S.U.'s; cash and exchange. Halifax Motor Exchange, Westgate Halifax.

31 h.p. Minerva, Chater-Lea, taken for debt; accept £9 10s.; given away. McIntock, Draper, Cudworth.

MOTOR BICYCLES FOR SALE.

ALMER.—3½ h.p. Minerva Bike and side-car, very fine lot, perfect; £16.

1 h.p. Rex. light low model, fast, powerful; £12.—190, Mellison Road, Tooting.

ephone, 208, Streatham.

TRIUMPH, 1908, 3½ h.p., spare tyres.—L., 80, St. Annes Hill, Wandsworth, London.

h.p. De Dion-Bat. faultless condition; accept £14.—Park Lodge, Peckham Rye,

h.p. Humber, recently overhauled; will give trial; £8 10s.—223, Ditchling Road, Brighton.

OVER, 3½ h.p. belt drive, M.O.V., new condition; £11 10s.—1, George Road, Malden, Surrey.

h.p. Chater-Lea-Minerva, vertical, new 2½ tyres; cash offer.—1a, Lyall Mews, Con Square.

h.p. Minerva (inclined), good running order; £5 10s.—Clapham, King George Street, Greenwich.

S., 1½ h.p. Minerva; also 2½ h.p. Scout; £5 5s.; compulsory sale. — J. May, Clapham Road, S.W.

OWNER no use for 3 h.p. Humber, free engine; what cash offers?—Robson, 11a, Elmfield Street, E.C.

STAMFORD HILL.—3½ h.p. Rex, spring forks, splendid condition, climb anything; £15s.

STAMFORD HILL.—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL.—1½ h.p. Quadrant Lightweight, Minerva engine, two brakes, all very good condition, and perfect order; 10s.

STAMFORD HILL.—2½ h.p. Precision engineered lightweight, in good running order, and very good condition; £6 15s.

STAMFORD HILL.—3 h.p. Progress, magneto, 26 by 2½ tyres, perfect condition; 10s.—128, High Road, Stamford Hill.

STAMFORD HILL.—3½ h.p. Minerva, low built, genuine throughout; £12; in new condition, grand, goer.

STAMFORD HILL.—5 h.p. twin Brown, Palmer cord tyres, Osborne four speeds, up-soiled, bought few weeks; £45. — 128, High Road, Stamford Hill.

TRIUMPH, 1907, absolutely perfect, new July, 1908, engine; £34.—Scott, 537, Garsfield Lane, Wandsworth.

MOTOSACOCHE, 1908, magneto, spring forks, perfect; £20.—Tucker, 191, Upper James Street, London.

5 h.p. Rex, Nala, spares and forecar; £25, offers; buying car.—Ludford, Brooks-street, W. Homerton, N.E.

NEW Lightweight Wolf Motor Cycle; first cash, £15 nett.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

h.p. Twin Rex Machines, 5½ h.p., at £15, splendid value.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

h.p. Triumph, little used, magneto, spring forks, all accessories; £23 10s.—Eagles & Co., High Street, Acton.

OUR-CYLINDER F.N., magneto, spring forks, excellent condition; great bargain, £19 19s., cash.—Below.

AT, 3½ h.p., spring frame, genuine De Dion engine, nearly new; £16 16s.—Below.

OC, 3½ h.p., magneto, clutch, handle-bar control, perfect order; sacrifice £18 10s. below.

ANTOINE, 4 h.p., M.O.V., vertical, 26 wheels, long bars, low seat; bargain, £9 15s.—Below.

UMBER, 3 h.p., new tyres, guaranteed; cheap, £7 15s.—Whittle, 41, Skelbrook Street, Earlsfield.

h.p. Ariel, spring forks, good order; trial; £15, or nearest offer.—1, Childe Mansions, Cricklewood.

h.p. De Dion, Anglian, good condition, tools, spare belt; £7 lowest.—187, Harnden Road, Willesden Green.

h.p. Brown, engine overhauled, spring forks, footrests, tyres perfect; £12 10s. West Street, Pimlico, London.

STAR TURNS.

**F.N.
ROCS.
BROWNS.
MINERVAS.
MOTO REVE.
PHELO MOORE.
VINDEC SPECIAL.
MOTOSACOCHE.
MATCHLESS.
HUMBERS.
WOLFS.
L.M.C.**

**

EARLY DELIVERIES.

WRITE US FOR TERMS AND FURTHER PARTICULARS FOR CASH OR EXCHANGE.

4 MAGNETO REXES. 4

5 h.p., spring forks and cantilever seat-pillars; £22 cash or exchange.

3 QUADRANTS. 3

3½ h.p., spring forks, lovely condition, and beautiful pullers; £18 cash or exchange.

3 TWIN REXES. 3

Spring forks, good tyres, 5 h.p. models; £17 cash or exchange.

MINERVA, 7-8 h.p., 1908, not run 500 miles £31 0

MINERVA, 3½ h.p., vertical, 26in. wheels .. £14 0

ANTOINE, 5 h.p., 1907 model 26in. wheels £20 0

MOTOSACOCHE, 1908, accum. ignition, new £20 0

REX, 2½ h.p., 1908 magneto £17 0

PHELO-MOORE, two speeds, 1907 £30 0

ALCYON, twin, spring forks, 5 h.p., a bargain £23 0

MINERVA, 3½ h.p., magneto, spring forks .. £23 0

TRIUMPH, 3½ h.p., 1907 (July), magneto.... £30 0

REX, 5 h.p., spring forks, twin-cylinder £17 0

MABON, 3 h.p., vertical, magneto H.T. £13 0

CLYDE, 2½ h.p., magneto, spray £12 0

ROC, 4 h.p., 1908, two speeds, magneto £30 0

SINGER, 2 h.p., magneto, 26in. wheels £10 0

SAROLEA, 5 h.p., a beauty for pulling £20 0

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REX, 3½ h.p., spring forks, 1906 model £13 0

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BRADBURY, 2 h.p., vertical, perfect order .. £9 0

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QUADRANT, 3 h.p.; a beautiful climber .. £10 0

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Cash or Exchange for above.

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HUMBER 2½ h.p., splendid condition £10 0

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J.A.P., 2½ h.p. £8 0

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EXCELSIOR, 3 h.p., very good tyres £10 0

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2 h.p. Ormonde, engine just overhauled; a bargain, £8, or nearest offer.—Barton, No. 2, Porten Road, West Kensington.

3 h.p. Humber, just overhauled, in good running order; bargain, £10, or offer.—M., 36, St. James's Avenue, Beckenham.

3 h.p. Humber, new tyres, just thoroughly overhauled; owner going abroad; £12, or offers.—Harley, Park View, Redhill.

IF You Want Bargains in second-hand motor cycles you can get them at Wauchope's, 9, Shoe Lane, Fleet Street, London.

ONE 5 h.p. Twin Rex, spring forks, in first-class condition; exchange for lower power and cash, or sell £16 lowest.—Below.

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2 h.p. Monde Lightweight Cycle, wants small adjustment; £4, or exchange for phonograph.—Wright, 28, Scholar's Road, Balham.

3 h.p. Humber, excellent running order, just been thoroughly overhauled, new tyres; £12, or offers.—Harley, Park View, Redhill.

F.N. 2 h.p. Lightweight, just overhauled, new accumulators; bargain, £8 10s.—Particulars, Rosebank, Lenham Road, Sutton, Surrey

23 h.p. Peugeot Lady's Motor Cycle, £15; also 3 h.p. Fafnir, Chater-Lea fittings, £10, or £20 the two: both in thorough order.—Shanks, Chertsey.

£8 8s. Pathephone, new, with records costing £2 15s., part cash exchange for good motor cycle.—14, Grove Road, St. Ann's Road, South Tottenham.

13 h.p. F.N., 1908 machine, in good condition, original tyres, unpunctured, stand; and accessories; £20. — Cyclist, 4, Lloyds Avenue, E.C.

4 h.p. Antoine, spring forks, B. and B., Brooks, Dunlops, two C.A.V.'s, excellent order, and accessories; £12.—F. Stuart, 39, Colville Gardens, W.

31 h.p. Rex, new belt and accumulator; £13, or exchange gramophone, piano, or something useful.—Crocker, 37, Hutton Road, Lambeth, S.E.

31 h.p. Coventry Humber, Longuemare, very fast, splendid hill-climber, new condition, £14; sidecar, £4 10s.—E. Astrand, 56, Oldridge, Balham, S.W.

£12 10s.—Clement-Garrard 1½ h.p. lightweight, copper tank, nearly new, guaranteed perfect, host spares.—Scraser, 234, Battersea Park Road, S.W.

6 h.p. Antoine (1908), Chater-Lea No. 6 Bosch magneto, 2½in. Palmer, B. and B. handle-bar controlled, stand, carrier, and spares; £28.—37, High Street, Clapham, S.W.

FULHAM.—3½ h.p. White and Poppe, magneto, Chater-Lea, only ridden a few miles, perfect condition; £23, or near offer. Write for appointment.—320, Fulham Palace Road.

31 h.p. Jap, double overhead tappets, 1908 pattern, No. 6 Chater frame, tyres nearly new, Palmer cord, horn, lamp, stands; £19.—51, Chingford Road, Walthamstow.

31 h.p. Quadrant (Birmingham), spring forks, very fast, first-class condition, excellent hill-climber, Clincher A Won tyres; £20, or offer. — Glaed Hame, Letchworth, Herts.

1908 Magneto Rex, 3½ h.p., latest finish, absolutely perfect condition, takes sidecar, thoroughly reliable; £18, or near offer.—Motor, 9, French Place, Shoreditch, London.

MOTOR BICYCLES FOR SALE.

MOTOSACOCHE, perfect condition; £14; sidecar wanted.—Milroy, St. Mary Cray, Kent.

31 h.p. Ariel, excellent condition, Dunlop tyres; £12 10s.—Eagles and Co., High Street, Acton.

23-3 h.p. Clyde, spring forks, engine just overhauled, since when machine has not done ten miles, perfect order throughout; what offers?—M. Langridge, 7, Bodney Road, Hackney, London.

3 h.p. Quadrant, spring forks, excellent condition, perfect order (can be carried up few steps easily), very reliable little machine; £10 10s.—Quadrant, 86, Colvestone Crescent, Dalston, London.

3 h.p. Falcon Motor Cycle, perfect running order, low built, powerful, reliable, sound condition, tyres excellent; only £7 15s.; money badly needed.—Motorist, 7, Bodney Road, Hackney, London.

HIGHEST Offer before 19th inst. secures together or separate Antoine, 3½ h.p., sidecar, 26in., fixed, 2½ h.p. F.N., Chater-Lea, all perfect; seen by appointment.—Sparrow, 59, Camberwell Grove, London.

3 h.p. Durkopp, fast, powerful machine, vertical ball bearing engine, 26 by 24 Peter-Union steel studded back, very low, spray; particulars, trial; bargain, £10.—76, Southill Street, Bromley, London.

23 h.p. Minerva, spring forks, low built, fast, perfect running order, very reliable; £13; only wants seeing; after 8 evenings, or by appointment.—Motorist, 29, Casterton Street, Mare Street, Hackney, London.

1907 5½ h.p. Twin Rex de Luxe, spring forks, cantilever spring seat, latest pattern low frame, double back tyres, practically new condition; take sidecar anywhere; £22.—17, Kenmure Road, Hackney, London.

LATEST Chater-Lea Motor Cycle and sidecar, fitted with 6-7 h.p. twin Jap, magneto, two-speed gear, spring forks; cost £58; take lower h.p. cycle or accessories in part.—Write only, B. Gladwin, 7, Gaskell Street, Clapham.

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TRIUMPH, 1908, 3½ h.p., has been little ridden and well cared for, plating and enamel and all working parts in really fine condition, all accessories, spares and tools; £35 10s.; approval.—Eastern Garage, 418, Romford Road, Forest Gate.

1906 Triumph, 3 h.p., magneto, spring forks, variable pulley, Davison gauges, handle-bar control, new piston, rod, bearings, studded Clincher rear, detachable tubes, two Dermatine belts, Acetyphote; £23.—1, Madeira Road, Streatham.

1908 6 h.p. N.S.U. (twin), two speeds, free engine, magneto, spring forks, very low, handle-bar control, studded back cover, little used, condition as new throughout, take sidecar anywhere; £40.—S., 86, Colvestone Crescent, Dalston, London.

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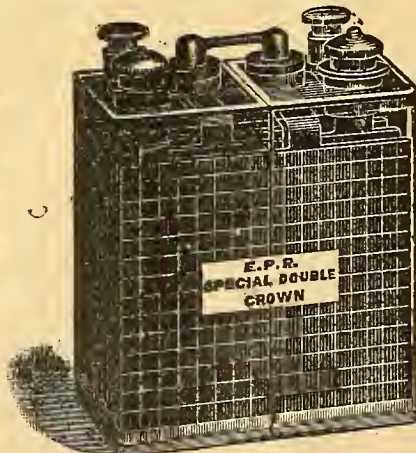
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ZENETTE (shop-soiled), 1908 pattern, two-speed machine, listed £50 8s., reduced to £40; Zenette, free engine clutch, listed £42 2s., reduced to £35; Zenette, fixed pulley, listed £41, reduced to £32 (all new machines).—Zenith Motors, Ltd., 119, Stroud Green Road, London, N.

1908 Spring Frame Rip, 5 h.p. twin Peugeot engine, Bosch magneto, B. and B. carburetter, stand and special carrier, with luggage case, accessories and spares, including new 1in. Gloria, appearance and condition perfect; £25.—Eastern Garage, 418, Romford Road, Forest Gate.

34 h.p. N.S.U. (1908), gained non-stop certificate in last quarterly trials, magneto, spring forks, two-speed gear, 1in. belt, Shamrock rubber studded cover and Rich's tube to back wheel, B105 saddle, equal to new; £30, with all accessories; approval.—Eagles and Co., High Street, Acton.

MOTOR Cycle, genuine Chater-Lea fittings, 3 h.p. Buchet engine, Dunlop front tyre, Michelin non-skid back, will exchange for plating dynamo or nickel anodes, or sell £16; one Kerry engine, 3½ h.p., new, £4 10s.; one Auto engine, 4½ h.p., £3 10s.—C. E. Bennett, 3, Morgan Street, Canning Town, E.

6 h.p. N.S.U., two speeds and free engine, magneto, with handsome coach-built sidecar, all tyres like new, two good spare covers, three spare butted tubes, lots spare parts, Autoclipse and Premier lamps, large generator, whole machine like new; cost £80, accept £50, or exchange 3½ h.p. Triumph and cash. Telephone, 7646 Wall.—Wood, 33, Cornhill, London.

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SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

3½ h.p. Triumph, magneto, 1907, in splendid condition; any trial in locality; £25.—Coppin, Little Hill, Budleigh Salterton, Devon.

5 h.p. Twin Vindec, 1907 model, large footboards, Grose non-skid back, lamp and generator, tools, all in splendid condition; £25.—Collins, 31, Palliser Road, West Kensington. To see apply, Lieut. Porte, R.N. Barracks, Devonport.

SECTION X.

Scotland.

31 h.p. Rex, handle-bar control, new tank, spring fork, low position, in excellent condition; £10.—Apply, Hunter, University Union, Glasgow.

EDINBURGH.—Vindecs, Quadrants, Rexes, Adlers, Moto Reves, Ariels, Zeniths, Minervas, Griffons, Nortons, N.S.U., Advances, Rocs, etc., in stock, and to be seen at Alexander's Motor Exchange, Edinburgh.

TRICARS FOR SALE.

STAMFORD HILL.—Phoenix Trimco, Minerva engine, fine condition; £12 10s.

STAMFORD HILL.—6 h.p. Riley, twin w.c. engine, Chater-Lea open frame, coach built tricar, two speeds, overhauled; £47 10s.

STAMFORD HILL.—5 h.p. twin Hamilton Mills-Fulford forecarriage, splendid cane body, excellent condition; £20.

STAMFORD HILL.—5 h.p. twin Kerry R.O.M., Millford front wicker body, grand condition; £28.—128, High Road, Stamford Hill.

STAMFORD HILL.—5½ h.p. twin Brown, Millford duplex steering sidecar, Palmer cord tyres, four speed pulley, brand new few weeks; £50, cost £75.—128, High Road, Stamford.

SACRIFICE.—7-9 h.p. Peugeot, free engine footboards; nearest offer £20 has it.—52 Perry Hill, Catford.

TRICARS FOR SALE.

HUMBER. 4½ h.p., two speeds, w.c., very powerful; £14—20, Brunswick Square, E.

h.p. Lloyds, water-cooled, Kent three-speed gear, good order; £22.—Guest, London Road, Derby.

ALEIGHETTE, finest light tricar made, in splendid condition; cash wanted; £30. Washington, Middlewich.

EX 1907 Tricar, 5½ h.p. twin a.c. engine, very fast, complete, headlight, horn, spares; £27 10s.—Below.

1 h.p. W.C. Engine Tricar, two speeds, free engine, chain drive, coach-built, in perfect running order, tools, headlights, spares, etc.; £30.—The Victoria Garage and Electrical Co., Ltd., Coventry.

3 h.p. Beeston Humber, with spare front wheel, convert bicycle, good order; £8.—Guest, London Road, Derby.

LEON Bollee Tricar, in running order, three speeds, two brakes, air-cooled, powerful engine.—Mills, St. Barnard's, Wyke, Leam.

1 h.p. Rexette, almost new, water-cooled, two-speed, car tyres; £36, or near. — 23 Carlton Road, Hillsborough, Sheffield.

WILEY and Singer, several 6 and 9 h.p., cheap to clear, taken in part payment of cars.—Rose, 28, Frith Street, Shaftesbury Avenue, W.

POWERFUL Tricar, 4½ h.p. Stevens, gas lamps and spares, machine illustrated in issue *The Motor Cycle*; £25.—132, Lumley Road, Horley.

6 h.p. Rexette Tricar, wheel steering, swift, powerful, fine condition; 29 lineas (cost £115).—Baldwin, 4, Hyde Park Corner, Southsea.

TORQUAY.—Light tricar, De Dion, Anglian two-speed, reliable; any trial; £25; free-seater or jewellery part offers.—Cox, 9, Victoria Par., Torquay.

REXETTE. 6 h.p., spring frame, water-cooled, two speeds; cost £110; practically new; bargain, £29 10s.—Motor, 110, Denmark Hill, Camberwell.

TEVENS Tricar, 5 h.p., water-cooled, two speeds, open frame, wheel steering, condition as new, very little used; £19 10s.—26, Norton Lane, Stockport.

EX, 5-6 h.p., Nala, all spares, accessories, can use as bicycle, tricycle, or forecar; 5 offers; buying car.—Lulford, Brooks & Walk, Homerton, N.E.

PEN Frame Tricar Chassis, complete with wheels, tyres, Hans Renold chains, two-speed gear, brakes; £8 17s. 6d. the lot. Booth's Motories, Halifax.

1 h.p. Light Tricar, sprung frame, fan-cooled, two-speed, free, studded tyre; £19 10s., or near.—Tricar, 63, Oaklands Road, Cricklewood, London.

PHENIX Tricar, coach-built, two-speed, chain drive, handle starting, good running order, numerous spares; £19 10s.—Palmer, St. Margaret's, Flitwick, Beds.

MARRARD Tricar, three-speed, handle starting, water-cooled, wicker body, good order; cash £21, or exchange motor cycle.—Bennett, Pawnbroker, Heckmondwike.

REXETTE, 8 h.p., spring frame, studded with tyre, lamps, and numerous accessories; this machine is in perfect trim, and will climb anything; for quick sale £35.—Wintling, Wealdstone.

h.p. W.C. Aster Engine Tricar, open frame, handle starting, two speeds, Renolds special chains, splendid condition; photo; any reasonable offer; accept modern motor cycle part.—P., 266, Buxton Road, Acclesfield.

h.p. Singer Tricar, three speeds, reverse, side entrance, seats three, four lamps, heavy Dunlop tyres, numerous spares, almost new; cost £160, genuine bargain, will accept £55.—Templeton, 535, Sauchiehall Street, Glasgow.

h.p. Twin Antoine, chain drive, Chater-Lea throughout, Oppermann three-speed gear box, Peter-Union tyres, coach-built seat, lamps, tools, spares, car control, equal to new; £29; motor cycle part.—J.S.R., St. Peter's Road, Kingsland, London.

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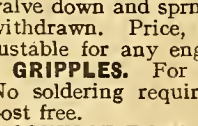
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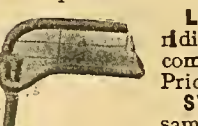


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HALIFAX.—5½ h.p. spring frame Rexette, £35; 8-10 h.p. Rexette, £47 10s.; 4½ h.p. water-cooled Bradbury, open frame, £35; 4½ h.p. Stevens, wheel steering, water-cooled, two-speed, £29 10s.; Rex two-speed tricar, £18 10s.; coach-built Rex tricar, £13 10s.—Halifax Motor Exchange, Westgate, Halifax.

A LIETTE Tricar, in splendid condition, 1908 model, 6 h.p., two speeds, climb anything, two brakes, very powerful, very well sprung, adjustable engine pulley, magneto by Simms-Bosch, twin back wheel, all tyres new, complete with tools and tool box; any trial; £45.—Apply, McLerie, Clover Hill, Bacup.

6 h.p. Open Frame Chater-Lea Tricar, two-cylinder w.c. Stevens engine, two bucket seats, three speeds and reverse, all Dunlop tyres, studded on back, in splendid order, good hill-climber; a bargain at £40, cost £120; seen and tried by appointment. — Wightman, 172, Broomwood Road, Clapham Common, S.W.

1907 6 h.p. Quadrant Carrette (tricar), light, coach-built, two speeds, handle starting, wheel steering, open frame, absolutely new condition throughout, perfect control, well sprung, fast, very powerful, thoroughly reliable; accept reasonable cash offer, or modern motor cycle and cash.—Tricar, 86, Colvestone Crescent, Dalston, London.

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MILLS and Fulford Forecar, 26 by 2, good, upholstered basket, double band brakes; £4 10s.—St. Edmund Garage, Northampton.

SIDECAR, upholstered, art cane, 26 by 2 Continental, with cushion and apron; bargain, £3 15s. — Philpott, Rangeworthy, Gloucestershire.

6 h.p. Twin Jap, free engine, Chater-Lea fittings, good condition, with fine sidecar, complete; £23.—Scraser, 234, Battersea Park Road, S.W.

SPECIAL Offer.—Latest 1909 genuine Chater-Lea spring wheel sidecars, £7 7s.; ordinary model, £5 5s.; list, stamp.—Silverthorne Automobile Co., Larkhall Lane, S.W.

MONTGOMERY Flexible Sidecar, new, slightly shop-soiled; listed £12 10s., to clear £10.—L. F. Harvey and Co., 6, Chapel Street, off Victoria Street, Manchester.

PHENIX Forecar Attachment, Palmer tyres, band brakes, coach-built body, upholstered green leather, with apron; bargain, £5 10s.—12, Bull Ring, Birmingham.

MILLS-FULFORD Castor Wheel (new), 26 by 2½ Clincher tyre, complete with fittings; cost £13 3s., accept £8 8s. — Smith, Crown and Anchor, Paul Street, London, E.C.

STAMFORD HILL.—Famous rigid sidecars instant delivery, none better, fit your machine, £4 18s. 6d.; Mills-Fulford, £4; forecar, side stays, band brakes, £4 10s.; wing guards.—128, High Road, Tottenham.

MILLFORD Rigid, 26 in. wheel, adjustable either side, detachable clip fittings, apron, etc., £3 10s.; also Montgomery, 1908, non-skid attachment, fit 26 or 28 in., either side, £5 10s., offers.—Babbage, 16, Rigault Road, Fulham.

FOR Sale, Phoenix forecar attachment, 26 in. wheels, coach-built chair, nearly new Grose non-skids, price £5; 2½ h.p. inclined Minerva engine, £2 15s.; nearly new trailer frame and wheels, Chater-Lea fittings, 15s.—716, Lea Bridge Road, Leyton, E.

MOTOR TRICYCLES.

SOCIABLE Tricycle (in splendid order), 5 h.p. twin Sarolea, handle starting, two speeds, free engine, metal-to-metal clutch, Longuemare, new accumulator, Renold chains (new), differential, Chater-Lea, wheel steering, side by side bucket seats, beautifully upholstered. X'll all springs, ample spares, Clincher A Won front (new), Continentals (side wheels), like new, motor cycle licence; £25.—Apply, Hughes, 5, Exeter Road, Ellesmere Port, near Chester.

MOTOR TRICYCLES.

23 h.p. Motor Tricycle, in new condition; £10.—Particulars, Hubbuck, 10, Little Tolt Street, Nottingham.

SINGER Tricycle, 2½ h.p., overhauled by makers; cost £100, price £14.—Dyson, 7, Sussex Road, Cheadle Heath, Stockport.

TANDEMS.

GENT'S Tandem, perfect; exchange for motor cycle, or sell at 10s.—F. Herbert, Groton, Boxford, Suffolk.

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PALMER.—8 h.p. Beaufort, tonneau, magneto, three speeds, reverse; £35.

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PALMER.—7-11 h.p. Daimler Waggonette, solid tyres, two-cylinder, four speeds; bargain, £19.

PALMER.—15 h.p. Flying Darracq, two-seater, four-cylinder, pressed steel; great bargain, £95.

PALMER.—16-24 h.p. De Dietrich, tonneau, four-cylinder, magneto, four speeds, highest grade; £110.

PALMER.—24 h.p. Hurst, side entrance, four-cylinder, Cape hood, magnificent order; £80.

PALMER.—15 h.p. Darracq, tonneau, four-cylinder, hood, screen; £120.—L. N. Palmer, 190, Mellison Road, Tooting. Telephone, 208, Streatham.

8 h.p. De Dion-Lacoste, new condition, tonneau body; £70; photo.—Stimpson, Wellesbourne, Warwickshire.

10-12 h.p. Humber, side entrance, splendid condition; £75.—Ayden Bros., 17, Blackstock Road, Finsbury Park, N.

STAMFORD HILL.—8 h.p. M.M.C., four-seater, three speeds and reverse, equal artillery wheels, nice condition; £35.

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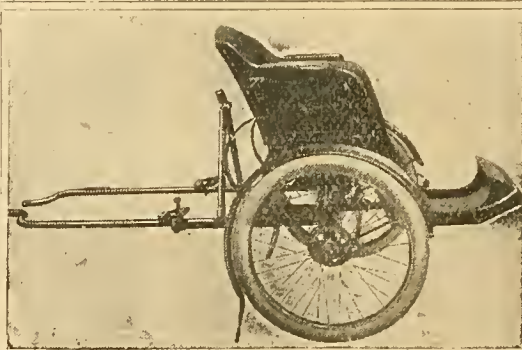
9 h.p. Riley Car, engine just done up, car being re-painted, hood, screen, two new tyres, and spare; any trial or examination; £90 for quick sale; private owner; no dealers.—C. Thompson, 23, Powis Square, Brighton.

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6½ h.p. Swift, De Dion engine, two-seater, suitable doctor's car; £45.—Below.

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ude's, Motor Mart, Powell Street, Halifax.

WANTED, two-cylinder engine, cylinders side by side, about 8 h.p., water-
oled, magneto preferred; also three-speed
ar box and cone clutch, for tricar; ap-
oval necessary.—Conybeare, New College,
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J. FAIR, the Motor Cycle Exchange,
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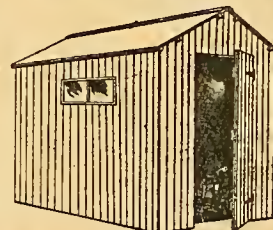
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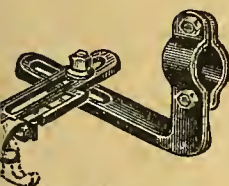
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HONEST Bargain.—Clement-Garrard 1½ h.p. engine, carburetter, silencer, petrol and oil tank, etc., complete, guaranteed; £3.—H. Dew, Lullingstone, Eynsford, Kent.

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PREMIER Pattern Searchlight, with extra large generator, new, 24s.; E.I.C. plain coil, new, 16s.; large Longuemare carburetter, £2, bargains.—H. Euryalus, Bournemouth Road, Parkstone, Dorset.

GNAVITER Rubber-canvas Belting, ½ in., 10d.; ¾ in., 1s. 1d.; 1 in., 1s. 4d.; 1½ in., 1s. 9d. per foot. We will allow 3s. each for a few old belts in part payment to popularise.—Motor Exchange, Westgate, Halifax.

GRIPWELL Motor Cycle Brakes, to fit any make machine, delivered from stock; price 15s. 6d.; any spare parts supplied.—Sole manufacturer, W. Cocks, The Durham Motor Works, opposite station, South Ealing, W.

READERS having Photographic Apparatus for sale should advertise in "Photography and Focus" Emporium; ½d per word, minimum 9d.—Address, "Photography and Focus" Offices, 20, Tudor Street, London, E.C.

CONTINENTAL Cover, Model de Course, 26 by 2½ new; Continental cover, 26 by 2, as new; steel studded leather covers, 26 by 2½; front wheel, 26 by 2½; sell or exchange good bicycle.—1,382, The Motor Cycle Offices, Coventry.

CAPE Hoods direct from the manufacturers from £3 10s.; wind screens from £2 10s.; sample material and measurement forms on application; best house in the trade.—Universal Motor Co., 37, Chestergate, Stockport.

NEW M.M.C. Flywheels, finished, 80 by 80, 5s. pair; connecting rod stampings, 9d.; nickel steel valve stampings, 9d.; 2½ h.p. crank case, finished, with flywheel, £1; crank case, without, 10s.; approval.—Nicholson, factor, Rushden.

PUMFREY Clutch, cost £5, slightly used, 30s., suit passenger mount, starting handle, and lever; new wicker bodies, best finish, 15s. 6d.; driving aprons, 5s. 9d., carriage paid.—Nevett, 10, Barnsbury Road, Islington, London, N.

THREE Speeds, free engine pulleys, £2 5s.; adjustable and free engine pulleys, £1 15s.; free engine pulleys, £1 5s.; adjustable pulleys, 10s.; all guaranteed, 1909 models.—New Nonpareil Motor Fittings, Ashtree Road, Stinchley, Birmingham.

TERMINALS made of heavy gauge copper, high and low tension; no need to run nut or screw right out to make connection; self-locking; no lock nuts or screws; send 7d. P.O. for one dozen assorted.—Rouse Bros. and Coles, 576, Streatham High Road, S.W.

F.R.S. Lamp and Generator, cost 56s., used once, 20s.; two other lamps, with separate generator, 15s.; steel-studded Brooks, on Continental, 26 by 2½, cost 54s., guaranteed perfect, 20s.; N.A.B. spring seat-pillar, suit Triumph, 5s.—1,379, The Motor Cycle Offices, Coventry.

MINERVA Back Wheel Hub and Belt Rim, with back-pedal brake, Bowden brake, pedals, and cranks, Osborne four-speed pulley, three accumulators, with wiring, and four plugs, two plain coils, contact breaker, R.O.M. contact breaker, all these new and cheap for cash.—Rev. Barnard Smith, Carlton Colville, Lowestoft.

HAVING Fitted Magneto, have for sale Blumels 20 and 25 amp. hour accumulators, 10s. each; Nilmelior coil (single), new platinum, 10s.; imitation mahogany accumulator case, 4s.; voltmeter, hunting style, 3s. 6d.; large fibre wipe, Panhard style, with spring, etc., complete, except baseplate, 5s.—Godsman, Brucklay, N.B.

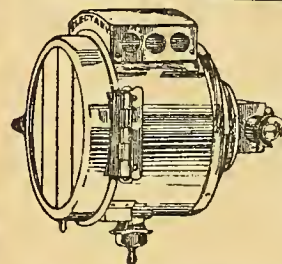
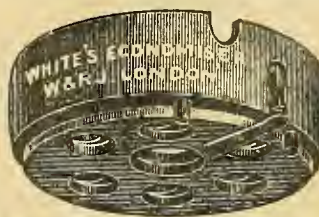
NEW R.O.M. Contact Breaker (less cam), 14s.; handle-bar, Bowden twist handle controls, with Bowden Silver for the throttle spark, 9s. 6d.; Lucas Acetylene lamp, as new, 7s. 6d.; Main-Hilton carrier stand, 5s.; plain coil, less cover, 3s. 6d.; belt rim, 18in. by 2½in., 2s.; headlight (only), acetylene, 7s. 6d.; large Longuemare carburetter, 15s.; Quadrant hand brake, 4s.—Motor, 8, Montagu Terrace, Edinburgh.

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Which would you rather do? Push your machine till you are BLACK in the face before it will fire, or start the instant the exhaust valve is dropped, by fitting WHITE'S ECONOMISER? This INVALUABLE device gives you LESS AIR at starting, and MORE AIR at high speeds.

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4/- each for all Carburetters



Nickel-Plated, 31/-

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Complete with finest generator.

PLEASE READ BETWEEN THE LINES.

Mirror-Lens Lamp stood much alike from illustrations, don't they? But when the details of construction are compared, then the weak points of the shoddy "piece-work" Lamps are exposed.

In the "ELECTARY" PROJECTOR such points as the design of hinge, clip, divided glass, and even the Mirror-Lens itself, have been carefully studied, and no expense has been spared in producing a Motor Cycle Lamp which no other Lamp can approach—NO MATTER WHAT NAME IT IS KNOWN BY.

Do not buy your new Lamp—do not even part with your old one (the weak points of which you are at least familiar with) in part exchange for something which may bring you fresh trouble—until you have had an opportunity of comparing, for yourself, the "ELECTARY" with any other of any make. Don't forget—"You can't get something for nothing."

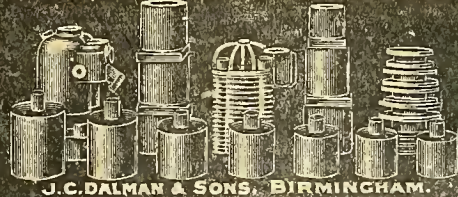


6/6 each.

THE Accessory Novelty at the Stanley Show.

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REX WHAT CASH OFFERS. REX

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IN ADDITION TO TYRES GNAVITER I.R. AND CANVAS BELTING

Best British Make.

½-inch ..	—	10d. per foot.
¾-inch	1/1 per foot.
1-inch	1/4 per foot.
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Plain or serrated. True and deep section
Sole Agents, Wholesale and Retail:

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MISCELLANEOUS.

31 h.p. Auto engine, 57s. 6d.; 3½ h.p. Fafnir w.c. engine, £4 10s.; honeycomb radiator, 30s.; two-speed gear for belt, 25s.; No. 6 Chater-Lea frame 58s. 6d.—J. May, Clapham Road, S.W.

"THE Lens is A1, and the improvement in the lamp's projective powers extremely satisfactory." Why ride in semi-darkness? Plano-convex lenses, 2½ in. to 3½ in., 1s. 9d.; 3½ in., 2s.; 4 in., 2s. 6d.; 4½ in., 2s. 9d.; 4½ in., 3s.; 4½ in., 3s. 6d.; 5 in., 4s.—Payne, Metchley Lane, Harborne.

CLEARING Out.—5½ h.p. Oldsmobile car, with leather hood; 3½ h.p. Centaur motor cycle, free engine, chain drive; B.S.A. motor cycle, with 2½ h.p. F.N. engine, good as new; 2 h.p. Minerva, Perry's fittings; all guaranteed good order; the lot £50; will sell separate, or exchange small four-seater.—Motorist, 256, Burley Road, Leeds.

MAGNETO (twin), S.B. pattern, firing at 180, new, £3, suitable car; two trembler cycle coils, 6s. 6d. each; two 8 a.h. accumulators, 4s. each; two-way switch, 1s. 6d.; double ratchet tank levers, new, 2s.; twin wipe contact and cover, 7s.; Longuemare car carburetter, pattern N., for 12-16 h.p., 15s.—Mackenzie, 46, Minto Street, Edinburgh.

MOTOR Driving for Beginners.—Read "A Catechism of the Motor Car," containing questions and answers explaining the construction and working of a modern motor car, by J. H. Knight; second edition, revised, with an additional chapter on motor cycles; 1s. 8d., post free.—Crosby, Lockwood, and Son, 7, Stationers' Hall Court, E.C., and 121a, Victoria Street, S.W.

KERRY-ABINGDON Tricar Frame, brand new, £10 10s.; two motor cycle engines, 3½ h.p. £2 5s., 2 h.p. 25s.; Chater-Lea sidecar, upholstered, £4 10s.; lightweight motor cycle, 1½ h.p., wants repairing, £3 5s.; Salisbury headlight, plated, 35s.; Chater-Lea-Peugeot motor cycle, 3½ h.p., with Chater-Lea sidecar, £23; will exchange for anything useful.—Bowyer, Stansted, Essex.

STEEL Studded Cover, good condition, 8s. 6d., 26 by 2; spring seat pillar, 2s.; switch handle, 1s. 6d.; Quadrant oil tank, with oil pump, 2s.; Hellesden flash dry battery, new, 4s.; another, 2s.; 12 amp. Prested, fully charged, 4s. 6d.; 15 amp. Brown, 3s. 6d.; 12 amp. Quadrant, nearly new, 5s. 6d.; new Fuller plain coil, 6s. 6d.; musical box, cost £14 14s., sell 50s.; would consider motor cycle, 2½ to 3½ h.p., in exchange for above goods; would give new push bicycle or cash adjustment for good machine.—Harding, Halberton, Tiverton, Devon.

L.A.C. Bargains.—De Dion w.c. engine, tanks, radiators and carburetter, £4; Oppermann three-speed gear and 8 in. clutch, £4; Oracle 80 by 80 engine, fitted complete with Mabor clutch, H. Longuemare, Bowden handle-bar controls, Sharpe silencer, nearly new, £6; Brooks antivibratory seat, with saddle pillar for tricar, as new, 20s.; Advance pulley, new, latest, 12s.; Rex 3½ h.p. engine, recently rebushed, £2 10s.; Chater-Lea loop frame and tank, new, £3; 76 by 3 by 3 back chain wheel, 6s.; a quantity of new and second-hand motor goods at equally low prices to clear; state your requirements.—Oracle, 187, Gray's Inn Road, 'Phone, 863, Holborn.

STAMFORD HILL. — Spare accumulators, 5s. 6d.; four window goggles 1s.; heavy lined gauntlet gloves, 5s.; leather knickers, 12s. 6d.; leather caps, 2s. 6d., various; leather lined motor overcoats, new, 25s., cost 50s.; Chater-Lea 18 in. frame, tank, forks, nub, £2 5s.; 3½ h.p. engine, 40s.; 3½ h.p. Hurst engine, new, £4 10s.; 6 h.p. twin Jap, £9; tricar body, new, upholstered, 22s.; beaded rims, new, 26 and 28 by 2 and 2½, 1s. 9d. each; 40 amp. Peto and Radford accumulators, new, 16s. 6d.; 20 amp., 9s. 6d.; speedometers, 6s. 6d.; leather D.B. jackets, new, 10s. 6d.; motor cycle tanks, from 6s. 6d. each; splendid V belting, from 8d. per foot; carburetters—3½ h.p. spray, 12s. 6d.; 2 h.p. ditto, 9s. 6d.; twin Kerry, 16s.; new non-skid Desclee tyres, 17s. each; Midget plain coils, twins, 10s. 6d.; single, 6s. 6d.; 3½ h.p. Rex engine, £3 18s.; latest motor cycle searchlight, new, complete, 25s.; 4 in. steel mudguards, 1s. 9d. pair; 3½ in., 1s. 6d. pair; tricar wing mudguards, 6s. 6d. pair, very large, 9s. pair; long handle-bars, dropped ends, 7s. 6d.; over-back seat-pillars, best plating, 4s.; 1½ h.p. Le Reve engine, new, 35s.; list just ready, free.—122, High Road, Tottenham.

BELL Tambourongs

(Reg. Des. No. 531871.)

"Sweep a clear road."

This TREMENDOUS IMPROVEMENT consists of a brass gong suspended by rubber to a steel frame to obtain the utmost resonance. It sounds like a FIRE ALARM. Works on the now well-known system of the "Tambourong."

Price 2/- each bell.

„ 1/6 „ ordinary.

MOTOR CYCLISTS—write for

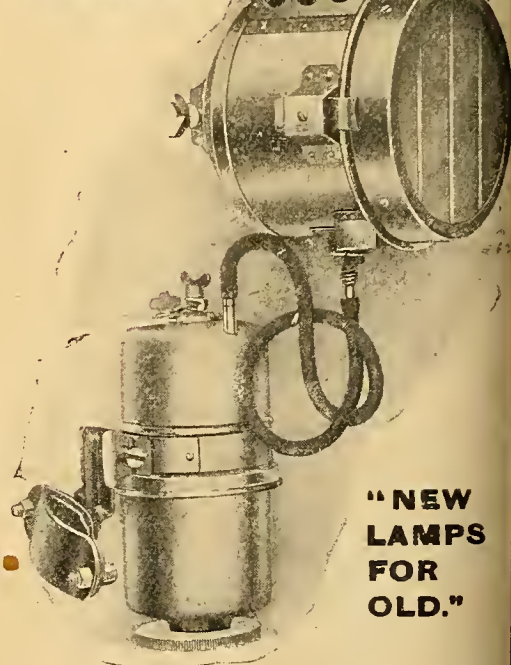
Pocket Soldering Outfit	3/6
Oleo Magneto Plug, Type No. 1D ..	3/-
Oleo Terminal	1/-
Prince Pocket Lamp and Cigar Lighter	2/6
Vulcan Cigar Lighter (lights in a hurricane)	1/6

LEO RIPAULT & CO.

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PREMIER

EXCHANGES.



"NEW
LAMPS
FOR
OLD."

YOUR lamp is unsatisfactory. It MUST be, if it is not a PREMIER—even if it is one of those imitations which are mendaciously claimed to "the original." But we will accept your old lamp part payment for a PREMIER. Send it here and we will quote you a liberal allowance. Don't have make-shift lamp—have a PREMIER. Your lamp may depend upon it.

Price complete, 30/-; Lamp only, 24/-; General and Bracket, 6/-; Extra large ditto, 8/6.

We have a few second-hand and shop-soil PREMIER SEARCHLIGHTS. List free.

The PREMIER MOTOR Co., Ltd.

ASTON ROAD, BIRMINGHAM.

THE MOTOR CYCLE

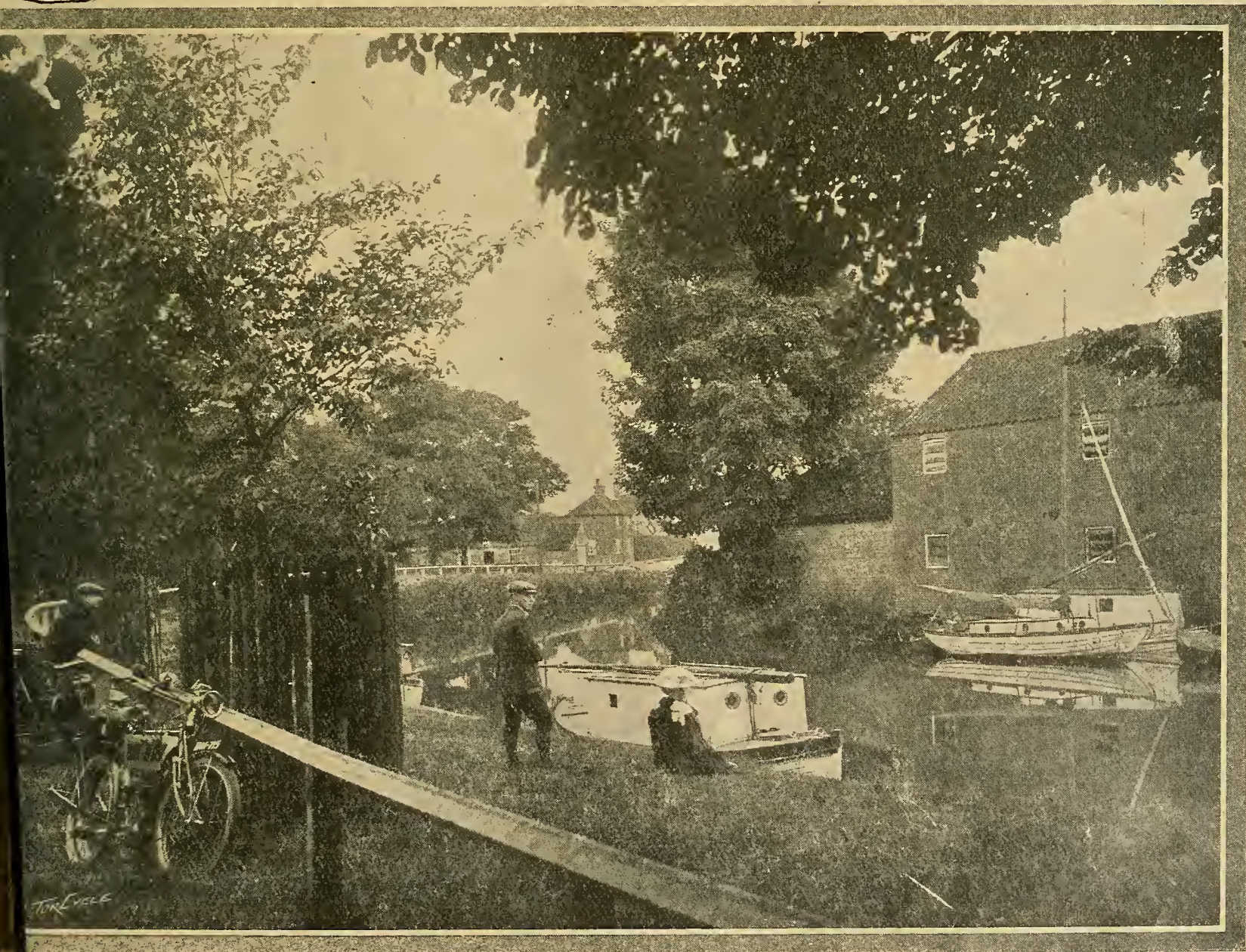
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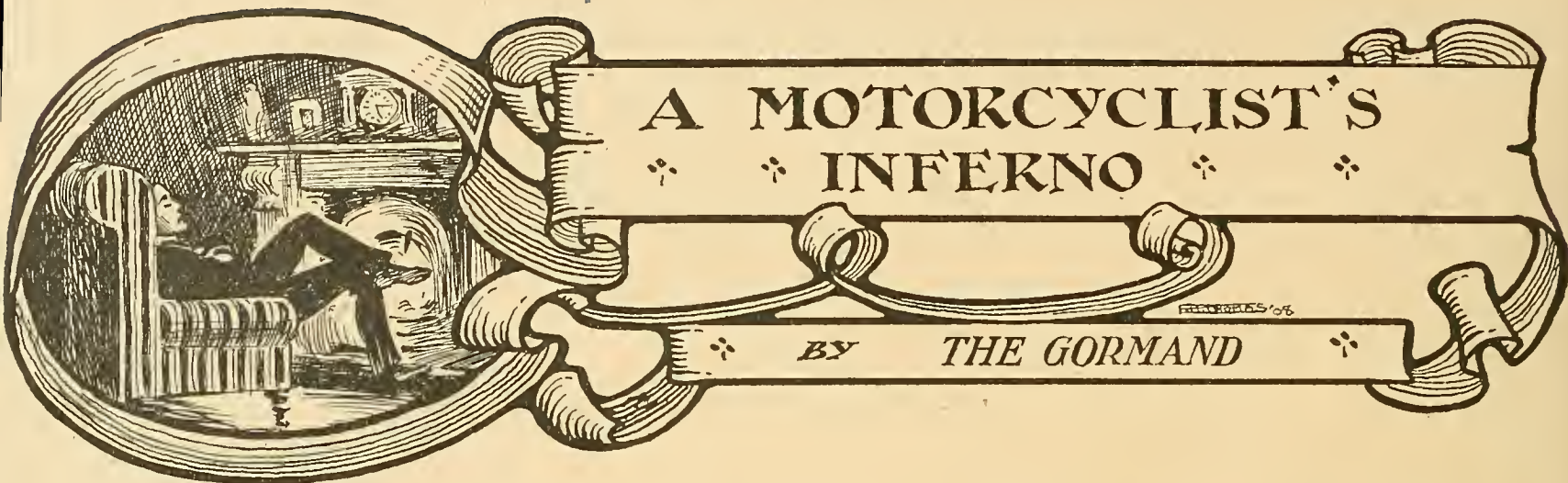
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ADDRESS—20, TUDOR STREET, LONDON. E.C.



MEMORIES OF A SUMMER TOUR. A REST BY THE WAY.



AS I entered—if you can call being literally pitchforked down a one in four grade by a couple of little red devils, an “entrance”—I saw Satan himself in the ante-chamber. He was in the act of swigging off a stiff noggin of flaming petrol, while several attendant sprites were conducting experiments with a patent fuel, requiring attention only once in twenty-four hours, and therefore promising to release a horde of stokers from the infernal regions for even more congenial duties on earth.

“Sit down,” he said pleasantly. “You’ll find the right-hand chair more comfortable; it’s lagged in asbestos. The ledgers will be along in a minute, and then we can see if you have come to your proper destination.”

I sat down very gingerly, after carefully selecting the right-hand chair; phew! it *was* hot—worse than pushing a single-gear tricar up Birdlip in August. The ledgers arrived—patent asbestos paper, binding to suit.

“H’m!” sniffed Satan, rather disappointedly. “Your worst crime seems to have been an exaggerated enthusiasm for motor cycling. I’m afraid we shan’t be able to keep you here very long. Four convictions for exceeding the speed limit. Murders—seventeen poultry, two cats, eight rabbits, and a weasel. Lies—chronic, extending over a period of nine years; defendant has consistently denied ever having had any trouble on the road, and has habitually multiplied his average speed by two and a half when swanking about it at the club. Sentence: Three weeks on the road in our special motor cyclists’ department.”

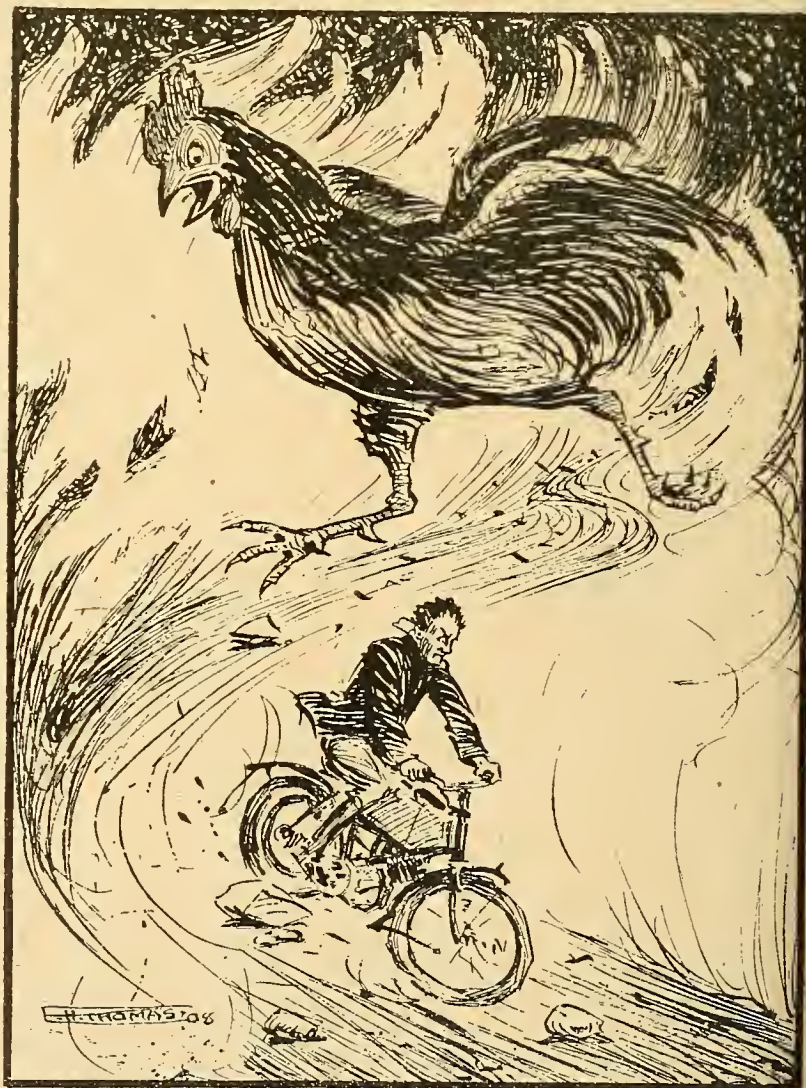
The asbestos chair was instantly whisked from under me by a hideous little fiend with a vermilion countenance, and with much whisking of forked tails and prodding with red-hot pitchforks I was unceremoniously hustled down a series of lengthy corridors, which seemed to be constructed of cast-iron in a state of incandescence.

Introduction to the Garage.

Finally we arrived at a huge door, on which was painted the word “Garage.” A police inspector was standing in front of it; at least when I say “standing” I should explain he was dismally hopping first on one leg and then on the other—a proceeding I was fain to imitate. He was disconsolately examining a large stop-watch, which had an incandescent stop-trigger, and refused to stop under any circumstances. He informed me he was not to be released until he had secured a hundred consecutive convictions, all for a speed of 26 miles 6 furlongs an hour over a measured hundred

miles. So far his three chief difficulties had been that none of the infernal motors would go; that his watch wouldn’t respond to the stop; and that it was difficult to persuade a bench to convict when they were drinking flaming petrol by the two-gallon can all through the prosecution. He hoped to be more fortunate with me.

My attendant devils blew open the garage with a charge of dynamite, and on entering—unceremoniously as before—I found a 1¼ h.p. motor bicycle of very



“Suddenly a hoarse cackle sounded in my ear . . . the leviathan chicken had descended from the garage roof, and was in literally hot pursuit.”

old pattern. Its appearance did not inspire confidence. Both its wheels were egg-shaped—owing to the “hellish” nature of the roads. The tyres were down; the belt was covered with grease; and I could see the naked piston through a large chunky hole in the cylinder wall. Looking out through the far door of the

A Motor Cyclist's Inferno.—

garage I could see the road on which the trial was to be held. It looked just like an ordinary road would look if you lay on your tummy and gazed at it close to through a strong magnifying lens; I should have compared it to the ice screeze on a Swiss moraine, if it hadn't been so confoundedly hot. Along each side of the "road" was a blazing ditch, filled with a river of petrol running at sixty miles an hour.

The Spirit of the Dead Chicken.

"That confounded hen is the real terror!" murmured the inspector dejectedly, craning his neck up to look at the roof of the garage. My eyes followed his, and I saw waiting on the roof of the garage a most Brobdingnagian chicken, about 30ft. high. A little red devil was grinding in its beak with carborundum powder, and another horde of fiends were engaged in busily filing its claws nice and sharp.

Well, to cut a long story short, they put the inspector in the ditch, ready to time me, and his blood-curdling yells will ever remain in my memory. Then they set me astraddle of the motor bicycle, and started me by jabbing with their pitchforks—well, just above the saddle. In such an atmosphere the machine scarcely waited to fire till I had dropped the valve, and she set off literally as if all the devils in hell were after

held tight, and hoped my fiery steed would soon bring me to the end of the trial. Suddenly a hoarse cackle sounded in my ear, and, glancing backwards, I saw that the leviathan chicken had descended from the garage roof, and was in literally hot pursuit, striding along at fifteen yards a stride. I saw the red light glint on the polished edges of its newly-ground jaws, reflected from the bloodshot whites of its hungry saucer eyes, and heard the metallic tang of its sharp claws on the road, flinging up the boulders astern in a thunderous shower. It was poor consolation that my front forks and silencer would probably give it indigestion if it tried to gobble me, as was its evident purpose. Suddenly there flitted across my agonised remembrance the behaviour of sundry chickens and rabbits as pursued by me in happier days on earth, and I began to double first to one side of the road and then to the other. With an almost imperceptible sway of its steering gear the gigantic chicken stealthily followed my every lurch; and finally I imitated the rabbits I myself had so often terrified, and turned, machine and all, into the flaming ditch. A colossal explosion followed, and I found myself back in the garage again. To my keen sorrow, there was the detestable old machine, apparently none the worse for the catastrophe—well, it scarcely *could* have been any worse than it was before. The inspector, looking rather singed about the gills, was there, too—still hopping, and still tinkering at his obstinate watch.

"Ugh! that infernal chicken!" he said shivering. "I wish it would get one of you, for I live in agony lest it should dip into the ditch for me."

That's Not a Standard Machine!

"Hill-climb just going to start!" announced a sort of foreman devil. "That's not a standard machine!"

It certainly wasn't; but even if it wasn't standard the most jealous competitor could hardly have been particular about seeing it disqualified.

"Tune it up!" said the foreman devil sharply. "You will be disqualified afterwards, but we all want to see you do fastest time." So I and the bike were pitchforked out at the door and round the corner double quick. I should like to pay one compliment to the way they manage hill-climbs down below; they waste no time about the preliminaries. I got to the foot of the hill, and looked at it. I could see the finishing post vertically over my head. There were V corners every three yards, and the first pitch was about 1 in 2 1/4, stiffening shortly to 2 1/4 in 1.

The inspector was fumbling away with his watch, so they stuffed it into his mouth and rammed it well down with their pitchforks. "Off," said the foreman devil. I had intended to flatly refuse to make a start, but the horde of fiends put torches to my coat tails, and jabbed away with their accursed forks. Half fainting, I toiled up the infernal grade, pushed, prodded, and pricked, until I reached the seventeenth V corner, where the road began to bend over backwards on top of my head. They prodded me a little way up this pitch, and then, machine and all, I fell back with a sickening crash to the bottom of the hill, only to spring up like greased lightning from the red-hot road.

There was a hurricane of cheers. "Fastest time on record," quoth the foreman devil, smacking his lips. Then—

"Consumption test comes next," he said cheerfully. Promptly a minor devil seized a long file, and knocked



... "I heard a fearful roar, and saw a motorist coming down the road, performing a portion of his purgatory"

her. Blue-hot gases beat out of the hole in the cylinder against my shins; the glowing handle-bar skinned my hands in a yard; and the machine bumped with its flat tyres on the great boulders of the road just like a ball rolling off a bowling green down a flight of steps. However, I was safely past the inspector, and knew there was no other policeman ahead, so I

A Motor Cyclist's Inferno.—

a ragged hole in my tank, out of which a stream of petrol issued, and immediately caught fire.

"Off!" cried the foreman devil, and they all began to run after me. Needless to say, my fuel supply was exhausted in a few hundred yards. They dragged me off my saddle and down to the ditch, forcing me to make a cup of my hands, dip them into the blazing river of petrol, and so transfer fresh supplies to my tank. As I was thus occupied I heard a fearful roar, and saw a motorist coming down the road, performing a portion of his purgatory. He was on a 100 h.p. racer, with four tyres flat, and as he was doing about ninety miles an hour the magnificent aplomb with which he kept his hurtling leviathan out of the flaming ditches further intensified my sincere admiration for a clever motorist. I was rather pleased to notice my quondam tormentor, the gigantic chicken, labouring breathlessly about half a mile in his rear. I was soon hoisted into the saddle again, and as soon dragged down to the flaming ditches for fresh supplies, but with scorched arms and blackened face I presently reached the other end of the track, and was told I had set up the record figures (for hell) of two gallons per yard.

Questions and Replies.

"Theory of the internal combustion engine comes next," monotoned the chief devil. "Search his pockets

before the examination." They ran hot spiky talons through all my pockets, and unearthed a copy of "Hints and Tips for Motor Cyclists," which was gleefully consigned to the flames. They then slammed me down into a chair, shoved asbestos paper and pens before me, and the foreman recommenced his monotone: "Dear Sir,—I have a 3½ h.p. 1908 Gaspipe, which won't go. I enclose stamped sixpenny telegram form, and shall be pleased if you will kindly put me to rights before 11 a.m., as I have entered my machine for the twenty-four hours' run of the Seven Dials Motor Cycle Club, which starts from the Monument at noon. Thanking you in anticipation, Yours truly, John Smith."

The pen hissed as I dipped it in the inkpot, my brain reeling at the magnitude of the problem.

* * * * *

"Confound it, Jane!" I said angrily; "what the dickens have you made up such an enormous fire for on a day like this?"

"Please, sir, it came on to snow just after dinner," said the maid meekly, "and I thought it best, as you'd dropped off to sleep."

"Snow!" I murmured incredulously, and, rushing out, I stood bareheaded amid the falling flakes, mournfully registering a vow to be content with *one* helping of pudding next Christmas Day.

A TWO-SPEED TWIN-CYLINDER BICYCLE

LAST March, Mr. W. Bates, of Leeds, had a special motor bicycle built for use with a Montgomery sidecar, and it is the subject of the present illustration. The builder was Mr. Herbert Dennell, and the specification of the machine is as follows:

- Frame: H. Dennell's special design.
- Engine: 4½ h.p. Minerva twin with M.O.I.V.
- Carburetter: Brown and Barlow, handle-bar controlled.
- Drive: rin. belt; Roc two-speed gear and free engine.
- Saddle: Brooks Broo.
- Petrol tank: Capacity, 1¼ gallons.
- Oil tank: Capacity, 1½ quarts.
- Wheels: 26in. Clincher-Dreadnought tyres.
- Entirely handle-bar control (thumb slide for spark advance).

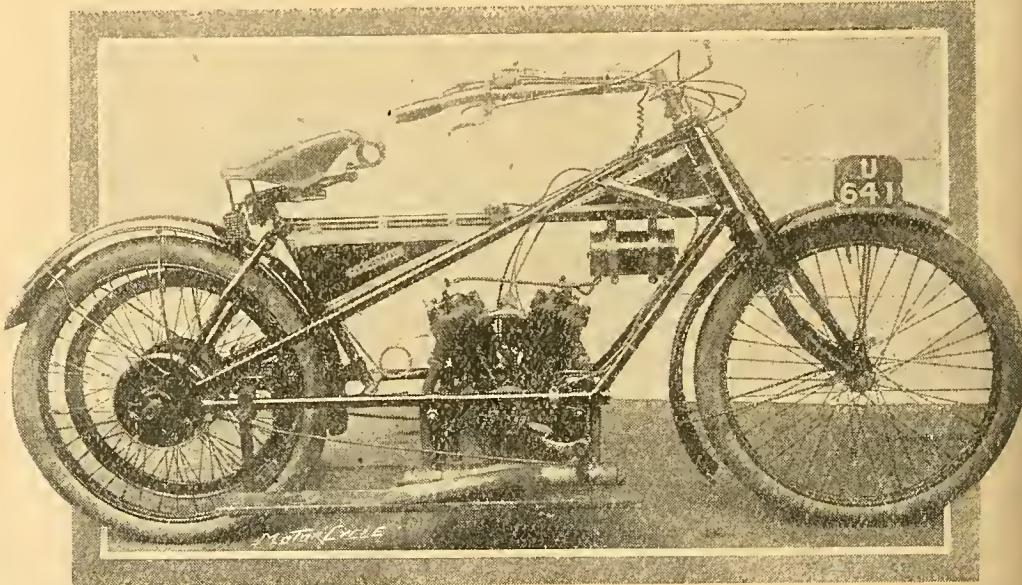
The photograph was taken before the bicycle was quite completed, and shows it with temporary footboards and minus the belt. Mahogany footboards are now fitted, secured by spiral springs to the supports, and there is an accumulator box bridging them in front of the engine.

In sending us the particulars, Mr. Bates says: "Perhaps you may think the accumulator ignition rather old fashioned, but I found it extremely reliable on my last mount, and up to the present on this. I can any time quickly convert to magneto if ever I wish to do so. I always carry two accumulators, and keep them in the pink of condition by greasing the terminals and frequent charging."

The owner tells us he has climbed Kirkstone Pass both ways on the high gear by himself, and on the low

gear the machine will take the sidecar and passenger up almost any hill.

In our opinion, the frame is cleverly designed, for without sacrificing rigidity the frame is very low, yet the tank capacities have not been absurdly curtailed. For constant use with a sidecar, there is no need to



A Dennell Twin-cylinder Two-speed Bicycle, specially built for sidecar work.

scheme too closely for narrowness of tread; therefore the designer has been able to keep all frame tubes quite straight, and the two-speed gear makes pedalling gear unnecessary.

Motor cyclists who are contemplating the purchase of new tyres, saddles, or belts, should send to Maude's Motor Mart, Tyre Department, Powell Street, Halifax, for a copy of their new catalogue.

A DUST UP.

It was a summer's evening,
I hied me home to tea,
Astride my twin, which all the day
Had borne me faithfully.

The shades of night were falling
And ne'er a lamp had I,
Considering the circs. I thought
The limit I'll defy.

I opened up the throttle,
The spark advanced some more,
The purring of the engine then
Became a steady roar.

What ho! thought I, this is a bat,
I guess there's few could stick it,
And if they could, 'one thing's a cert.,
There's nobody could pip it.

But while I hummed along the straight
At speed enough to blind me,
Methought I heard a hooter's blare
From somewhere close behind me.

I lay my head behind the bars
And with the levers meddle,
In spite of all a wheel appears
Against my offside pedal.

He's past, it's hopeless, I am done!
My word, what is he riding?
I never thought there lived the crock
Could give me such a hiding.

At night I lay awake and think,
And in the morn I rise,
I creep into the building
Where the beaten speed-iron lies.

But I am not discouraged,
I'll wait for him again,
I've seen him once or twice along
That self-same country lane.

I face me up my contacts,
Exhaust valve springs renew,
Good strong ones put I on this time
With curses not a few.

The opening of the inlet valves
I now reduce a bit,
'Tis speed just now; for hill-climbing
I do not care a whit.

I lay in wait the same old place
Three nights I wait in vain,
The fourth, Ah! what is that I hear?
The same pip-pip again.

I quickly mount, again his wheel
Creeps up upon my right,
But now I've got a bit in hand
There's going to be a fight.

I touch the levers, now his wheel
Seems stationary there,
I hold him then; and still I have
A little more to spare.

Another notch, his wheel begins
To slowly backward go;
I tuck my knees close in and hold
My goggled headpiece low.

Another mile, a quick look round,
To see what he is worth,
He's not in sight, he's pipped, my crock's
The greatest thing on earth.

—T. E. HENINGHEM.

THE FEVER.

IT was not really a good motor cycle, although he had tried hard to persuade himself that it would be. You see, in the first place, the makers had not intended it to be one. They were ambitious, and only made what they called tricars, and what their customers had pet names for. However, after much consultation with she of the purse, he bought this machine (a 1904 pattern), leaving the seller with a light heart and a fixed conviction that the man knew not the value of that which he had sold.

Acting on the advice of a friend who knew something of motors—having once almost read a motor paper found in a railway carriage—he bought two new front tyres and painted the wicker basket.

Only one ride took place on the machine as a tricar, because, being only a woman after all, and fearing the strain on his physique, she flatly refused to go again. He was annoyed, for, as he said, the best driver may make a mistake, and oil is so very easy to forget! They kept it in the cellar, as it was good practice for Harry to take the machine to pieces and put it together again, *when* he got all the bits up in the street.

Emerged with a Motor Bicycle.

After many weeks of muttering in the bowels of the earth, and having bought two sixpenny cans of grey paint, he emerged with a motor bicycle, but minus the two-speed gear. He had tried to forget that, and was

satisfied with a belt. Chains were dirty, and the makers of his tricar had evidently great faith in them not stretching, because no provision was made for that happening.

Having no pedalling gear, he had to make what he called the running mount, although for the first half hour he ran from one knot of interested people to another, having forgot to turn the petrol on.

He also had only one brake, a front rim old bicycle pattern, which was rather liable to rip the spokes out if not used in a careful manner, but, as he explained to a friend, one can always drag one's feet on the ground to stop, although this was hardly necessary with his machine.

Every Saturday I saw him with heated brow going or returning, always hot and always returning to his nest. But one Saturday he went out wheeling the machine minus the belt, and, lo and behold! one or two weeks afterwards a sidecar with a brand new 1908 magneto motor bicycle stood outside his house.

He had evidently learnt his lesson, and decided to pay well for a decent article; no more second-hand conversions for him, and now the laugh is on his side.

I must read my *Motor Cycle*, save my pennies, and do likewise. His tales of non-stop runs amid lovely scenery, the open road, and the conquering of precipitous hills have made me sick with envy. I believe I have the fever myself.

GEO. F. COLE.

TAKE a motor cycle out to the Gold Coast! Mad idea! What about petrol?

Would the engine keep cool in that climate? These were some of my motoring friends' comments when I broached the idea; my non-motoring ones only appeared to think I was a little more insane than the average motor enthusiast. However, I happened to have been to the Coast and they had not, so I stuck to my idea, and the next thing was to cast around for a suitable machine for a land where in many places the best road is a sandy bush path about a foot wide. Where you must be ready and able to pull up all standing at any minute to avoid going over a precipice, or breaking up your machine, and, incidentally, your neck, in a wash-out on the road; where the temperature is 140° to 160° in the sun; and where repair shops and public-houses are not.

I decided that I could not do better than a $3\frac{1}{2}$ h.p. Triumph, and need hardly say that I have never regretted my choice. The only alteration I made was to have a Fit-all two-speed gear put on, giving ratios of four and a half and nine to one.

At the end of last year I came out here, and had the luck to be stationed at Accra, which possesses the best roads in the colony.

Landing the Motor Bicycle in a Surf Boat.

Landing was an anxious moment, as I watched the surf boat with the Triumph on board come rushing on the crest of a big roller. This is the only way of landing here, and though the native canoe men are experts with the paddle, upsets are frequent, to the detriment of cargo. However, luck was with me.

Less than a week after I arrived came my first



long ride, to visit a sick man thirty miles away. Dear reader, don't laugh. Thirty miles is a big undertaking in this country, and ordinarily means going in a hammock slung on a pole with four hammock-men to carry you, and a small army of baggage-carriers, and it means being at least three days away. However, Bessie (don't be nervous, I've christened my machine Bessie) and I started off with nothing but a small grip-sack and a flask of—er, lemonade.

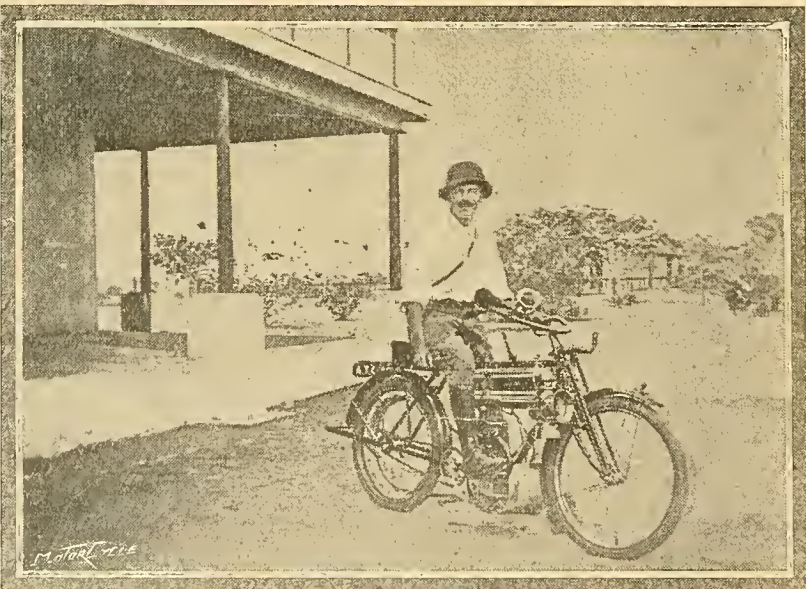
I had been warned that the last seven miles of my journey were up an absolutely unclimbable hill, so I was keen on giving the change-speed gear a good testing.

The first twenty miles or so were on a fairly level road, through rather uninteresting bush country, and the surface was so good, for out here, that I averaged nearly eighteen miles an hour; this on a $3\frac{1}{2}$ h.p. in perfect running order will give some idea of the road. At any moment one may come on a hole about two or three feet deep, washed out by the rain, not to mention natives rolling huge oil-casks, who, on hearing the horn, leave the cask to its own devices and incontinently "go for bush." They describe Bessie as "them devil bicycle that fit to go by himself."

At the foot of the hill I experienced a puncture. Having repaired this amid the usual crowd of admiring natives (one might be in England, only that no advice is offered), I got going again.

Gradients of 1 in $3\frac{1}{2}$.

Thank heaven for that two-speed gear. First comes a hairpin corner of the most awesome description, road about 5ft. wide, prickly pear on one side and a young precipice, with more prickly pear waiting at the



The author, A. G. Eldred, medical officer, Gold Coast Colony, Accra. Even on a motor cycle it is too hot for a coat on the Gold Coast of Africa. Mr. Eldred is another colonial motor cyclist who favours the general adoption of change speed gears.



Crossing a river. Observe native method of carrying baggage. The natives carry everything on the head, and there is a story of a native woman who went into a post office to get a penny stamp. This stamp she put on her head, and a large stone on top to keep it from blowing away, and so went home.

Motor Cycling in West Africa.—

bottom, on the other. Then a stretch of about one in, very loose and stony, and then sharp to the left, and the most awful looking hundred yards I have ever seen—loose, stony, and a grade of one in three and a half (this is not estimated, but surveyed). Jessie did not seem very worried about it, however, and certainly had a bit up her sleeve at the end.

After that I felt equal to anything, and though there were one or two bits nearly as bad, the rest was comparatively mild, and I finished the last mile or so on top gear. Total time for the twenty-eight miles, 3.35m. I could have had a steak on the cylinder by then, but no overheating. All this with the temperature about 140° under the sun.

On another occasion I had to go to a village in the bush, the only road (!) being a narrow sandy path led by natives, and about ten inches wide. I had to ride the whole distance (ten miles there and back) on the low gear, with my feet hanging ready to support myself each time the machine jibbed on the loose sand. Mechanically, I have had a most uneventful time. I used to be bothered with dust choking carburetter, but cured this by taking pedals off and fitting footboards, which prevented the sand from rising. Both the Triumph bicycle and Fit-all gear have behaved splendidly during the eight months I have been in Africa. I oil the engine every twenty miles, and have never had the slightest symptom of overheating, even after 100 miles on low gear in the hottest time of day. In petrol I average eighty to ninety miles per gallon. I find the engine requires taking down, piston scraping, and valves grinding in more often than in England, probably because of the enormous amount of dust here. My tyres are Clincher A Won, and have done splendidly. I have just got a Dreadnought, which is certainly the best for this country, or even something heavier would

be better. Petrol I brought out with me; it can be purchased here, but if one were going up country the only thing is to bring it out with one.

I use Shamrock-Gloria or Stanley Dermatine belts, and am just getting to the end of my second, after a total of about 3,000 miles.

For a machine for use in West Africa, I think

the following is a suitable specification: Single-cylinder, 3 to 4 h.p., magneto and two-speed gear absolutely essential, spring forks, handle-bar control, footboards, low saddle position, large springy saddle, extra thick tyres.

In spite of the high temperature, no fear of overheating need be entertained if a good oil is used at proper intervals. I use Price's A for air-cooled engines. The magneto has given no trouble; I oil it every hundred miles, and flush out with paraffin every five hundred.

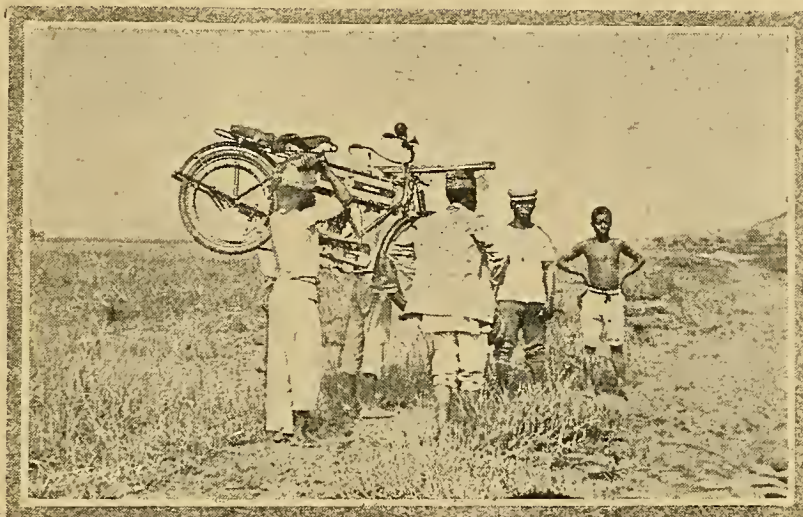
From a health point of view, motor cycling is an excellent thing out here, as the effect of the sun is diminished to an enormous extent when one is travelling at sixteen or eighteen miles per hour and creating a breeze.

The excellent running and reliability of my Triumph have been so much admired that three or four more men here have ordered new models.

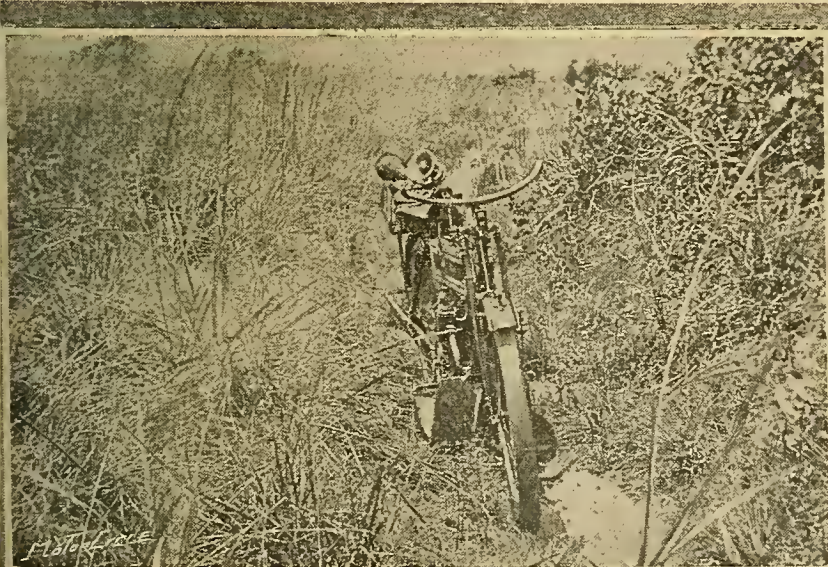
In Accra itself there are quite a lot of cars—four Daimler lorries used for bringing in produce, two 6 h.p. Rovers, one 14 h.p. Star, one 9 h.p. Adler, one 6 h.p. Starling, and an old three-cylinder Panhard with solid tyres. In motor bicycles, besides my own, there is a Singer, a 5 h.p. Vindec and sidecar, a 5 h.p. twin Rex (which, by the way, the owner is afraid of, as he understands as much about motors as a cow does of ballooning), and a 1906 Triumph. The pastime is gradually increasing in popularity.

With all good wishes to readers of *The Motor Cycle*.

A. G. ELDRED.



Large patches of soft mud are the only things which effectually stop the motor bicycle, and four natives are then employed to carry the machine over the swamp in the manner shown.



The author rode ten miles along this path, all on the low gear.



The motor cycle occupies the coveted position under the village shade-tree.

MOTOR CYCLE TAXATION.

IT seems to be a foregone conclusion that increased taxation of motor cars is inevitable. That some little re-arrangement of license duties on heavy and powerful cars is desirable is not denied; but it does not follow that, because one type of motor vehicle has escaped lightly, the motor cyclist should suffer additional imposition.

The ranks of motor cyclists are quite half filled with men who, were there no such thing as a motor cycle, would run a pony and trap. Whether they use a motor cycle for business or pleasure is of no concern in this article. The original outlay for motor cycle or pony and trap is similar, although the cost of upkeep is in favour of the motor cycle. On the other hand, the cob may, and in good hands does, increase in value; the motor cycle never. The trap will usually accommodate four persons; the motor cycle, with the necessary fore, side, or rear attachment, can only carry two. No subtle sophistry can prove that the motor cycle causes greater damage to the road than the pony and trap, even admitting the former travels three times the distance covered by the latter; and when the Light Locomotives Act came into force in 1896, the Imperial Government placed the motor cycle on the fifteen shillings level along with the two-wheeled carriage. All things considered, this was a fairly reasonable arrangement, with the odds if anything in favour of the pony and trap; and were the local taxation licenses to remain it is extremely improbable that there would be any change.

In last year's Budget speech, however, Mr. Asquith intimated his intention of gathering all license duties into the Imperial Exchequer, and it is in this prospective domestic change in revenue finance that the possibility of increased motor taxation lies. It is not improbable that, if this change is made, there will be a tax of a crown or seven and sixpence on the ubiquitous push bicycle, and then there will be some fun!

The Motor Car Act of 1903.

Since the Light Locomotive Act, which removed from our roads the picturesque individual with the red flag whose duty it was to set a pace not exceeding four miles an hour to a road locomotive, and which defined the light locomotive as "... constructed that no smoke or visible vapour is emitted therefrom except from any temporary or accidental cause"—what a blessing the injunction against the vapour only affected its visibility! Since the Light Locomotive Act, which applied the carriage license duties to light locomotives, we have been saddled with the Motor Car Act of 1903.

This, among other provisions, prescribed the registration of motor vehicles and the licensing of drivers. It fixed the registration fee for motor cycles at five shillings. It is heavy enough considering its practical utility. The *raison d'être* of this item was "purposes of identification"; its only use in Great Britain is to acquaint the officials of the Excise that you are the possessor of, or, to be strictly precise, that you are anticipating delivery of, a motor cycle. In Ireland the information is carefully secreted in the office of the clerk to the registering council. Thank goodness, it requires no renewal, although there is no rebate on cancellation.

There is no registration of horses or traps!

Then the motor cyclist before venturing even down his own street must take out a driver's license, which is renewable annually, and cannot be granted to a person under fourteen years of age. And yet any mere child who can hold a pair of reins may enjoy the freedom of the road behind or on a horse without any restriction!

The Weaknesses of the Present Act.

It is not the intention of the writer here to expose the manner in which the Act of 1903 is evaded. The unscrupulous learn its weaknesses soon enough. But everybody who has a practical knowledge of its working is satisfied that both the registration and licensing of drivers are unsatisfactory, to say the least. It has been the writer's privilege to read two articles on motor legislation in the *Revenue Review*, a journal conducted and written by, and circulating among, the outdoor officials of the Inland Revenue Department. The first was from the pen of a supervisor, obviously an anti-motorist. He wanted exhausts "in the form of inverted syphons, four feet from the ground," together with the total prohibition of wind screens. The wheelbarrow of the heathen Chinese should surely be a suitable locomotion for him. The other was written by a second class officer, presumably a young fellow, who confessed he invested annually in "that five shillings-worth of formality, the driver's license." The latter article particularly illustrated the defects of the Act of 1903, and compared the taxation of horse drawn vehicles with motors. No licenses whatever are paid on a very great percentage of horse-drawn vehicles. Were our pony trap used for carrying goods in the course of trade, and we painted our name and address in any colour and anywhere that it might be visible, so long as the letters were not less than an inch long, we too should be exempt. Whether a motor bicycle in such circumstances would be permitted to be used without license is a problem which would land one in expensive litigation.

There is another item against increased license duty on motor cycles, and that is old Ireland. There are no carriage licenses in Ireland. If motor cycles are selected for a special contribution of an annual pound sterling to the Imperial Exchequer, which everybody directly interested seems to have taken for granted, it is only reasonable that the Irish motor cyclist should pay along with his English, Scottish, and Welsh brothers. Has the Government the courage to perpetrate such an injustice to Ireland? We trow not. And somehow we fancy there will be no increase in the cost of the motor cycle license.

If motor cyclists handled the business properly there would not be, for, after all, the road is not the absolute property of the man who walks, nor the man who drives donkey, mule, or horse.

R. R.

We had an opportunity a few days ago of inspecting some motor cycling breeches which are made to measure by the Bedford Riding Breeches Co., 51, Kingley Street, Regent Street, W. These breeches are well cut and well made in strong riding cords or tweeds, and are sold at a very reasonable price indeed. Those who favour leather wear for motor cycling can obtain the same kind of breeches made of this almost unwearable material at a slightly increased cost.

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Some time ago a series of articles appeared in *The Motor Cycle* under the heading of "Useful Hints & Tips," and were greatly appreciated at the time by a large number of our readers.

These articles were of so exhaustive a nature, and covered the whole field of motor cycling in such a thoroughly sound and practical manner, that it occurred to us to reprint them in book form, with the object of supplying a text book, which might be carried in the pocket, and would be of great value to all motor cyclists, and make them able to thoroughly understand every part of the machines they drive.

Such an intensely practical, helpful book for motor cyclists has certainly not been obtainable up to now, and we would strongly recommend every reader of *The Motor Cycle* to order a copy at once.

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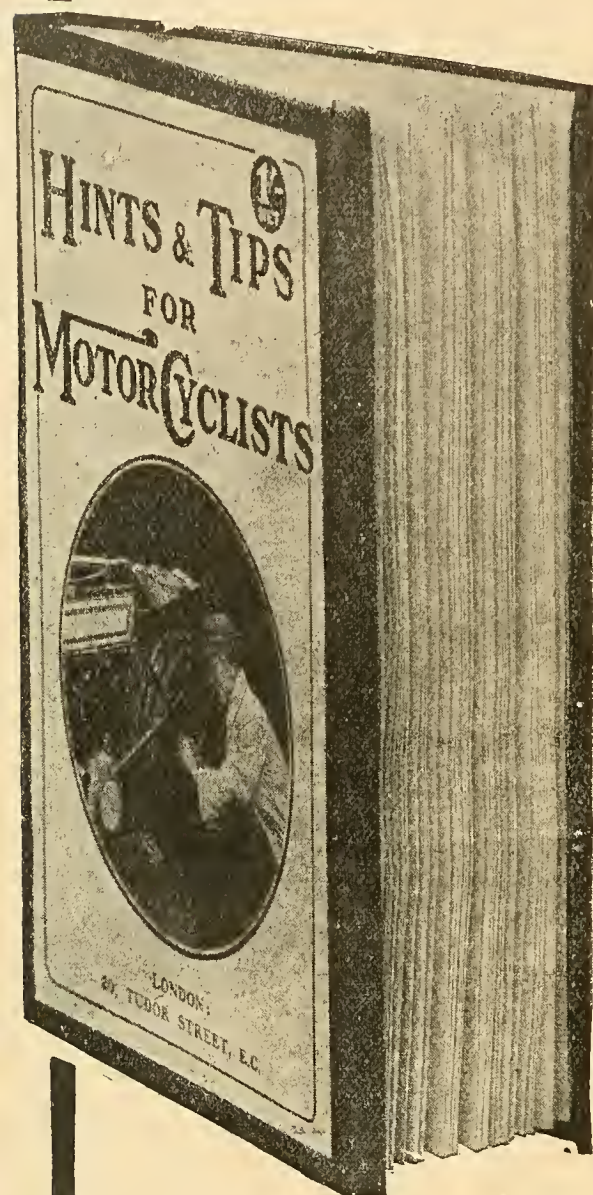
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OCCASIONAL COMMENTS.

By "IXION."

Handle-bar Control.

I continue to receive a host of letters about handle-bar control, the writers of which agree only in regarding existing patterns as faulty from a practical point of view. Two main objections are urged by my correspondents against practically every known type of handle-bar carburetter lever. One is that the sweep of the levers is either too wide, necessitating an excessive finger span, or else that the movement of the levers is in the wrong plane. I consider this unimportant; almost any type of control comes to be second nature after a few hundred miles on a machine fitted with it. The other is more serious, and relates to the vulnerable position in which such controls are generally mounted, *i.e.*, at one extremity of the steering bar, and often on its outer side. In the meantime, a combination of two ideas forwarded me by different riders strikes me as a distinct improvement. The throttle is worked by a horizontal lever inside the steering bar. When closed the lever nestles up alongside the grip; when open the lever is in the same horizontal plane as the grip, but stands out at an angle from it. The air lever consists of a thumb slide and knob *under* the bar just above the grip. This combination answers both desiderata admirably. No smash from side-slipping can derange it, and the movement is exceptionally convenient, the throttle being easily operated by the right thumb without relaxation of grip, while the air slide is comfortably managed by the forefinger.

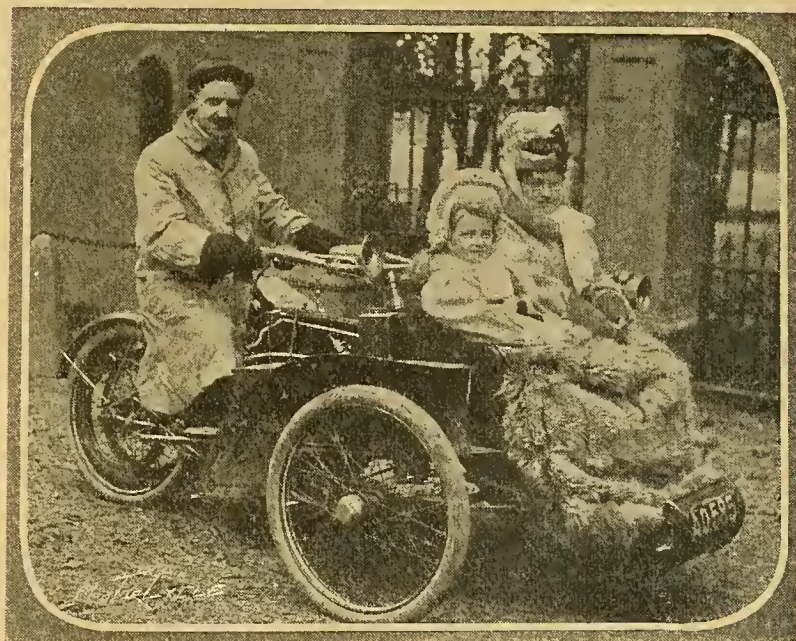
Multiple Jet Carburetters.

"H.M." asks readers' and my opinion of a multiple jet carburetter for motor bicycles. I would not be bothered with one at any price on a $3\frac{1}{2}$ single geared roadster. I described a very simple form of by-pass jet (largely fitted by Grimshaw's, of Sunderland) some months ago in these columns. It was adaptable to practically every known make of carburetter, and was inexpensive, so it is easy for any enthusiast to test such a notion for himself. I would not have one on a $3\frac{1}{2}$ h.p. single geared roadster, because, as Hulbert has shown in actual competition, it is usually possible to get a speed range of at least four to forty-five miles per hour out of a machine of this type on a single jet. I am, however, actually contemplating fitting one to a 7 h.p. twin for 1909 in the hope that on entering traffic I can slam my main throttle shut and run sweetly at six miles an hour or so without constant finicking at the air and spark levers. Again, if free engines and two-speed gears do eventually come into general use, as seems probable, the multiple jet will soon be a standard. It is heartbreaking to hear the average amateur owner of a free engine or two-speeded machine running his engine on neutral, and he is by no means wholly to blame, for the single jet carburetter can be adjusted to run an engine slowly under load, but cannot be adjusted to run the engine slowly when light, unless two-thirds of the maximum power are sacrificed in the adjusting. For self-protection motor bicycle makers will be compelled to fit multiple jets when they attach free engines and two-speed gears as regular parts of their specification. If they don't, the duffers will knock their engines to bits in a very short time. The legal rights to these

by-pass jets appear to be in a rather chaotic state. When I first described the Grimshaw by-pass in my comments a reader claimed that it was an infringement of his patent, and now I see a third party is advertising the same notion under the accurate description of a "pilot jet." By the way, it is an invaluable fitment on noisy tricars or voiturettes.

Night Road Dangers.

I must cry, "Hear, hear," to the letter from "AH 441" (page 957, December 2nd). Unlighted sheep are the worst evil, and I have several times charged a flock of them, even when using headlights of huge candle-power. Their dirty grey fleeces look exactly like a dry, open road either in the glare of a big acetylene phare or in the faint rays of a 1s. 6d. cycle paraffin lamp. Only a month ago I pulled up just in time to avoid a regular Balaclava just north of St. Albans, the road being jammed with sheep from hedge to hedge for about a hundred yards. As I stood still and watched them pass four pedal cyclists rode straight into them and fell off. I had another narrow squeak this summer at Sunderland Bridge a few



Mr. W. Suddart, of Frizington, Cumberland, has had a double seat fitted to his Rex Litette for his wife and daughter. He tells us that tricars are very much alive in the Lake District. He has personally covered 1,200 miles on his, experiencing only two punctures, and no mechanical troubles whatever.

miles south of Durham on the Great North Road. The wet road looked black by acetylene light on this occasion, and, fortunately, I noticed that the darkness looked rather *tremulous* just where my lamp's rays blended faintly into it. I stood on the pedal of my belt rim brake, and found the road packed from wall to wall with lumbering black bullocks. The men in charge of travelling herds at night should be four in number, and should be compelled to carry lanterns on short poles, and to sound some distinctive form of noise producer, if only a tin trumpet. They invariably seem to prefer that we should run them down, and make not the faintest effort to warn the unwary of their approach. I suppose compensation promises more certain profits than the cattle market, and that the insurance valuer is more generous than a farmer with his living to make.

Sally, a Four-year Old.

By A. ALEXANDER MOODIE.

A FOUR-YEAR old. I think sometimes she is a bit more than this, judging by her ways of wickedness. She is a giraffe of the top heavy, oil spurting, compression losing, belt tearing, petrol eating, profanity provoking, nut shedding species. Occasionally she will run a whole day without mishap, but, depend upon it, she will get level with you the next time you take her out. Sometimes she will lay down and snort viciously, and if you approach too near will hurl sparks and dirty oil at you. If you foolishly persist in mounting she will find the greasiest patch of road for fifty miles round and skid. Skid, did I say? Why, you don't know the meaning of the word till Sally shows you. And if there is no grease handy, a wheel rut of modest and retiring disposition will suit her just as well. Sometimes she will not skid. You see, she has had great experience in skidding, and can skid in seven different ways at once; at all events it feels like it. But if she wants a real change instead of skidding, she will viciously chew up the belt and proceed to revolve her flywheels at about 6,000 revolutions a minute for a few seconds. Then she will stop, and look the picture of injured innocence, and persuade you that she is the victim of the ever-to-be-anathematised belt merchant.

Imagines She's at Brooklands.

Another variation is to take the bit between her teeth and imagine she is on Brooklands racing Vindecs or Triumphs. This always happens in traffic. No, not always. One day in the country ("Contour Book," No. 825) she saw, half a mile ahead, a navvy full of beer and slaughter. She immediately gave chase, and just when twenty yards away dropped the silencer. Ten yards in front she stopped, and waited for me to appease the wrath of this horny handed son of oil. It cost two shillings to do the job properly, and just when I was congratulating myself on my lucky escape she told the navvy about the silencer. At least I presume she did, for the man of corduroys walked straight up to it and picked it off the ground. The language was horrible—in fact, Sally was for once in her life ashamed—and we moved on. Talk about her liking navvies, it is nothing to her fondness for poultry. She dotes on them. It is her redeeming feature. Let her but see a flock of hens or geese on the road, and she will quiver with suppressed excitement. She will skilfully round them up like a shepherd's collie at a competition, and just for the sheer fun of the thing race them up some benighted alley or by-way leading to the regions where their good and worthy owners reside. At the psychological moment when I and these folk are calmly discussing the occurrence she will burst her back tyre. That is her way of showing mirth. And punctures, why Sally knows every move on the board; she absolutely revels in them. I have come to the conclusion that she has divided punctures, etc., into three distinct classes.

The first of these is what I call

The Chinese Cracker Puncture.

This is the sudden half-an-inch-longer-than-your-biggest-patch type—most effective on a wet night, ten miles from anywhere. In order to increase the effect,

she will fall over and embrace you while you are trying to mend it. At the same time she will disembowel the lamp. She only does this when you have plenty of matches and carbide; if you have no matches, she is content with putting it out. But the principle is the same in both cases. Then, in order to complete the job, she will knock the solutioned patch into the gravel, solution side downwards of course. Then if you blaspheme, as sure as "Ixion's" in Tartarus, she will push the tube of solution just where you are bound to put your foot on it. Occasionally she will let you mend a puncture, but only on a fine night, and finish the job off by incontinently bursting in a fresh spot five miles from home. Then you push her, curse her, and she is happy.

The next type of puncture is

The Mysterious Puncture.

This is the *pièce de résistance*. Sally has spent years over this, and at last has raised it to the dignity of a fine art. It is not really mysterious, as it can be tracked to its lair with the aid of a tube net and a few gallons of water, but don't attempt to find it without these implements. You'll never do it, and the more you try the more she enjoys it. To give you some idea of the way she works the game I will give you an example. One Sunday morning I took her out, much against her will, in order that I might qualify as a *bonâ-fide* traveller within the meaning of the Act. I could tell from the beautiful and even way in which she ran that she was contemplating some new and desperate scheme. About a mile from the haven of rest she began to monkey up the front tyre. By the time I reached my destination it was nearly deflated. After a short rest I felt fit for anything, so decided to give battle to Sally, and show her once and for all that I was master. This was in the days of youth, but I know better now. It was a blazing hot day, so my task was doubly unpleasant. Still, I had sworn a terrible oath—in fact, several—that she was to be conquered. I hoisted her up against a fence, and set to work. After much language, I mended that puncture. It was such a novel experience to get the better of Sally that I drank her health. When this was done I returned to her, only to find that out of sheer cussedness she had let the back tyre down. Some bystanders told me it was the heat of the sun, but I knew better. It was Sally.

The remaining species is the

Leaky Valve Puncture.

This is not in the strict sense of the word a puncture, but you think it is. This is where Sally has you. When you pull the tube out you are sure to dislodge some patch or other, thereby making a puncture. You mend this and put the tube back, only to find it just as bad as when you started.



It will interest our readers to know that the Nala Hub Co., 18-19, Queenhithe, London, E.C., are the wholesale agents for the well-known Nala two-speed gear. The retail agents for the gear for London and district are Messrs. H. Collier and Sons, Ltd., Herbert Road, Plumstead, London, S.E.



The Editor and Staff wish all readers of "The Motor Cycle" a very Happy Christmas.

Questions and Replies

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E. C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

Adjusting Magneto Chain. Escape of Oil.

(1.) There seems to be no means of taking up wear of magneto driving chain on my motor cycle. In its present state the constant knocking of chain against cover renders machine very noisy. Will it be necessary to have new chain? Present one has run about 2,000 miles. (2.) If too freely lubricated engine throws oil apparently from pulley wheel bearing. I have had this trouble ever since machine was new. Bearing is not worn, and release valve is in good order. What is the remedy?—J.G.A., Stevenage.

You will probably find that the bolts through which the bolts pass in magneto platform are oval, so that when the bolts are slackened the looseness of the chain can be taken up by turning the magneto along. (2.) You might try fitting a felt washer round engine-shaft, which may have the effect of stopping the leakage. Carefully select a suitable thick oil for your engine, and give the engine half pump of oil.

Restoring Power to an Engine.

Can you please tell me why my 2½ h.p. Bradbury has lost power and speed on hills? When I had it six months or so ago it climbed all hills at a good pace. It is geared 4½ to 1, and has Castle accumulator, wipe contact and trembler coil. I have had the carburetter and petrol pipe off the machine and thoroughly cleaned them. It starts quite easily. The carburetter is a Longuemare with No. 7 spray, and the petrol rises to within ½ in. of top of jet. Also it refuses to pick up speed quickly as it once did, but it does not misfire.—B.

Engine requires tuning up. You do not mention the state of compression, and this is the most likely cause of the engine falling off in speed on hills. Stand on the pedal against compression with the wheel jacked up, and if it does not hold your weight for about a minute you can improve matters very considerably by first grinding in the exhaust and inlet valves and replacing the springs, which have no doubt lost some of their strength. Make certain the valve caps do not allow the compression to leak past them, and check the opening of the valves. If the compression is not as good as it might be after the above attention, it would be well to examine the piston rings. If you have brown patches on them it is proof that the gases are escaping, and new rings will be necessary.

Ratio of Gears for Passenger Work.

I am the owner of a 1907 standard 3½ h.p. Minerva fitted with the Fit-all two-speed gear. Engine pulley 4½ in., rim pulley 19 in. On the high gear I was told it was 5 to 1, and low gear 11 to 1, but I cannot make it much different than 4½ to 1. I use a Montgomery sidecar with flexible joints, and on the level road get along very nicely, but on roads which are on the incline it soon tells on the engine. My weight is fifteen stones, and passenger's weight about eleven to twelve stones, so I do not consider the performance a bad one, but I want, if possible, to get a gear of about 5½ or 6 to 1 for high gear. Can you advise me how I can get this done? Is it possible to arrange gears better if chains and toothed wheels are used?—J.R.W.

To reduce the two gears all you can do is to have the ratios of the pulleys altered. The simplest way if it can be managed would be to fit a larger belt



Mr. Bates, the owner of the two-speed twin-cylinder combination described on page 1002, has sent us a tasteful picture postcard with Christmas greetings, which is reproduced above.

rim pulley. Ascertain if a larger pulley would clear the cranked portion of the chain and back stays. Chain transmission is certainly better for passenger work, but it would most probably be necessary to strengthen the lower portion of the frame of your machine if

you fitted a chain drive, as the bicycle was not designed for such a positive transmission.

Fouling of Sparking Plugs.

I have a four-cylinder F.N., and lately I have had trouble with fouling of the two back cylinders. Strange to say, before this occurs the engine doesn't smoke at all. The oil I use at present is Price's. While riding my brother's 1½ h.p. F.N. I lubricated freely with Vacuum oil, and got a very smoky exhaust without the plug oiling up. Would it be better for me if I used Vacuum in my four-cylinder, because since it is a hydrocarbon oil it would burn before fouling the plug. Also my magneto (as set by myself) breaks 5 mm. before the piston reaches the top of compression stroke. Is this correct, or could I by advancing the armature one tooth gain more speed?—L.E.F.

You might try a change of oil as an alternative, but very often the trouble may be cured by carefully choosing the sparking plugs you use. You do not say in what position the spark lever is when the break of the magneto occurs. Magneto points should be set to break with lever fully retarded and piston on dead centre of compression and firing strokes.

READERS' REPLIES.

Misfiring at Slow Speeds.

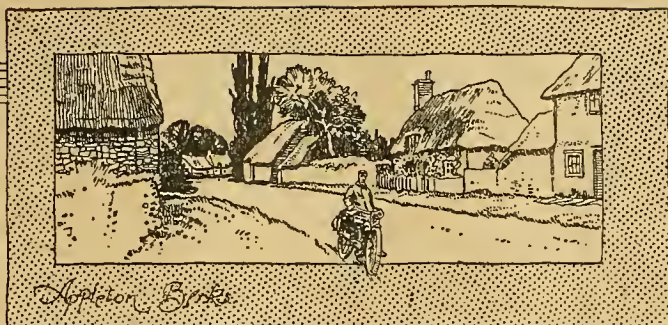
With reference to "N.H.W.'s" query re 1908 Triumph, I had the same trouble with mine. The plug points (Oleo plug) were at the correct distance, but the central wire of the plug was a little loose, and when I had screwed the plug home and put the terminal on, apparently the wire was very close to one of the three points. When running slowly the vibration apparently brought the two into actual contact, frequently causing bad misfiring. When running fast this was not noticed as the number of vibrations of the central wire would be so great that the gap would not be interrupted long enough to cause a misfire.—ST. JOHN FRENCH BLAKE.

Wear of Tyres with Sidecar.

I note in one of your recent answers in "Questions and Replies" that you say a back tyre on a motor bicycle with sidecar will last about 1,000 miles. It may possibly interest your readers to know that a 26 in. by 2½ in. Palmer cord tyre has run 3,720 miles on the back wheel of my *tricar* at an average speed of seventeen miles an hour. The weight when loaded is 6 cwt. The fabric has given out, but the rubber on the tread is still over ¼ in. thick.—JOHN NASMITH.

CURRENT CHAT

Sydney R. Jones



Appleton, Birks

SPECIAL FEATURES

SEASONABLE ARTICLES
AND ILLUSTRATIONS.

The Lighter Side.

TIME TO LIGHT LAMPS.—Dec. 23rd, 4.51 p.m.; Dec. 26th, 4.53 p.m.; Dec. 30th, 4.56 p.m.

A Paper on Lamps.

"Motor Cycle Lamps" is the title of a paper to be read before members of the Auto Cycle Union at 112, Piccadilly, W., on January 7th, at 8 p.m., by Mr. P. W. Bischoff.

Speed Limit applied For.

The Richmond Town Council has resolved to apply for a ten miles limit for motor vehicles on a number of roads through Richmond, Petersham, and Kew.

Aluminium for Tank

A Coventry correspondent writes that when out motor cycling a few months ago he came across a machine of unknown make with a petrol tank made of aluminium. He thinks the tank had cast aluminium ends and tubular body with a bolt passing right through from end to end. Will the owner of this machine, or the makers of similar tanks, kindly communicate with the Editor?

Riding Position.

Mr. T. K. Hastings sends us a photograph of his latest mount—a 5 h.p. 1909 twin-cylinder Indian motor bicycle. This machine has undergone one or two alterations to make the seat lower while retaining as much as possible a forward position for the saddle. The top tube has been dropped towards the back stays for about eight inches at the rear end of the tube, and the tank bevelled off to suit it. By this means the saddle can be brought forward without raising the position of the rider.

The Increase of Motor Cycles.

The R.A.C. Journal published last week a tabulated list giving the number of motor vehicles registered up to 30th September last, compiled from returns kindly furnished to the R.A.C., the S.A.C., and the I.A.C. by the registering authorities. The table of totals is as follows:

	Private cars.	Trade vehicles.	Public conveyances.	Motor cycles.
England and Wales	63,240	11,172	5,461	57,472
Scotland	5,231	810	384	4,482
Ireland	2,910	122	35	3,072
Totals	71,381	12,104	5,880	65,026

Our figures to the end of June, 1907, gave the total number of motor cycles registered in the United Kingdom as 53,877, so that there has been an approximate increase of 11,149 in fifteen months. The increase during the twelve months ended 30th June, 1907, was not so large relatively, viz., 8,142.

The Number of Motor Vehicles Registered.

For four years the number of motor cycles registered in the United Kingdom has been given in *The Motor Cycle*, the statistics being compiled from returns furnished by the Clerks of the County Boroughs and County Councils. This year we refrained from gathering the figures together because it has come to our knowledge that in all cases the cancellations are not taken into account in the figures. Consequently, by the above means it is impossible to give accurately the number of motor cycles in use, and as the years roll by the returns must get still wider of the mark.

FUTURE EVENTS.

- Jan. 7—(Provisional) Essex M.C. Paper by Mr. H. M. Wyatt on "Magnetos."
- " 7—"Motor Cycle Lamps," a paper to be read before the Auto Cycle Union, by Mr. P. W. Bischoff.
- " 16-23—Motor Cycle Show at Madison Square Garden, New York.
- " 23—Essex M.C. Annual Dinner.
- " 23—Coventry M.C. Annual Dinner and Presentation of Prizes.
- " 30—Auto Cycle Union Annual Dinner, preceded by the Council Meeting, at the Waldorf Hotel, Aldwych, W.C.

Where Motor Cycles are Numerous.

More motor cycles have been registered in Birmingham than in any other provincial town, viz., 1,796. Liverpool coming next with 883, and Manchester third with 850.

Auxiliary Assistance.

In a certain South Kensington Exhibition a model is shown of a sailing vessel fitted with a series of hand capstans to assist in the propulsion of the ship. In the description of the model it says, "Auxiliary assistance by muscular power is used"—a term which might readily be applied to L.P.A. under certain conditions.

Proposed Tax on Petrol.

The Parliamentary correspondent of *The Autocar* has the best reasons for stating that a duty on petrol is engaging the attention of Treasury experts in connection with next year's Budget. Many interviews have been held between representatives of the departments and leading men in the motoring industry. All things considered, imposing a tax on petrol consumed certainly seems the simplest and most reliable method that could be devised.

A.C.U. Council Meeting and Dinner.

It has now been announced that the council meeting and annual dinner of the Auto Cycle Union will both be held at the Waldorf Hotel, Aldwych, W.C., on Saturday, January 30th. The council meeting will take place in the afternoon at 2.30, and the dinner at 6.30. Notices for the agenda must be in the hands of the secretary by Thursday, January 7th, 1909.

Cudham Hill on the Market.

Lord Derby has decided to dispose of his landed estates in Kent. These include 3,000 acres near Tonbridge, including the famous One Tree Hill. The Cudham portion of the property is 1,600 acres in extent, and includes Cudham Hill and the Earl's mansion at Holwood, on the Westerham Road.

An Ambitious Ruling.

The Trials Sub-committee of the Nottingham M.C.C. suggest that at all future hill-climbs the competitors machines are weighed on the spot before and after the ascent, and where the cubical capacity of the engine is a factor in the result, all the winning machines be verified in this particular as well. This ruling reads all right on paper, but we are afraid the work for the officials will be much greater than they imagine. It might be all right with a small entry, but with forty or fifty competitors the work would be practically impossible in the time allowed for an afternoon, or even an all-day competition.

Motor Union's Gift to Motor Cyclists.

The Motor Union proposes to present a button badge to all its motor cycling members. Members desirous of bringing the advantages of the half-guinea and guinea classes of membership to the notice of their friends, are invited to apply for the revised prospectus. It can be obtained post free from the secretary, 1, Albemarle Street, W.

Another Motor Bicycle Stolen.

Messrs. Heath and Wiltshire, Ltd., motor engineers, Farnham, inform us that on the night of the 14th inst. a 3 h.p. Triumph motor cycle, number supposed to be BK 102, fitted with magneto ignition, large headlight and separate generator, two toolbags (maker's name unknown), was stolen from their premises. Tools and other articles were also taken. Messrs. Heath and Wiltshire, Ltd., will be grateful to anyone who can give them news of the missing machine.

AN UP-TO-DATE BURGLAR.

By MONTAGUE GREENWOOD.

GEORGE TROOPER was always welcome wherever he went. Hotel proprietors, landladies—in fact, all the people who cater for birds of passage—were pleased with his quiet ways. He was always paid up without making any unkind remarks, whether their charges were exorbitant or not. Their only regret was that he seldom, if ever, patronised them a second time. There were very good reasons for his little peculiarity. Only a very select few were aware of the cause. To the public eye he was merely a motor cycle rider, touring about the country. The few motor enthusiasts who had had the opportunity of examining his machine (he avoided these attentions as much as possible) had marvelled at its completeness as a touring mount. Everything that could eliminate or speedily cure a breakdown seemed to be there. The engine was a beautiful specimen of its class, a twin of 10 h.p. The exhaust ports, pipes, and silencer were exceptionally large, making the engine practically silent. A double system of ignition was installed—magneto and accumulator. Large compression taps were fitted, with taps directly above them to supply paraffin for easy starting. No one except the owner himself had seen his complete kit. They would certainly have marvelled more than they did if they had. A beautiful set of all reasonably portable spares were neatly arranged in their special compartments—spares that George Trooper knew would positively fit, all having been actually used for that very purpose. Every useful tool was in the roll ready to be slipped from its top when wanted. All this was right enough. Secret pockets and places on the bicycle could tell a different tale. Several sets of identification plates, with letters representing widely separated counties; driving licenses ditto, with different names on them; a very special set of tools, which included one that the single-minded might have taken for a tyre lever. George Trooper, with his many *aliases*, was a good sample of the up-to-date burglar.

No Mere Pot-hunter

It must be understood that he was no mere vulgar pot-hunter. Appropriation of plate and bulky valuables and no attractions for him. Jewellery and papers of value were his speciality. Considerable success had been his fortune. He always took every possible precaution. Country house robberies during the evening dinner hours were his speciality, the best of information being obtained generally by a confederate from the servants. A ladder and the run of the bedrooms ensured hauls which were decidedly lucrative, and little short of marvellous for their apparent audacity. His trusty motor was always waiting at some convenient spot. A few sets of identification plates, different kind of goggles, a white instead of a black coat, and his own mother wouldn't know him. George Trooper was far too clever to keep the stolen proceeds for more than a few hours. He generally buried them. A safe time afterwards, an old gentleman would visit the neighbourhood, and dig up ferns for his collection. The old botanist was a good chum of George Trooper's.

A beautiful spring morning, and we see him skilfully threading his way through the maze of tramlines and other obstacles which one meets in suburban London.

George was setting out on one of his little excursions. At last he was clear of Greater London. A beautiful stretch of country road lay before him. Quickening his pace, he was soon reeling off the miles. He felt in splendid spirits. Dry roads and beautiful weather, combined with all particulars relating to a certain big country house, which was his goal, were the cause for this. It was his intention of putting up for one night at Bristol, a town from which he was now several miles distant. He preferred large places for his evil purposes, his presence being less noticeable.

His Cautious Methods.

Although travelling on the main road, which went straight to his destination, without hesitating he slackened speed, and turned down a side one. His methods of entering a town were sometimes peculiar. In an hour he found himself the opposite side of Bristol. Running into the town, he put up at a motoring house. A welcome drink at the bar and a casual remark that he had had a good run from South Wales completed his satisfaction. In the privacy of his bedroom he carefully went over the plans of "The Grange"; position of tool-house, with ladder; the balcony running along outside the bedroom windows were all clearly shown. An adjoining plantation would make splendid cover for the bike. Turning in, sleep came quickly to him.

The morning found him lazily enjoying a late breakfast. All his energies would be required that night.

Carefully filling up with petrol and lubricating oil, he tested the running of the engine on the stand to make sure all was in order. George Trooper was very exacting in the starting up qualities of his engine from the cold. Nothing but the quickest results would satisfy him. Moreover, he knew how to get them.

"The Grange" was two miles from Bristol. Being his intention to make a circuitous route, he went in an opposite direction. The sun was setting over the plantation as he finally stopped at the roadside. Putting the stand down, he lighted a cigarette, and had a stroll round. It was highly desirable to see that the coast was clear before putting the motor in the plantation, the gateway of which was adjoining the road. It really was a beautiful evening. A beautiful afterglow spread over the sylvan scene; the peacefulness of the close of day was in the air. Rabbits gambolled on the velvety patches of turf in the heather and gorse. The birds gave their finishing pipes as they settled in their nests for the night. George Trooper enjoyed the scene, being a man of no mean intellect, although his opinions on the rights of ownership were so unorthodox. Redistribution of wealth, he called it. It never could be said that he took from the poor. Temporary inability to make the dazzling display of jewellery that they had was his victims' worst grievance. The checking of vanity should have a chastening effect on their spirits, he always argued.

A Useful Coup.

Finishing his meditations, he quickly set to work. There was no one about. Soon his motor was between the fir trees in the plantation. A handy stump kept

An Up-to-Date Burglar.—

the machine upright. Putting on new number plates; trying the electric head lamp, being careful not to show the light; testing coil ignition, which he used for starting; and injecting a little paraffin into each cylinder beforehand, he went off, leaving everything ready. He next donned a pair of thin rubber gloves. Keeping a good look-out, he was soon in the shrubbery of "The Grange." It adjoined the far end of the plantation. It was fairly dark, but he could just see the tool-house. The ladder hung on a couple of brackets under its roof. Lifting it off, he soon had it against the one end of the bedroom balcony. Everything was quiet, and there were no lights except on the ground floor. Room after room he visited, with more or less luck. Descending the ladder with care, he took it down and put it in a long row of bushes. No

one would tell from outside that he had been. This might give him extra time.

Quickly going back to his bike, he pushed it through the gate into the road. Shutting the gate and starting were the work of a few moments. Then there was the barking of dogs from the direction of the house; the sound, however, soon faded away in the distance at the rate he was going. Telephones and telegraphs go quickly, so he soon slowed down at a spot he charted and prepared that afternoon. Lifting a flattish stone, half hidden in the bracken, by the roadside, showed a deep hole. Clearing his pockets of the plunder, he put it into several small bags, and deposited them with his tools in the hole, and carefully replaced the stone.

A couple of hours later he was enjoying a good supper in the best of spirits. Success had again crowned his efforts.

CLUB NEWS.

A Motor Cycle Club for Warrington.

An informal meeting will be held on January 21st, 1909, at the Hall Café, Stockton Heath, Warrington, at 8 p.m. prompt. The purpose of the meeting is to consider the question of forming a motor cycle club for Warrington and district, and the secretary *pro tem.*, Mr. Kenneth T. Hardman, 49, Cawdor Street, Stockton Heath, Warrington, hopes to receive a hearty response from motor cyclists in the district.

Lantern Slides.

In the last issue we mentioned that Mr. J. W. Robertson, of the Perth and District M.C.C., recently gave an interesting lecture illustrated by a series of lantern slides made from photographs furnished by *The Motor Cycle*. Mr. Robertson has now favoured us with a list of these slides, thinking that other club secretaries might like to hire them for a similar purpose. Mr. Robertson's address is 192, High Street, Perth.

Nottingham and District M.C.C.

A committee meeting was held at headquarters, the Welbeck Hotel, on the 15th inst. Present: Messrs. J. Elliot Littlewood (in the chair), R. T. Whaley, F. Mitchell, G. Chudleigh Holmes, Geo. Brough, Wm. T. Smith, E. G. Young, W. E. Brough, F. W. Dance, and the hon. secretary.

Letters from Dr. A. Fulton, Capt. Bagnall-Wild, and Mr. Chas. Hardy were read *re* small cars competing in motor cycle events, all the said gentlemen being entirely in favour of the exclusion of such small cars from these events in future.

The secretary had also received a letter from Lord Hy. Bentinck in connection with the club, congratulating the committee on its successful establishment.

Mr. H. W. Bircumshaw was unanimously elected a vice-president of the club.

Mr. J. Van Hooydonk has kindly offered to lecture, assisted by lantern illustrations, to the members of the club one Saturday early in January.

The Trials Sub-committee report the following as their decision with regard to the Bunny hill-climbing competition. Prof. Callender's formula was used:

	Fig. of merit.
1. L. A. Nolan ... ..	.00608
2. Geo. Brough ... ..	.00606
3. W. Reilly ... ..	.00505

The committee regret that the inaccurate entry forms of some of the competitors necessitated the verification of details, and thus hindered the declaration of the result until the present time. Moreover, they suggest that in all future competitions, especially those of this character, the following byelaws be adopted:

1. That, where the weight of the machine is a factor in the result, all machines be weighed on the spot, immediately before and again immediately after such competition.
2. That in the case of speed tests all cut-outs be officially sealed and examined.
3. That, where the cubical capacity of the engine is a factor in the result, all the winning machines to be verified in this particular as well.

INVERTED LEVERS ON HANDLE-BAR.

AFTER visiting the Stanley Show, a reader asks: "Why will firms fit inverted levers for brake and valve lifter? It is considered bad practice by cycle manufacturers, involving, as it does hidden wires, awkward turns, and an ever present possibility of nipping one's clothes in the levers." The above question is certainly an unusual one, and we thought that the advantages of the inverted lever were obvious to all riders. Relying on the grip of the handles is all very well on a smooth road, but when travelling at a good speed, if the front wheel should suddenly drop into a hole in the road, the hands will as likely as not slip off the ends of the grips, and this might prove serious. With inverted levers this contingency is rendered impossible, and personally we much prefer the inverted type of handle-bar lever. We will admit that there is a slight possibility of the coat sleeve being caught in the mechanism—as far as we can remember it has occurred in our case three times in a

couple of years—but a guard could easily be fitted to prevent this. Hooked end handles were far more in evidence at the recent show than in former years, which goes to prove that their advantages are being more generally recognised.

"Road Rider" asks us to correct a press error in "Hints and Tips." When he was writing his notes on belts he had not tried the Whittle belt, and, having heard glowing opinions of it, he made a test. The belt was fitted rather slack to a tricar which was almost dead silent, and the looseness set up a sort of hum or jingle, which he mentioned in his notes. He has since tested the belt with a proper adjustment, and found it excellent; but, unfortunately, in the hurry of going to press he omitted to correct his first impression. He desires to heartily recommend the Whittle belt, especially for heavy passenger work.

"Motor Cycles at the Stanley Show." *

THE discussion was opened by Mr. W. H. Wells. Of two pistons which had been handed round, he stated that he preferred the one with a recess between the two rings, though he failed to see how the oil got to the top ring. Mr. Cove had mentioned the fitting of a pipe from the petrol tank to the compression tap. This, he thought, would do great harm, as petrol injected into the cylinder tended to dry up the oil, with the result that for perhaps a mile the rider was travelling with an unlubricated cylinder. Personally, he infinitely preferred paraffin, which was undoubtedly the best. The lecturer referred to some of the motor bicycle frames being too short. In his opinion, the tendency was now to shorten frames, so as to enable the machine to turn corners conveniently. As regards silencers, he pleaded guilty to having fitted on his machines previously silencers which were not so effective as they might have been. He had, however, brought out a new model. As regards sidecars, he agreed with Mr. Cove that they must not be too elaborate. He agreed that in some cases the backs of these were too upright, and he was now having built by Messrs. Mills and Fulford a sidecar which conformed to his ideas. He preferred the seat to be of wicker instead of heavier material. As regards tyres, he regretted to find that Mr. Cove had not mentioned the Michelin Semelle type, which is both resilient and efficient, and most effective against side-slip. On the other hand, for speed work he infinitely preferred the wired-on Dunlop. As regards lamps, he thought the Lucas separate generator lamp shown was rather heavy, and stated that he preferred a lighter model. Mr. Wells spoke most eulogistically about the Brooks 105 saddle, which enabled the rider to sit within 30in. of the ground.

Front Brakes Favoured.

Mr. A. E. Lowe said, as regards the question of brakes, he certainly thought that makers were shirking their duty in this respect. Undoubtedly the reason was due to the increasing popularity of spring forks, which rendered the fitting of front brakes somewhat difficult. He regretted that among the lightweights the Douglas motor bicycle had not been mentioned. From a mechanical point of view he considered this machine to be excellent.

Mr. P. W. Bischoff agreed with Mr. Lowe as regards front brakes, stating that, in the event of the back tyre being slack, the rider would not wish to apply a back brake, and this was a case where a brake on the front wheel would come in. On the other hand, if, as the tendency is at present, the back wheel is fitted with two brakes, one is strong enough to lock it, and what, he asked, was the use of the other? He considered it to be futile. He also referred to some experiments which had been carried out by Mr. Mervyn O'Gorman with models of cars with front wheel brakes which, when placed on a greasy road, continued in a straight line, whereas locked back wheels caused them to turn completely round. Mr. Cove referred to machines finished in grey. The machine which struck him particularly at the Stanley Show was the Phänomen, which he considered—from the point of view of colour at any rate—to be a very attractive machine. As regards tyres, he must say he had had most happy experiences with Clinchers on his present machine. He had a front cover which had been 3,700 miles without retreading, and a back cover which had covered 4,000 miles and had only been retreaded once. As regards Price's Patent Candle Co., to which reference had been made, he noticed on their stand a new oil—Sherwood sperm oil—which was specially suitable for magnetos. As regards the separate generator lamp under discussion, he thought that its weak points were the back glare through the ventilation holes, which dazzled the rider's eyes, and the fact that the burners were fitted with too small a union. These points, he understood, were being dealt with.

Mr. J. W. G. Brooker also declared himself to be a supporter of front wheel brakes. He especially liked the piston with rings at the top and bottom, so that it was supported at both ends, while there was a space for oil between. He also enlarged upon the evil of loosening piston rings with petrol, as this tended towards the deposition of carbon. He referred to the convenient position of the Humber lubricator pump, though he thought dust would be likely to enter at the filler, but this may be altered. Mr. Cove had men-

tioned that he considered the 2½ h.p. F.N. was about 10 or 20 lbs. too heavy, but he thought the weight no detriment. He was particularly pleased to see that the F.N. had both a drip lubricator and a force pump.

Mr. Warner spoke upon the excellence of clutches, and mentioned how they could be slipped on a hill and have almost the same effect as a two-speed gear. Someone had mentioned the Douglas. Personally, as far as he was concerned, he considered that the chief fault it possesses is the extra lip on the piston, which he considered was likely to cause extra wear.

Mr. R. M. Brice thoroughly agreed that brakes should be fitted to both wheels. As regards black *versus* grey enamel, he considered that the black was more durable. He criticised the domed piston with rings at top and bottom, and said that he thought these were rather too heavy. As regards the lamp under consideration, he thought that the distance between the front of the lamp and the clip was too great, imposing, therefore, too great a strain upon the latter and the bracket. He thought that tyre makers did not pay sufficient attention to motor cycle covers. As regards studded covers, he considered that the studs wore quickly, and then the machine slipped as badly as ever, and they were also liable to puncture. He thought that the fact of having inefficient silencers was due to the motor cycling public, many of whom were given to knocking out the inside of their silencers so as to get, as they thought, more power.

Mr. Siffken criticised inverted levers for the working of the exhaust lifter, and declared that they required more power to operate than the ordinary type of lever. Touching asbestos in silencers, he considered that this caused too much heat to be retained. As regards the comfort of sidecars, he thought that if the front of the seat was sprung they would be better. He emphasised the importance of standardising rims and tyres, and regretted that Kempshall tyres had not been mentioned.

Mr. F. Canham spoke of the importance of strongly-built lamps, and mentioned the desirability of some device to keep off the excessive glare. Dealing with speed indicators, he thought that it would involve the use of too much mechanism to make the needle travel further round than was the case with the speedometer criticised by Mr. Cove.

Mr. Durrant enlarged upon the desirability of sprung wheel sidecars.

Mr. A. Hunter begged to differ from Mr. Siffken's opinion on inverted levers. He had found them to be satisfactory, and infinitely better for cleaning, as they were not fastened by a clip, as in the case of the ordinary lever.

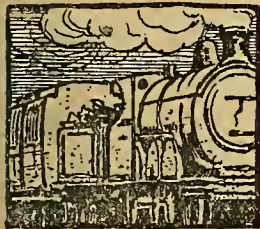
Mr. Smith said he thought that cut-outs ought to be fitted to all silencers, and that they should be closed when the driver was passing through towns.

Mr. Chatterton (in the chair) reviewed what had been said by the previous speakers, and then called for Mr. Cove to reply.

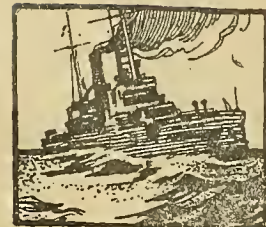
The Lecturer's Reply to Criticisms.

Mr. Cove, in reply, thanked the chairman for his remarks. He considered Mr. Wells's remarks about the piston, as coming from a man who knew what he was talking about. Personally, he liked a long machine. He had only dealt with touring machines in his paper, and though a short machine would be better in hill-climbing, for ordinary road use he preferred a longer frame and wheels with large tyres. Touching on sidecars, he especially admired the sidecar seat of the Oakleigh. With regard to the Vindec machine, he had been specially interested in the pedal retainer, which prevented the pedals from revolving. With mechanically-operated valves he had had some experience, and he preferred the other type. In his opinion, the best make of twin-cylinder machine was fitted with the automatic type of valve. Mr. Brice had said that he found black enamel to be more durable than other colours. He himself had found it to chip. Mr. Smith had mentioned cut-outs. He would like to call the attention of those persons to the fact that the A.C.U. had tried their very best to abolish these, and in the Land's End to John-o'-Groat's Trial cut-outs had been sealed up and the holes in the silencers had been slightly enlarged with no bad effect. He did not think that the separate generator lamp referred to was too heavy. The makers supplied a special bracket, and if this bracket were fitted the weight did not matter. As regards sidecars, he preferred the rigid pattern.

* Summary of the discussion on Mr. Cove's paper, read on the 10th inst. before the Essex Motor Club.



LETTERS TO THE EDITOR



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Tandem Attachments.

[3737].—With regard to "C. M. F.'s" letter [No. 3699] on rear tandem passenger attachment, in the issue of December 2nd, he there states that any standard $3\frac{1}{2}$ h.p. machine will take a rider and passenger with this attachment faster than a machine fitted with sidecar of double or greater power. I am myself the possessor of a 5 h.p. twin Rex, with Mills and Fulford sidecar, and have done forty miles an hour over a level mile with passenger. I should conclude from this that a 7 h.p. Peugeot (double the power mentioned) fitted with light sidecar could easily attain, with passenger, fifty miles per hour, and as there are very few $3\frac{1}{2}$ h.p. machines capable of this speed under ordinary circumstances, they would be still less able to perform this feat with a passenger of say, 11-12 stones.

VICTOR VAUGHAN.

Road Dangers at Night.

[3738].—I am interested to see that mention has been made in your columns of the lighting of traffic on the roads at night and the danger of running into hay waggons and similar slow moving vehicles which show no light behind and cannot be seen until one is quite near them. I had a similar experience to that of a recent correspondent. In a narrow lane, with hardly room to pass, I came suddenly upon a hay cart. I should like to mention also the danger of running into riders on horseback. One night I was suddenly aware of a horse dancing all across the road in front of me. I was forced to run on the footpath to pass. I hope the time is not far distant when all users of the road at night will be compelled to carry a light of some sort to show their whereabouts.

F. G.

[3739].—I hope you will allow me a little space in *The Motor Cycle*, to which I am always looking forward. It is very seldom I answer correspondents, but I feel in duty bound to say a little with reference to "AH 441." I am sorry to hear that he has experienced danger riding at night, as I am inclined to think that if he cannot see a full load of hay even in the dark he must be travelling at a dangerous speed, and probably be on top of it before he knew where he was.

Now I am a motor cyclist, and have been for nearly two years, and have never met with a single accident yet, but the point I wish to tackle (because I happen to be in the hay and straw business) is that he requires us to carry a light behind. As the law stands a light is compulsory in front, which I consider quite sufficient for any driver that has two horses to contend with, as he cannot pretend to keep leaving his horses to see if the light behind is burning. It seems to me that he requires all live stock cleared off the road at night just for the pleasure of motorists, but I can assure him that this will never be. Live stock was here before motor cars or cycles were ever thought of. Motors run away sometimes, and very often get out of control.

I hope that "AH 441" will not think that I am running motors down. Far from it. I agree that every moving vehicle should carry a light in front and showing from the same lamp a red light behind. On our lorries we have ordinary swing lamps, at 3s. each, which hang from the off-side of the lorry on the lock, and are about 18in. from the ground, and can be seen from any position by those on foot.

Why I strongly object is because hay and straw are very inflammable, and if the lamp behind should get on fire, what would happen? Only twelve months last November a school-boy threw a small bonbon into a load of straw. The bonbon fused inside the straw, and in less than two ticks it was in flames, and after a hard struggle in liberating the horses, the flames were subdued after damaging about one ton of straw, but had the man been single-handed and in a country lane,

the lot would have gone. I mention this to let you see what drivers of heavy vehicles have to contend with. If a lamp was attached behind, the urchins would everlastingly be swinging on behind and playing pranks with the lamp. I will say this, turning horses out of a farmyard on to a main road to water is a very dangerous practice, and ought to be stopped.

I hope my views regarding lights on slow moving vehicles will satisfy every motorist, as I consider one lamp hanging on the front and suspended from the lock, also showing a red light from the same lamp will keep all danger away.

BN 192.

High v. Low Compression Engines.

[3740].—I was sorry to see at the recent Stanley Show that some makers were listing extra light machines with high compression engines. Can the retailing of such a machine do any good to the pastime? In the first place, it makes hill-climbs impossible for the ordinary man, who can only afford to keep one machine—as everyone knows these high compression engines are much faster than the ordinary touring machines—and secondly, it is a type that possesses so many disadvantages that, in the hands of a novice, would disgust him with the sport. Would it not be better if manufacturers, instead of wasting their time on these ultra-light high speed machines, would attempt to design an engine capable of standing up to its work better than the present-day engine does? One hears on all sides complaints of 1908 engines which, after covering a short distance, develop shake in their bearings, wear their cylinders oval, and even blow them off. The way the old $2\frac{3}{4}$ h.p. De Dions have worn is an object lesson to the modern manufacturer. May we see at the next Stanley Show engines of which their makers boast not of the pace up Birdlip, but of the length and diameter of the bearings.

CLAUDE BARFIELD.

The Future of the Tricar.

[3741].—I read with interest Mr. Meers's commentary on Mr. Davies's paper on tricars, in your issue of the 9th inst. I have driven a motor cycle and sidecar, fitted with Oppermann three-speed gear, and found the latter very efficient. I have, however, great trouble with the engine chain (forty links) which rarely lasts more than 500 miles. I have renewed the sprockets, but still find the rollers snap and side links fail. I should be glad to know if Mr. Meers has experienced similar trouble, and what chain he uses. The long driving chain has stood some 4,000 miles running, and shows little sign of wear. I may add that the engine is a 3 h.p. water-cooled Afanir, and the combination will take driver and passenger about 19 stones up the worst hill to be encountered on main roads in the neighbourhood.

W. H. C.

[3742].—I have read the tricar articles and correspondence in *The Motor Cycle* with great interest. That the tricar is dead, no one having the use of his eyesight will deny.

I note that you advocate a revival of the light air-cooled form, and have recently illustrated your ideas on the subject. Now that we have such perfect two-speeded twin motor cycles this form of tricar has become possible, but it will never be popular for the simple reason that it possesses the very fault that has killed all other (modern) tricars—the tandem seating of passenger and driver. It was the strong feeling against the forecar and trailer that produced the sidecar, and I think that the natural evolution of the sidecar is to put the bicycle in the central position, drive both rear wheels, and give the driver the same comfort as the passenger.

My idea of design is a powerful twin bicycle (minus its back wheel) with two-speed gear and clutch of Phelon and

Moore or Chater-Lea type in crank bracket, to which add an axle (with a differential), set some distance further back than the fork-ends of the cycle frame. We shall then have the air-cooled engine in its proper place—in front—where it will be well sprung by its own spring forks; driver and passenger will both be comfortably seated in a well-sprung upholstered seat. The control and steering can be brought to rear end of bicycle frame, where they will be in a convenient place for the driver. With this arrangement the only special fitting will be the back axle, but if made in quantities by such firms as Chater-Lea they need not be very expensive. I see that several new light four-wheelers drive only one wheel, but this seems a poor makeshift. This arrangement is found on children's tricycles at 30s. each, where the reason is more apparent. A glance at the illustration of the German electrically-driven tricycle on page 879 will show what comfort is possible. Substitute one's favourite twin for the electrically-driven front wheel, and we should have something infinitely more satisfactory than any tandem—dead, living, or unborn. If shaft drive be preferred to chain, we have the four-cylinder F.N., with change-speed gear as an alternative.

W. B. G.

[3743.]—I have been reading with great interest the recent correspondence that has been appearing in your paper on the subject of the tricar. Whether at home this kind of vehicle is getting less popular or not I am not in a position to say. I have been using a 1907 5-6 h.p. Phoenix Trimo for over eighteen months. Being a Government civil engineer I have a good deal of road travelling to do, and the roads are not always of the best description. I must say I have found the Trimo most useful and convenient and comfortable for my work. I may say at once that I don't believe in break-neck speed, neither will some of the roads out here allow of it, but an average of twelve to fifteen miles an hour is quite enough for the needs of any district officer in this country, especially with a lady passenger. Some of the roads here are very heavily cambered, and also have ruts made by heavy bullock cart traffic, but I have never had any accident or any experience such as your correspondents describe of the machine turning over into the gutter owing to the swing of the back seat. On first-class roads I have often driven at twenty miles an hour without having to adhere to the crown of the road all the time.

As regards my machine, and tricars in general as a matter of fact (more particularly the heavier kind), I cannot help pointing out that the great weakness lies in the rear wheel. For the first few months I had to spend a fortune in tyres (for the back wheel), as the original and spares supplied with my machine (2½ in. motor cycle tyres) could not stand the strain. At last, under the advice of a friend, I changed the rim and put on a heavy 650 by 65 car tyre and air tube. I have had no trouble whatever since (i.e., for nearly seven months). Possibly this takes away slightly from the lightness and speed, but for a business man high speed is not of so much importance as "getting there." I hope in future the makers will always provide car tyres for the driving wheel.

As regards the two-speed gear I quite agree that the band does require very delicate adjustment, but by keeping it always very tight, and using the clutch for freeing the engine, the difficulty can easily be overcome. I think the adjustment ought to have a little more play. As for the high gear, which is a direct drive from the engine, and is really a cone metal-to-metal clutch, nothing could be more delightful to manipulate.

On the whole, I must say for comfort and pleasure, combined with usefulness, the Phoenix Trimo will take a lot of beating. Its price perhaps is slightly high compared with second-hand De Dions in this country, for which there is a great sale. The upkeep, especially petrol consumption, is very little, and no chauffeur or lad is wanted, as in the case of a car out here. It is light and handy, and particularly convenient for taking about by rail, as it easily goes in the brake van of a passenger train. All my friends are much struck with my Trimo as a "neat handy little runabout," and it is a pity that it is not more generally known in India. Mine is apparently the only one in Bombay Presidency, and I cannot make out the reason. Motor cycles and cars are increasing every day, including cheap and nasty ones, and second-hand De Dions seem to be the rage.

I must not conclude my remarks without a reference to the engine. It is certainly the best of its kind, a splendid hill-

climber, and I have never had the least trouble with it. Although I have been using it almost every day since I have had it, the piston rings and other parts do not show the least sign of wear, and the power and compression are as good as they were when new.

I need hardly say, being a Government servant, I have no business connection with the Phoenix or any firm.

Poona.

INDIAN ENGINEER.

Pistons with Rings Top and Bottom.

[3744.]—I have not seen the case put in the following light, and possibly it may be of interest:

Reflections of a novice on the two ring piston top and bottom. No reflection on the makers thereof, who no doubt know what they are doing.

The idea of having a bearing top and bottom seems very good. But why should the bottom ring be gas tight? Surely the sooner the gas is stopped getting past the piston

the better; therefore, stop it if you can at the top. If one ring will not do it, use two.

Then the only function of the ring below the gudgeon pin is that of a guide or bearing. If it is gastight, it will prevent lubrication of the top ring for at least some part of the piston travel.

I would suggest a piston made as follows: Fit piston with one wide stepped ring

at top with two grooves round it—wide, because the steps easily break off narrow ones, and grooved because it would retain some oil for lubrication, and the friction surface would be reduced.

At the bottom of piston fit a ring with transverse slots all round it (see sketch) to allow lubrication to pass, but make the slots diagonal to prevent scoring the cylinder walls, and so form the bottom guide or bearing.

REUB. G. NORMAN.

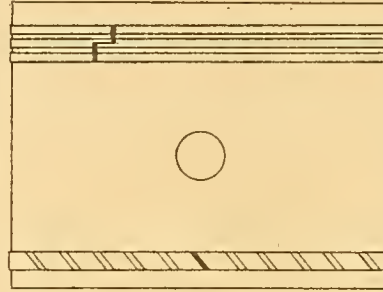
Simplifying Starting by Handle.

[3745.]—In reply to "Essex" (page 880), I would mention that when I bought my Roc Messrs. Wall very kindly suggested that I might find it a convenience if they fitted the machine with an auxiliary exhaust valve lift. This took the form of a short length of handle-bar tubing, having the usual horn handle, and was fixed to the saddle L pin. This handle-bar carried a Bowden exhaust lever—a duplicate of that on the steering handle-bar. As arranged, it is most convenient for holding up the machine and for raising the exhaust valve when starting up, and no doubt Messrs. Wall would readily fit one to "Essex's" machine. It is well worth its small cost.

About this time last year there was an enquiry as to the strength and wearing qualities of the Roc two-speed gear, and after a season's use I can only say that mine is, if anything, better than new. It has been suggested that it is quite strong enough for a small car, and as there are eight pinions, each ¼ in. thick, I should think this no exaggeration.

I myself am a lightweight, and the wrong side of fifty, and if there was any hard work attached to the starting or manipulation of the Roc I should have to give it up; but I find by first seeing that the pistons are quite free—my machine being fitted with a twin-engine with mechanical valves—I arrange that the rear inlet valve is off its seat, and then inject a fair quantity of paraffin through the compression cocks, which are placed just over the exhaust valves. Under these circumstances both exhaust valves are closed. I lean the machine to the left and slowly turn the handle. The compression cocks being open, the pistons soon become free, and then I give each cylinder a squirt of petrol, close the compression cocks, open throttle rather more than half-way, advance the spark (magneto) nearly fully, close air, flood, and a turn and a half of the handle, and it fires. When warm, it is only necessary to adjust the handles and flood it, and it will start first trial time after time, the reason, in great measure, being that the starting handle is fitted to the live axle of the back wheel. One turn of this handle, therefore, means four revolutions of the engine. The magneto therefore gives such a hot spark that there is no difficulty in getting it to start.

During the season I have had absolutely no trouble with either the clutch or two-speed gear, and my experience has



proved them over and over again invaluable in traffic, enabling you to travel at any pace, stop, restart, stop again and restart, the engine running all the time; in wending your way through cattle or sheep; if stopped in the middle of a steep hill you can easily restart; take greasy tramlines cautiously; and, not least, start easily and safely on a dark night on the filthiest grease.

I saw many nice things at the show, but not one would I have, whether light or heavy, that was not fitted with a free engine and two-speed gear. They are a *sine qua non*, and my experience makes me plump for the Roc.

E. J. SMITH.

Magneto Manufacture.

[3746.]-I have read with interest the letter of the Premier Accumulator Co., Ltd. [3701], and the correspondence leading up thereto, but regret that, while being desirous of supporting British manufactures, a limited experience has led me to believe that, at any rate in connection with ignition coils, the foreign-made article is superior.

I have within my reach at the present moment coils by three leading English makers (not all owned by me) which on my own and friends' motors have proved undoubtedly unsatisfactory and unreliable, and which have been replaced by coils of foreign make, giving complete satisfaction. As regards one of the English coils, I may say that it has been returned twice to the makers. On the first occasion, when quite new, they were so satisfied (!) with it that they entirely reconstructed the trembler mechanism.

S. G. L.

Dome Topped Pistons.

[3747.]-I have run one of the new Triumph pistons some 2,000 miles, and, having had a good deal of trouble with the old type, owing to knocking and loss of compression, I can fully endorse all that the makers claim for it as being a very real improvement. The compression seems to be, practically speaking, as good after 1,500 miles as before, and there is no sign of knocking, unless the engine is badly overloaded. I find the engine gets noticeably hotter, and in summer will probably require closer attention to lubrication; but this, I imagine, is due, not to the piston, but to the higher compression employed. With regard to "Flat Top's" queries as to carbonisation, I have found very little difference between the old type and the new. The carbon is equally distributed over the whole surface, and is just as easily removed except from the ridge round the edge, the advantage of which I do not quite gather.

I do not suppose that the dome has any mechanical superiority over the flat top, except that it brings the edge of the piston relatively lower in the cylinder, and so checks knocking. Nor do I quite see why, when all the car-makers seem to be aiming at reduced weight in the manufacture of pistons, the new Triumph piston has been made so much heavier. Perhaps someone better informed would explain this point; the Triumph people usually have some very good reason for any innovation they introduce into their work.

Mr. Cattell may be right in saying that three rings are better than two; but if two perform their task so efficiently, I do not myself see the need of anything more; and I should have thought that on the score of friction the extra ring would discount the advantage of its presence.

R. E. S. SPENDER.

A.O.I.V. v. M.O.I.V.

[3748.]-Mr. H. G. Cove, in his very interesting paper on "Motor Cycles, Accessories, and Novelties at the Stanley Show, 1908," which was read before the members of the Essex Motor Club, states that he is a firm believer in the automatic type of inlet valve for motor cycle engines, and that his belief is arrived at after extensive tests. However, in the discussion which followed, there seemed to be quite a consensus of opinion in favour of the m.o.i.v.

While I will not admit for one minute to question the practicability and success of the m.o.i. valve for single-cylinder engines, although personally I prefer the automatic, I am very positive that the m.o.i.v. has never yet proved its superiority in the case of twin or multi-cylinder motor cycle engines either for speed or reliability.

Looking carefully through many back numbers of *The Motor Cycle*, I find that, in 1906, on the occasion of the A.C.U. open hill-climb on Birdlip, that a (?) h.p. m.o.i.v. twin of 950 cc. was easily beaten in the unlimited class by a

5 h.p. twin of 670 cc. fitted with automatic valves. In the A.C.U. Six Days' Reliability Trials for the past few years all the special awards in the twin-cylinder class have been gained by machines fitted with automatic valves. The first open motor cycle race held at Brooklands this year was won by a twin-cylinder machine fitted with automatic valves, the Tourist Trophy twin-cylinder class both in 1907 and 1908 was won by a.o.i.v. machines, and I think, without question, in all open hill-climbs during the season of 1908, the twin-cylinder machines with automatic valves have invariably scored the fastest time, and it has been particularly noticeable in many instances that 5 h.p. machines with a.o.i.v. have beaten 6 and 8 h.p. m.o.i.v. multi-cylinder machines.

One gentleman mentioned, in the discussion which followed Mr. Cove's paper, that there was hardly a multi-cylinder car in use at the present time with automatic valves. Certainly, this comparison is ridiculous, as a car has plenty of room to carry, in a substantial manner, the extra mechanism required to operate mechanical inlet valves.

The only objection I have ever had to the automatic valve has been the bother of the spring cups and cotters causing wear, but this difficulty, I am very pleased to say, I have entirely overcome by fitting a screw cup on the valve stem with a lock nut, and this construction has been accepted and adopted by Messrs. Peugeot (see description of this valve in *The Motor Cycle* for November 25th, page 924), and will be fitted to all of their engines in the future. I have just heard that the De Dion Bouton Co., who have always been great believers in the automatic valve, have adopted this same construction.

Further, I can only say that, until such time as the m.o.i.v. twin-cylinder motor cycle engine is able to prove its superiority over an a.o.i.v. engine of equal cylinder capacity, devotees of the twins will do well to stick to the automatic inlet valve.

W. H. WELLS.

Stanley Show Impressions.

[3749.]-While being greatly struck by the ingenuity displayed in designing the new Quadrant engine, may I be allowed to add a few words of criticism and of correction to remarks which have appeared in your pages?

The flat-faced valves were used in the a.i.o.v. of the 1906 Vindec, F.N. engine, with what success I do not know, except that they are now used in no other engine on motor cycles, to my knowledge. The placing of valves fore and aft instead of at the side is an old idea revived; it was embodied on the twin Berceley engine (now defunct), whose cylinders were side by side in the manner of the 3½ h.p. twin Werner.

The fault with the one lever control carburetter is that, when once started on a ride and the shutter adjusted to suit the temperature, no means exist for enriching the mixture without closing the throttle, e.g., on a steep hill, when pace falls down slightly and it is necessary to close the air (i.e., enrich the mixture), it is necessary to close the throttle too, just when full gas is wanted; the same thing occurs when starting after a stop. The two alternatives are either to start throttled right down with air cut off, or to fiddle about with the tiny shutter, which on a hill is no easy task, and one very likely to seriously upset the mixture. Of course, on a car one lever will act well, as when pace is dropped the gear ratio is lowered and engine revolutions are kept up. It would be interesting to hear from riders who have tried this carburetter whether "one lever" (to say nothing of an air shutter and magneto lever) "gives a perfect mixture at all speeds and in all conditions of atmosphere."

EP 91.

EXPERIENCES WANTED.

"F.R.S." would like readers' experiences with the R.O.M. rubber-studded covers and bands.

"J.M.D." would like readers' opinions of speedometers on motor cycles after giving same a fair trial.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

The Simms British Magneto.

THE Simms is the second all-British high tension magneto, and the fourth new pattern magneto, we have had submitted to us for inspection during the last few weeks. It is a well-made machine, weighing only 5 lbs. 8½ ozs. complete with driving sprocket, and stands 4 in. high. It is shown dissected in the two accompanying illustrations. As will be noticed, it embodies well tried features, but we have failed to find oil holes for lubricating the ball bearings at each end of the armature*. Double field magnets are screwed to the soft iron pole pieces P, between which the H type armature R rotates. The armature revolves on two ball bearings BB supported by the brass end plates T. The contact breaker is fitted on the end of the armature shaft, and, of course, revolves with it, a key and keyway ensuring its accurate replacement. The contact breaker is held secure by the centre screw F, so that it is an easy matter to remove it for cleaning purposes. This screw F also connects the insulated holder for the contact screw to a brass plate which is connected one end of the primary winding, the other end being connected to the armature core. The contact screw is adjustable, and the method of operating the spark of the platinum points K is by the fibre insertion of the bell crank J coming in contact each revolution

with the steel segment C fixed inside the timing disc B. The flat spring L brings the points together again. The distance the platinum points separate can be noted while revolving the

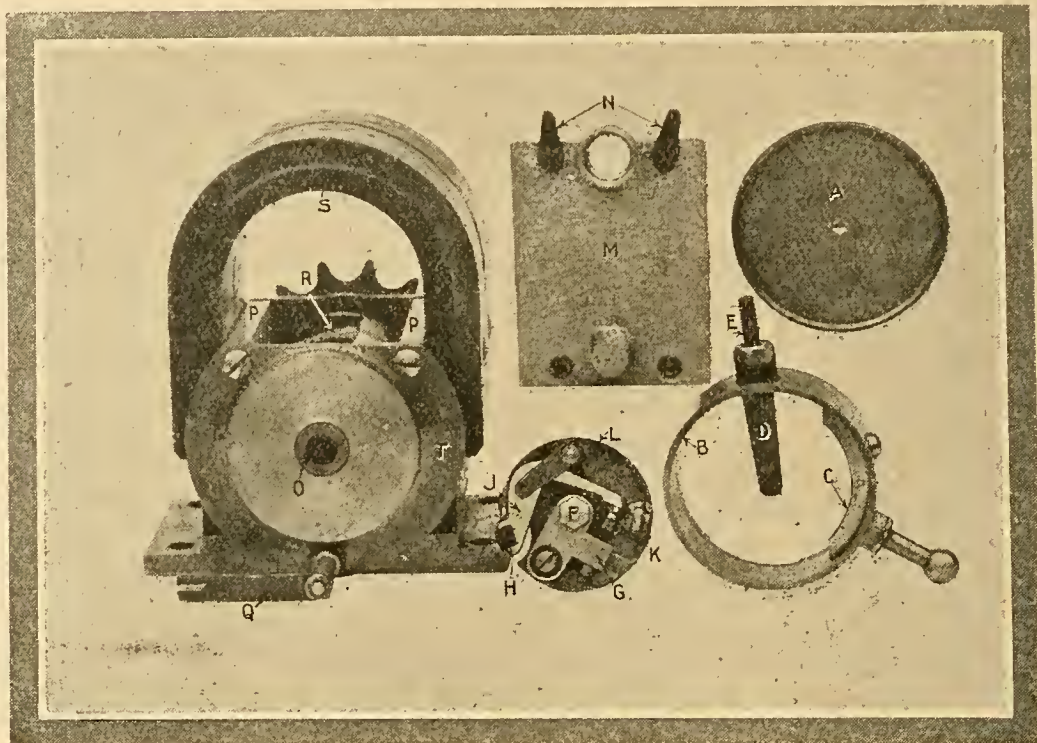


Fig. 2.—The Simms Single-cylinder Magneto. The letters are referred to in the description.

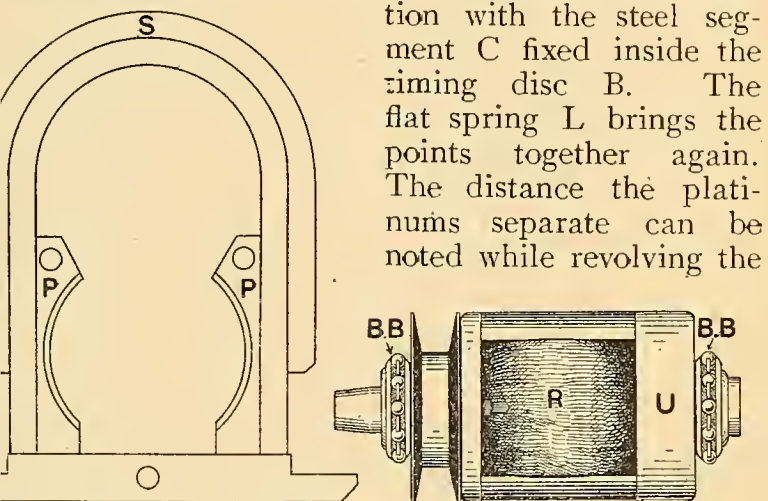


Fig. 1.—The Simms British-made Magneto.

S. Double magnetos.
P. Pole pieces.
BB. Ball bearings.

R. Armature windings.
U. Condenser.

ing it in place. A switch wire may be attached to the terminal E if desired for short circuiting the magneto. It is mounted on, but insulated from, the timing disc B, and connected to the centre screw F by means of the spring D. The whole of the parts can be easily dismantled, and the armature can be taken out for inspection if necessary by removing one of the brass end plates T, which latter are held by three screws.

The timing disc B and the steel segment C can be rotated through an angle of 25° to vary the timing of the spark.

*The manufacturers have informed us since writing the above that the ball bearing on the driven side is packed with grease, which lasts for a year, and that the bearing on contact breaker side is oiled by means of a small oil tin after the cover has been removed. Two little oil drain holes not shown on the base plate are also provided.—Ed.

A RIGID SIDECAR IMPROVEMENT.

ONE objection to rigid sidecar attachments which has now been overcome was the method of fixing the attachment to the bicycle. This operation usually occupied a considerable time, and every time it was desired to use the bicycle solus it was no operation to disconnect the sidecar and replace the attachment in alignment with the bicycle. A chaser was told that it "did not take many minutes," but for the steering to be accurate the fitting of a sidecar must be done carefully to get it in alignment with the bicycle. This applies to sidecars of the rigid type, but the Montgomery flexible

pattern sidecar has gained much favour by reason of its almost instantly detachable fittings. Once the connections on the bicycle are fixed in the right position it is unnecessary to disturb them, as the sidecar cross tubes telescope into the fixing tubes on the bicycle. This arrangement has now been adopted on the Regent rigid pattern sidecars, which are made by W. Montgomery and Co., and should be the means of quickly bringing this excellent type of attachment to the front. *En passant*, we hear that Mr. Montgomery will be in possession of new works in Coventry early in the New Year.

MOTOR BICYCLES FOR SALE.

1908 5 h.p. Roc, Peugeot engine, Bosch magneto, two speeds, clutch, spring forks; £40.—Skidmore, Swallownest, near Sheffield.

As the largest dealers in Rex motor cycles, we can offer the remaining stock of brand new 1908 2½ and 3½ Rexes at prices to lick creation." Wire offers. Luke Sharp, Halifax Motor Exchange, Westgate, Halifax.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chester Road, Old Trafford.

SECTION III.

Warrarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

3 h.p. Birch, studded tyre, good condition; £4.—Hayes, Crossley Sanatorium, Rodsham.

FOR Sale, Moto-Reve, twin, new September, runs beautifully; cost £40, with extras, £50.—Noah Heath, Macclesfield.

FOR Sale, 3½ h.p. engined cycle, very fast and powerful, new coil and accumulator; first cheque for £12 12s. secures.—Arthur Gratton, Robin Hood, Whatstandell, Matlock Bath.

h.p. 1908 Rex de Luxe Motor Cycle, free engine, only done 200 miles, good as new, lamp, with generator, accessories, all complete; £30.—Stone, Rectory Road, Staveley, Near Chesterfield.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

11.—2 h.p. Minerva 26 wheels, very low, fast, reliable.—Morris, photographer, Bourne.

TRIUMPH, 1907, perfect condition, new tyres; owner getting 1909; £28, no offers. Box 1,409, *The Motor Cycle* Offices, Coventry.

1 h.p. Magneto Rex, black and gold, fast and powerful, condition as new; bargain, £20.—Holmes, Spencer Street, Leamington.

MITCHELL Lightweight Motor Cycle, shop-soiled only, 2½ h.p.; great bargain, £12 s.—Brown's Stores, 12, Bull Ring, Birmingham.

BIRCHFIELD Motor Cycle, 3½ h.p., low, long wheelbase, Hermetic tyre, very smart; bargain, £11 10s.—12, Bull Ring, Birmingham.

1 h.p. Rex Motor Cycle, low built, spring forks, 26 wheels, thoroughly good; offer bargain, £13 10s.—Benwell, 94, High Street, Aston, Birmingham.

VINDEC, twin, 1908, two-speed, perfect; £48, offers.—Walker, St. Alban's, Grimsby.

ARIEL Motor Cycle, 3 h.p., spray carburetter, only little used; sell bargain, £12 s.—56, Sutton Street, Aston Manor.

F.N., 1½ h.p., 1908, £35 standard lightweight, bought last June, little used, spring forks, magneto, good hill-climber, ideal indoor bicycle; only used as buying touring machine; £25.—Dr. Darley, Westhaddon, Rugby.

REX 5½ h.p. Twin Motor Cycle, magneto ignition, very fast, powerful, and reliable machine, almost new condition; sacrifice £18 18s.; approval arranged; must sell; cash wanted.—Lancaster, 103, Heeley Road, Elly Oak.

SECTION VI.

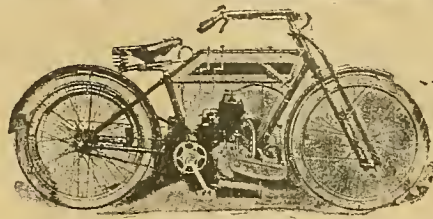
Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

TRIUMPH, 3 h.p., magneto, just overhauled, perfect running order, detachable tubes; £23.—Element, Eardisley.

SECTION VII.

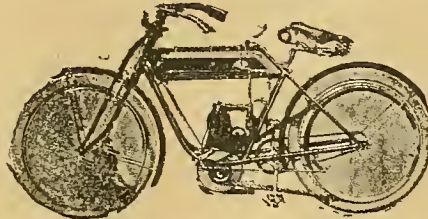
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

1908 3½ h.p. Brown, magneto, spring forks, in excellent condition; cash offers.—Langstone, 17, Earl Street, Oxford.

SNAP THEM UP!

Best **CASH or EXCHANGE** offers accepted for a few **BRAND NEW 1908 3½ h.p. TOURIST REXES**, magneto, ball bearing engines, handle-bar control, Makers' price £40.

5-6 h.p. **TWIN REX**, £17 17s. or £4 and '07 Single Rex, or £8 and 3½ Rex, or level exchange with Single Magneto Rex.

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A few nearly new 2½ h.p. **1908 REX FEATHERWEIGHTS**, magnetos, foot brakes, and all improvements. Weight 90 lbs. Handy and efficient. £19 19s., or exchange.

Six 1907 5½ h.p. **REX DE LUXE**, Roc clutch, magneto, twin tyre, spring forks, spring seat, handle starting. Best sidecar machine on the market. £27 10s. Guaranteed.

4 h.p. N.S.U. TWIN, magneto, smart, two speeds	25 0
4½ h.p. TWIN MINERVA, magneto, 2½ in. tyres	25 0
5 h.p. TWIN G.B., magneto, up to date ..	25 0
5 h.p. TWIN VINDEC (1907), magneto ..	29 10
5 h.p. TWIN ANTOINE, new	22 10
6 h.p. TWIN REX and Sidecar, four speeds ..	20 0
3½ h.p. TWIN WERNER, spring forks	11 10
3½ h.p. REX, 1907, very smart	15 15
3½ h.p. REX (1906), low built	14 14
4 h.p. ANTOINE, magneto, Roc two-speed ..	20 10
5½ h.p. REX-DE-LUXE, twin tyres, Roc clutch, magneto	27 10
4 h.p. ZENITH BICAR, free engine	16 16
3 h.p. RALEIGH, Phoenix two-speed gear ..	11 10
3½ h.p. ARIEL, M.O.V., low built	14 14
3½ h.p. MINERVA, Chater-Lea	13 13
4 h.p. ANTOINE, M.O.V., low	12 12
3 h.p. BRADBURY, vertical engine	10 10
3 h.p. QUADRANT, spring forks	10 10
3 h.p. ARIEL, M.O.V., low	10 10
5 h.p. TWIN REX, Osborne four-speed ..	17 17
2½ h.p. WERNER, vertical, low built	9 10
2½ h.p. MINERVA, 26 in. wheels	9 10
2½ h.p. SPARK, magneto, low built	9 10
3 h.p. SIMMS, magneto	10 10
2½ h.p. NOBLE, M.O.V., vertical	9 10
3½ h.p. REX, vertical engine	8 10
2 h.p. REX, vertical engine	7 10
2 h.p. ORIENTAL, B. and B. carburetter ..	5 0
1½ h.p. MINERVA, spray, good	4 16
2½ h.p. ARIEL Lightweight, spring forks ..	12 12
3½ h.p. QUADRANT, 1907, spring forks ..	17 10

Extended payments arranged.

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Open-frame Tricar Chassis and Wheels	23 10
Ditto with Two-speed and Tyres	8 15
5 h.p. QUADRANT, two speeds, coach built	18 19
10 h.p. REXETTE, two speeds, open frame ..	29 10
5½ h.p. REXETTE, two speeds, open frame ..	27 10
6½ h.p. HUMBERETTE, Two-seater Car, three speeds, reverse, artillery wheels, three lamps, Stepney wheel	39 10

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CHARLES STREET (off Square Road), HALIFAX.
Two minutes from station.

MOTOR BICYCLES FOR SALE.

1908 Triumph, July, good as new, several extras; £40.—Watts, Rosemont, Lydney.

C. A. HUNTER, 45, Park Street, Bristol, sole agent for the famous N.S.U. motor cycles; eight models to choose from—from 1½ h.p. single to 8 h.p. twin; spare parts always in stock.

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SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

STAMFORD HILL,—3½ h.p. Rex, spring forks, splendid condition, climb anything; £11 15s.

STAMFORD HILL,—3 h.p. Trent, long bars, swan-neck seat-pillar, splendid condition; £11.

STAMFORD HILL,—1½ h.p. Quadrant Lightweight, Minerva engine, two brakes, all in very good condition, and perfect order; £5 10s.

STAMFORD HILL,—3 h.p. Progress, magneto, 26 by 2½ tyres, perfect condition; £10 10s.—128, High Road, Stamford Hill.

STAMFORD HILL,—3½ h.p. Minerva, low built, genuine throughout; £12; in new condition, grand goer.

STAMFORD HILL,—5 h.p. twin Brown, Palmer cord tyres, Osborne four speeds, shop-soiled, bought few weeks; £45.—128, High Road, Stamford Hill.

2½ h.p. Minerva, spray, 26 in. wheels, good condition; lowest £9.—229, Burdett Road, E.

3 h.p. Clarendon, M.O.V., low built, reliable; trial; £9.—190, Mellison Road, Tooting.

1908 Pebok, 3½ h.p., M.O.V., clutch, practically new; £12 10s.—17, Algave Road, Wandsworth.

3½ h.p. Jap, spring forks, new Palmer tyres; price £20.—G. Neame, Colkins, Faversham.

N.S.U., spring forks, magneto, all latest improvements; £20.—22, The Avenue, Bruce Grove.

3 h.p. Genuine Werner, vertical, perfect order; £8, cash wanted.—198, High Road, Wood Green.

3½ h.p. Rex, magneto, 1908 model; £25.—3½ Wauchope's, 9, Shoe Lane, Fleet Street, London E.C.

WHITTLE'S.—Four-cylinder F.N., magneto, spring forks, excellent order; great sacrifice, £19 19s. cash.

WHITTLE'S.—Clyde, 3 h.p., magneto, Simms M.O.V. engine, splendid condition; dead snip, £10 15s.

WHITTLE'S.—Antoine, 4 h.p., vertical, M.O.V., long bars, low seat, 26 wheels; cheap, £9 15s.

WHITTLE'S.—Roc, 3½ h.p., Military Model, magneto, clutch, handle-bar control, like new; £18 10s.

WHITTLE'S.—Bat, 3½ h.p., spring frame, genuine De Dion engine, almost new; sacrifice £16 16s.

WHITTLE'S.—Humber, 3 h.p., new tyres, perfect; £7 15s.—41, Skelbrook Street, Earlsfield, Wandsworth.

1908 3½ h.p. N.S.U., two-speed gear, magneto, perfect; £26.—8, Barrett Street, Manchester Square, W.

FOUR-CYLINDER F.N., 4½ h.p., latest model just new; £33.—Danebank, Sylvester Road, East. Finchley, London, N.

5 h.p. Twin Rex Motor Cycles, 5½ h.p., all at £15 each, splendid value.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

£10, or best offer.—Motor cycle, 2½ h.p. Peugeot, vertical engine, Chater-Lea frame, good working condition.—Write, 170, Worple Road, Wimbledon.

2½ h.p. Moto-Reve, lightweight model, magneto, Druid forks, guaranteed; £25.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD.— $4\frac{1}{2}$ h.p. F.N., four-cylinder, 1908, magneto, and spring forks, with all accessories; only £28; guaranteed.

IF You Want Exchanges or Bargains in second-hands come to 5, Heath Street, Hampstead.

HAMPSTEAD.—5.6 h.p. twin Rex, magneto, and spring forks, 1907; £16; good condition.

HAMPSTEAD.—Brand new 40 guinea Rex twin, magneto, and spring forks; £28.

HAMPSTEAD.—Twin Fairy, in good order; only £9, great bargain, with accessories.

HAMPSTEAD.—5 h.p. twin Vindec, two-speed gear, complete with all accessories; £32.

HAMPSTEAD.—Twin N.S.U., magneto, and spring forks, free engine; £25, great bargain.

HAMPSTEAD.— $3\frac{1}{2}$ h.p. 1907 Quadrant, splendid condition, all accessories; only £12, great bargain.

HAMPSTEAD.—2 h.p. Minerva, M.O.V., good order; only £4, with all accessories.

HAMPSTEAD.—2 $\frac{1}{2}$ h.p. De Dion, in fine order, with accessories; only £5; splendid machine.

HAMPSTEAD.—We allow £38 for 1908 Triumphs in part payment for 1909 F.N.'s.

HAMPSTEAD.—5.6 h.p. Twin Rex, 1907, good condition, guaranteed; only £12, great bargain.

HAMPSTEAD.—Kerry; £7 10s.; splendid condition, long bars, very low, grand machine; bargain.

HAMPSTEAD.—4 h.p. Antoine, fine going machine, all accessories; only £10 10s., bargain, guaranteed.

HAMPSTEAD.— $1\frac{1}{2}$ h.p. 1908 Model F.N. Lightweight, new condition, splendid order; £20.

HAMPSTEAD.— $3\frac{1}{2}$ h.p. 1908 Triumph, only run about 1,000 miles, better than new; only £33.

HAMPSTEAD.—5.6 h.p. Twin Jap, very low, splendid condition, handle-bar control; £18.

HAMPSTEAD.— $3\frac{1}{2}$ h.p. Brown, 1907, tyres and engine good condition; £12; with accessories guaranteed.

HAMPSTEAD.—5 h.p. Twin Vindec Special, magneto and spring forks; £28, all accessories.

HAMPSTEAD.—5 h.p. Vindec, like new, with all accessories, magneto; £26, great bargain.

HAMPSTEAD.—2 $\frac{1}{2}$ h.p. Minerva, M.O.V., spring forks, vertical, 1907 model; only £11.

HAMPSTEAD.—2 $\frac{1}{2}$ h.p. F.N., good condition, all accessories; bargain, £8 only, a snip.

HAMPSTEAD.—3 h.p. Fafnir, vertical, in good order; only £9 for quick sale.

HAMPSTEAD.—5 h.p. T.T. Vindec, 1908, only run few hundred miles; £32.

HAMPSTEAD.—3 h.p. Kerry, late model, long bars, good condition, new tyres; £12.

HAMPSTEAD.—We allow highest prices for your old machine part payment for new model; write at once.

HAMPSTEAD.—Sole agents for Griffons, F.N.'s, Vindec, Minervas, N.S.U., Triumphs, etc.; we allow from £10 upwards for old machines, any condition, in part payment for new models.—Rey, Motor Works, 5, Heath Street, Hampstead. 2678 P.O. Telephone.

£3 15s., $1\frac{1}{2}$ h.p. Minerva; £5 10s., $2\frac{1}{2}$ h.p. Zedel; seen running. — Chemist, 91, Southfield Road, Chiswick.

£7—Rex, $2\frac{1}{2}$ h.p., ready ride home, tyres good; seen appointment. — Fricker, jun., 241, High Street, Brentford.

4 h.p. Roc, standard model, good running order assured; £19 19s.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3 h.p. Quadrant, perfect running order; £6 10s.—Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.



1909 MODELS.

All requiring a Motor Cycle for the 1909 season should call and inspect our grand selection of new and second-hand motor cycles. Most of the leading makes are represented.

As in previous years, we have decided to take any number of second-hand machines in part payment for new, as

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Moto-Reves,
Douglas,
Rexes,
Bats,
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Nortons,
L.M.C.,
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Rocs
Quadrants,
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Etc.**

All who have a 1906 1907, or 1908 machine should get our terms of allowance. We have every intimation of a great season this coming year. Orders should therefore be placed early to secure delivery when required.

Good market value will be allowed for second-hand models, and offers will be made by post subject to their tallying to description given at sight.

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MOTO-REVE Special Trial Machine, very little used; cost over £41, what offers? —Turpins, 29, Preston Road, Brighton.

IF You Want Bargains in second-hand motor cycles you can get them at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

2 $\frac{1}{2}$ h.p. M.M.C., Chater-Lea, low frame, long bars, up-to-date, absolutely sound and perfect; £10.—45, Burton Road, Brixton.

5 $\frac{1}{2}$ h.p. Brand New 1908 N.S.U., magneto standard model; 30 guineas.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

2 $\frac{1}{4}$ h.p. F.N., low build, 26in. wheels, Palmer tyres, Dermatine belt, good condition; £9; trial.—F. Jermy, Frimley Green, Surrey.

7 h.p. Twin-cylinder new Bat Motor Cycle a 1908 standard model; offers. — Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

19⁰⁸ Minerva, $2\frac{1}{2}$ h.p., magneto, and spring forks, driven 300 miles only, as new; offers wanted.—337, Burdett Road, Limehouse

FOR Immediate Disposal, a few second-hand and new 1907 and 1908 Triumphs all guaranteed; offers.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

BROWN Motor Cycle, 2 h.p., perfect running order; sacrifice £4 15s.; owner out of employment.—Apply, 54, North Birbeck Road, Leytonstone.

5 $\frac{1}{2}$ h.p. Rex de Luxe, 1908 model, black finish, free engine clutch, magneto twin wheel; £25.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

£10 10s.—3 h.p., long bars, Longuemare every part just enamelled, plated, Palmer cords, like new; bargain.—75, Belmont Street, Kentish Town.

3 $\frac{1}{2}$ h.p. Minerva Light Forecar, in excellent condition, very fast and powerful; reasonable offer accepted.—551, Sever Sisters Road, Tottenham.

3 h.p. Quadrant, spring front forks, spray carburetter, a very reliable motor cycle, for £12 10s.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3 $\frac{1}{2}$ h.p. Genuine 1907 Rex, spring forks, take sidcar anywhere, practically new with all accessories; nearest offer to £15 must sell.—198, High Road, Wood Green.

4 h.p. Roc, two-speed gear, powerful machine, suitable for passenger work, £19 19s., first cheque. — At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

3 h.p. C.I.E., magneto, splendid condition; £17; also 3 h.p. F.N., trembler coil, £16 trial and inspection welcome.—C. Brooks, oil man, 306, Albert Road, North Woolwich.

3 $\frac{1}{2}$ h.p. 1908 Minerva, magneto ignition spring forks, standard model, complete, in excellent order; £25.—At Wauchope's, 9, Shoe Lane, Fleet Street, London

19⁰⁷ Magneto Rex, $3\frac{1}{2}$ h.p., latest finish absolutely perfect, takes sidcar, powerful, low, very reliable; £17.—Motorist, 4 New Norfolk Street, Curtain Road, London

MOTOSACOCHE, perfect order, 1908, spring forks, Palmer special tyres, Rich de tachable tubes; bargain, £19, or near offer.—Roberts, Washington Road, Worceter Park.

3 $\frac{1}{2}$ h.p. Brown, magneto ignition, non-skid to both wheels, 26 by $2\frac{1}{2}$ tyres; very lowest price, £19 19s., splendid bargain.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

19⁰⁸ Triumph, engine dated April 27th rubber studded tyre, Autoclipse lamp and generator, spare cover, horn, tools; £36.—Advertiser, 15, Windmill Road, Wands worth.

3 $\frac{1}{2}$ h.p. Magneto Quadrant, vertical engine spring forks, etc.; £17 10s., in first class condition and running order.—At Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

19⁰⁸ $3\frac{1}{2}$ h.p. N.S.U., magneto, brand new condition, absolutely equal to new in every detail, not ridden 200 miles, very low rubber studded cover, very powerful, spare cover, spares for engine and magnto, stand full kit; lowest £30; no offers for less entertained.—Hoffman, 60, Chiswell Street, Finsbury Square, London.

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If you wish to make a present of a Motor Cycle or useful fitment for a machine, send for our List, containing hundreds of useful gifts for Motor Cyclists. We can give immediate delivery of some 1909 models and early delivery of others. Cash, Credit, or Exchange arranged. A good selection of high-class Second-hand Machines ready for delivery. Our credit system applies to most of these. Special terms for spot cash.

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The **SERVICE MIRROR LENS**, with or without ball handle. Best N.P. or Brass, Lamp only, 18/9. Generator .. 7/9. Extra Large Generator .. 10/6. Post free.

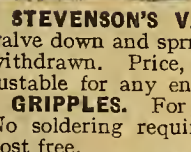


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STEVENSON'S VALVE SPRING LIFTER. Holds valve down and spring up, allowing cotter to be easily withdrawn. Price, suitable for Triumphs, 2/3; adjustable for any engine, 3/3, post 2d.

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BOOTH.—New 6 h.p. twin Antoine, £8 15s.; 3 h.p. Simms, magneto, M.O.V., £5 10s.; water-cooled 5 h.p. Antoine, M.O.V., new, £8 5s.; 5 h.p. Aster, w.c., £7 10s. — Booth's Motories, Charles Street, Halifax.

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BOOTH takes your old cover and tube in part payment for new tyres; liberal allowances.

BOOTH keeps big stocks of Continentals, B Clinchers, Palmers, Shamrocks. Write for prices; money saved.—Booth's Motories, Charles Street, Halifax.

CAR Cover, new, Continental, 700 by 80, Dunlop, 28 by 2; best cash offers.—Watts, Rosemont, Lydney.

26 by 2 1/2 Covers and various other sizes from 12s.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

4 Dunlop Tyres (grooved), 850 by 120, not used since re-treaded, good as new; £3 10s. each; approval.—F. Jermy, Frimley Green, Surrey.

MOTOR Cycle Tyres.—Finest value in the trade; this month's goods; beaded or wired, heavy, all sizes, 12s. 6d.; tubes, 7s. 6d. —Universal Motors, 37, Chestergate, Stockport.

26 by 2 1/2 Palmer Cord Cover, beaded, not ridden 20 miles, perfect, accept 35s., cost £2 10s.; 28 by 2 Clincher cover, beaded, almost new, 8s. 6d.—W. Byers, Tullamore, Ireland.

MAUDE'S.—Further reduction in guaranteed Acme tubes, 26 by 2, 6s. 3d.; 2 1/2, 6s. 9d.; 2 1/2, 7s. 3d.; 28 by 2, 6s. 4d.; 2 1/2, 6s. 10d.; 2 1/2, 7s. 4d.; on three days' approval.—Maude's, Powell Street, Halifax.

GUARANTEED Tyres.—28in. by 2in., beaded edge, best manufacture, 9s.; unobtainable elsewhere under double this price; astonishing value; approval.—Motor Supply, 22, Hall Street, Southport.

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REPAIRS and Overhauling.—We have the finest repair works in London for motor cycles, with up-to-date machinery and first-class workmen; estimates free. — Laystall Works, address below.

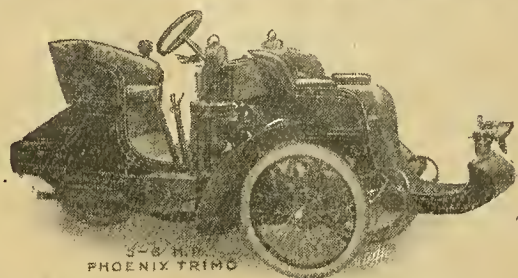
VALVES.—Nickel steel valves to your pattern; exhaust, 6s. 6d.; inlet, 4s.—Laystall Works.

CYLINDERS supplied for any make of engine, whether out of date or not.

RINGS.—Try our stepped rings, guaranteed to fit all round cylinder wall.

PULLEYS, gears, and all replacements; engines re-bushed, and thoroughly overhauled; cylinders re-bored, etc.—Laystall Motor Engineering Works, Ltd., Automobile Repairers, 27 and 29, Laystall Street, Rosebery Avenue, E.C.

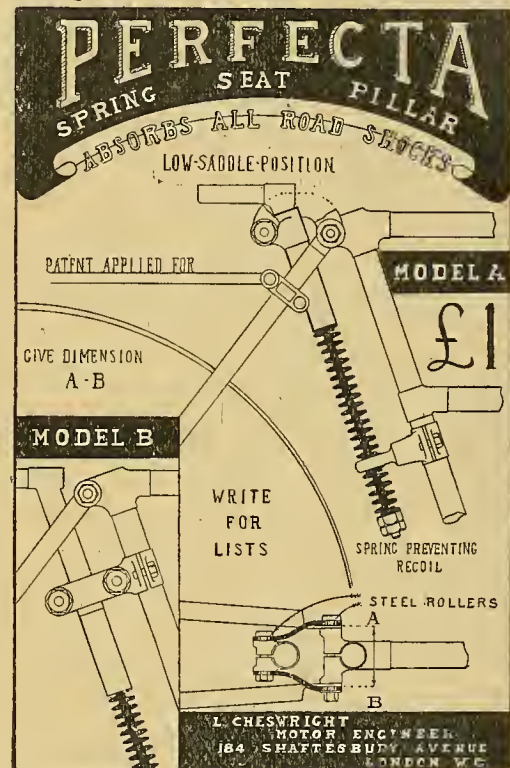
THE FAMOUS PHOENIX TRIMO



With Lamps, Horn, & Spares. **£90** Ready for the Road.

LISTS BY RETURN.

PHOENIX MOTORS, LTD.,
Blundell Street, Galedonian Road, LONDON, N.



G. T. RICHES & CO., LTD.

19, STORE STREET, LONDON.

RICH DETACHABLE AIR TUBE.

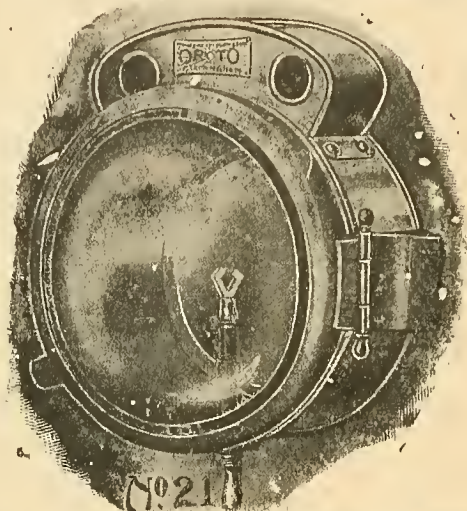
24" x 2"	13/6	26" x 2 1/4"	14/6
24" x 2 1/4"	14/-	26" x 2 1/2"	15/6
24" x 2 1/2"	15/-	26" x 3"	22/-
26" x 2"	14/-	28" x 2"	14/6

Please write for Special List, with full prices and particulars of all sizes, together with instructions and hints. Your OWN TUBE CONVERTED. Write for prices.

VALVES ALL SIZES FROM 1/6
PISTON RINGS ALL SIZES FROM 2/0
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CYLINDERS 10% VARIABLE FROM 8/6
GEARS CUT. REBUSHING. NEW PARTS
PLEASE GET OUR LATEST LIST FREE
THE MARX MANUFACTURING CO. LUFFE ROAD, SHEFFIELD.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

XMAS BOXES. THE "RIP" HEADLAMP.



We are now in a position to offer our clients a further supply of the now famous headlamps, which we have recently been offering at such astounding prices.

As proof of the quality we are offering, we again state that they are—

- (1) Sent on three clear days' appro.
- (2) All brass (riveted).
- (3) Not soldered in any part.
- (4) Fitted with 4in. lens.

PRICE (motor cycle size) 16/11
" (tricar size), 5in. lens 22/6
Order Early and Save Delay.

TYRES.

The under-mentioned tyres are all guaranteed and genuine, and we are only offering them at a low price prior to stocktaking.

As we have only a few of each size, we cannot guarantee delivery unless ordered immediately.

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26×2in. covers, beaded 14/- each.
26×2½in. " " 17/- "
28×2½in. " " 18/6 "
28×2½in. " " 20/- "
28×2½in. " " wired 16/3 "

CONTINENTAL MODEL DE COURSE.

26×2½in. covers, beaded 29/- each.
26×2in. " " 27/6 "

SHAMROCKS.

26×2½in., rubber 'studded' 40/- each.

TUBE CARRIERS.

The "RIP" TUBE AND BELT CARRIERS still lead the way for a good substantial carrier, despite the fact that they have been copied by many makers; but remember, they are only copies.

Note the low prices. Note the high quality.

Quality. " " "B"

Tube Carrier 7/6 4/6
Belt Carrier 8/6 5/6

The "A" qualities are lined in two colours, and are finished in a very superior manner.

Long Handle-bars, best quality, heavy gauge, 5/6.
Leather Toolbags, "A" quality 7/6, "B" 5/6.
Twin Trembler Coils, heavy contacts, 12/6.
Vim Rear Stands, 5/6.
Stanley Dermatine rin. Belting, 8ft. 6in. lengths, new, 11/6.

Treble Twist Horns. Absolutely the latest. Try one on three days' approval, and you will never regret the purchase. Only 6/6 each.

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MINERVA, 7-8 h.p., 1908, not run 500 miles £31 0
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ANTOINE, 5 h.p., 1907 model, 26in. wheels.. £20 0
MOTOSACOCHE, 1908, accum. ignition, new £20 0
PHELON-MOORE, two speeds, 1907 £30 0
ALCYON, twin, spring forks, 5 h.p., a bargain £23 0
MINERVA, 3½ h.p., magneto, spring forks .. £23 0
TRIUMPH, 3½ h.p., 1907 (July), magneto .. £30 0
REX, 5 h.p., spring forks, twin-cylinder £17 0
MABON, 3 h.p., vertical, magneto H.T. £13 0
CLYDE, 2½ h.p., magneto, spray £12 0
ROC, 4 h.p., 1908, two speeds, magneto £30 0
SAROLEA, 5 h.p., a beauty for pulling £20 0
ARIEL, 2½ h.p., mag., spring forks, '08, new £34 0
REX, 3½ h.p., spring forks, 1906 model £13 0
WERNER, 3½ h.p., spring forks, twin £14 0
ARIEL, 3 h.p., 1908, brand new £24 0
Cash or Exchange for above. ☺

Tyre Catalogue post free from

MAUDE'S MOTOR MART THE FAIR FACTORS
POWELL STREET, HALIFAX.
(Behind the Victoria Hall.)
Telephones—433 Day, 804 Night.

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C. A. HUNTER'S Repair Department is the most complete in Bristol; all mechanics, no juveniles employed; personal attention to matters small and large.—Telephone, 2978.

TO West of England Motorists. — Car and motor cycle repairs, prompt and reliable; cylinders re-bored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Works, Bridgwater.

COCCCCCCC. — Compression means power; cylinder rebored and new pistons fitted; guaranteed fit 4-1.000 inch. bears 13 stone on pedal; write for list.—Gradior Machine Co., Compression Specialists, Stafford.

ANY cast or wrought iron parts repaired equal to new at nominal cost, by oxy-acetylene process, broken cylinders a speciality; no charge if unsuccessful.—Stansell's Acetylene Co., Engineers, Carbide Importers, Exeter.

BIRMINGHAM.—Overhauling, cylinders re-bored, re-hushing; pulleys, valves, any make; frames cut down; accumulators charged and repaired; ideas carried out; prompt attention.—Priest and Williams, 66, Bishop Street.

EXCHANGE.

2½ h.p. Magneto Singer, for 5 foot roll top desk.—16, Westgate, Halifax.

2 h.p. Motor Cycle, magneto, for higher power.—Particulars, Thomson, Duncanstone, Insch, N.B.

DE DION, 6 h.p., perfect condition, for powerful bike and sidecar.—McNiel, 2a, Trump Street, E.C.

3½ h.p. Excelsior Motor Cycle for push bike and £7 cash, or sell cheap.—198, High Road, Wood Green.

EXCHANGE Gent's push cycle and chest of 220 tools (cost about £20), for motor cycle, about 3½ h.p.—66, Grand Parade, Harringay.

2½ h.p. De Dion-Bat Motor Cycle, very good running order; exchange for push bikes and accessories.—1,418, The Motor Cycle Offices, Coventry.

WINCHESTER Repeating Rifle, holds 15, as new, for handle-bar controlled carburetter, or Palmer cord, 28 by 2½.—93, Belgrave Gate, Leicester.

EXCHANGE for £7 and good push cycle 2½ h.p. Scout motor cycle, low, powerful, perfect order; reasonable trial.—86, Colvestone Crescent, Dalston, London.

MAUDE'S are open to make good allowance for lathes, mechanical tools, or phonographs, or the like, for motor cycles.—Maude's Motor Mart, Powell Street, Halifax.

WANTED, Magneto Motor Cycle in exchange for my cottage piano, iron frame, and all latest improvements, cash adjustment.—Pembroke House, 22, The Avenue, Bruce Grove.

WANTED, sidecar (Mills and Fulford castor wheel preferred), in exchange for lady's 1908 Raleigh cycle, with Sturmey-Archer tri-coaster hub.—Apply, 1,390, The Motor Cycle Offices, Coventry.

POLYPHONE 1d. in the Slot Musical Instrument, cost £16 16s., with 18 tunes, practically new; will exchange for motor cycle, or sell £8; anything useful in part payment.—G. H. Jones, Talbot House, Lichfield.

EXCHANGE for good motor cycle, tricar, or reliable modern car, new high-class furniture, any description, valued wholesale, direct from the works.—Furniture Manufacturer, 7-11, French Place, Shore-ditch, London.

ENGLISH Roan Pony, 10½ hands, brown harness, and rubber tyred governess car (by Potters, of Stratford), a really handsome turnout, for good motor car (cash adjustment either way).—551, Seven Sisters Road, Tottenham.

EXCHANGE 12-14 h.p. Gobron-Brillie car, four speeds and reverse, and for which owner has no further use, for good motor cycle or tricar; car is perfect, and will arrange a level exchange for a good machine.—Pettyt, dentist, Halifax.

DERMATINE

• SPEAKS AT LAST. •

Speaking only of British-made Motor Cycle Belts at the Stanley Show,

90 %

were British-made Dermatine Belts.

THE LEADING BRITISH MAKERS' STANDARD BELT.

Humber, Triumph, L.M.C., Norton, Douglas, Quadrant, Arno, J. T. Brown Bicar

were fitted at the Stanley Show with

DERMATINE BELTS

(See The Motor Cycle, Nov. 25th, page 927).

The LEADING BRITISH-MADE MOTOR BELT.

Fair trading, no bribes, no paid riders.

BEWARE OF IMITATIONS.

The Dermatine is the only belt to win 1st Prizes in Tourist Trophy Race two years in succession, 1907-1908.

Hundreds of Testimonials.

British Made.



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5in.	¾in.	7in.	1in.
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POST FREE.

ME, TOO, at the Stanley Show.



The Stanley Detachable Belt Fastener.

80 %

of all motor cycles were fitted with the

STANLEY FASTENER.

Sole Manufacturers :

THE STANLEY DERMATINE MOTOR BELT CO.,

32, LONDON ROAD, BROMLEY, KENT.

STANLEY WEBB, Manager.

¶ Readers who purchase, or contemplate purchasing, a new machine, should advertise their present mount in these columns. ¶ Experience has shown that "The Motor Cycle" is, in the majority of cases, successful in finding a purchaser. ¶ This applies also to accessories and spares. * * *

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Price
1/11½.
Postage 2d.

All
Rubber

All-Rubber Motor Goggles, with extra pair of Tinted Lenses. Ventilated, light, and comfortable.

The . .

INVINCIBLE MOTOR CYCLE SUIT.

It is made as an ordinary Norfolk suit. The breeches are lined throughout with flannel, with lace knees. The jacket is made with a detachable leather body lining, which can be taken out when not required. With the leather lining in, this jacket is perfectly weather-proof. Made in fancy tweeds and homespun.

PRICES:

46/6, 50/-

Comfortable,
Elegant.

Patterns and
self-measurement
forms gladly sent

OUR NEW ILLUSTRATED
MOTOR CYCLE THING
and accessories catalogue, post free.

JOHN PIGGOTT LTD.,

117-118, Cheapside & Milk Street, London, E.C.

For . .

TRIUMPH MOTOR CYCLES

and all kinds of

ACCESSORIES,
SPARES,
PETROL,
REPAIRS,
and PROMPT ATTENTION

MORRIS GARAGE,

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Tel.: "Auto, Oxford."

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Send for Lists of
STOCK CASTINGS FOR REPAIRS.



J.C. DALMAN & SONS, BIRMINGHAM.

Genuine Birmingham

"QUADRANTS."

A large stock of parts still to be cleared.
Write for latest list.

REG. SAMSON,

232, LADYWOOD RD., BIRMINGHAM.

EXCHANGE.

2 h.p. Rex, Elland frame, 90lb. weight, spray, trembler, also a 1½ h.p. engine, trembler coil, and 15 amp. accumulator, and tanks; wanted, a good sideboard, or good American organ, or a good suite; near Manchester.—No. 1,412, *The Motor Cycle Offices*, Coventry.

PUSH Cycles, gents' and ladies'; exchange for Roc conversion, fit 1907 Triumph, or gent's and two ladies' for low magneto machine; sale, engine, clutch, adjustable pulley, fit above, unused, wants slight repair, £1; exchange speedometer.—Horner, Milnes Street, Wellington Road, Leeds

WANTED.

8 to 10 h.p. Air or water-cooled twin, M.O.I.V.—Felbrigg, Sidcup.

8 h.p. De Dion Cylinder, 100 by 110, perfect; spot cash.—J. Morris, jun., Retford.

WANTED, 6-7 h.p. Bat, magneto, cheap for cash.—28, King's Road, Peckham.

WANTED, 2½ h.p. Engine Minerva preferred.—Wm. Pollard, 157, Severn Road, Cardiff.

WANTED, 1908 Triumph for cash, must be good order.—Stimpson, Wellesbourne, Warwickshire.

WANTED, 3½ h.p. Fafuir motor cycle, cheap for cash.—Palmer, 6, Flaxman Terrace, W.C.

WANTED, Motor Cycle, exchange gas engine, 4½ in. bore, 8 in. stroke.—Millard, Belvedere, Kent.

GOOD Reliable Small Car, known make, any condition; cheap.—R. Else, Lea-wood, near Matlock.

WANTED, Triumph, Vindec, or any good make, for cash.—Apply to Rey, 5, Heath Street, Hampstead.

WANTED, F.N., four-cylinder, good condition; must be cheap for cash.—5, Heath Street, Hampstead.

WANTED, two-cylinder car, cheap, any condition; 7 h.p. Panhard preferred.—Stimpson, Stratford-on-Avon.

WANTED, 1908 Triumph; give reasonable cash price; other good makes considered.—Booth's Motories, Halifax.

MOTOR Cycle Frame, complete, less engine, long, low, good condition.—No. 1,420, *The Motor Cycle Offices*, Coventry.

LIGHT Car, give 5 h.p. open frame Chater-Lea tricar and cash, or sell £30.—4, Francis Street, Artillery Place, Woolwich.

SIDECAR or Forecar wanted in exchange for solid oak bureau, exceptional design, perfect, new.—23, Arden Road, Handsworth.

WANTED, sidecar (left side); exchange half-plate camera and accessories, or sell.—No. 1,411, *The Motor Cycle Offices*, Coventry.

WANTED, in London, lightweight, late model magneto; cheap for cash.—Alexander, 105, Abbey Road, Barrow-in-Furness.

WANTED, 2½ to 3 h.p. motor cycle, in exchange for 5½ h.p. twin Princep and cash, or sell £23.—W. Walters, 86, South End, Croydon.

WANTED, Motor Cycle, price moderate, exchange furniture, exchange preferred.—Payne, House Furnisher, Melton Mowbray.

WANTED, sidecar, 26 wheel; exchange four good oil paintings, massive frames; will send particulars.—Boyd, Etchingam, Sussex.

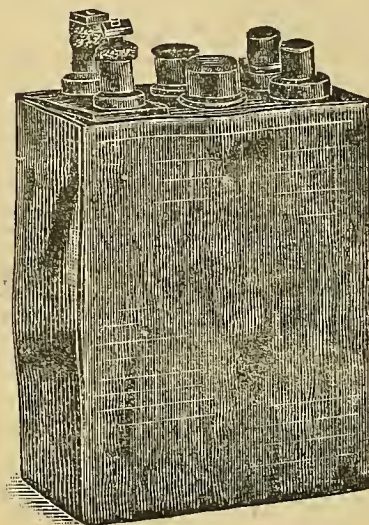
OPEN Frame Tricar, about 5-6 h.p., exchange modern up-to-date twin bicycle, or sell £30; no rubbish.—1,416, *The Motor Cycle Offices*, Coventry.

WANTED, modern Vindecs, Bats, Triumphs, Phelon-Moore's, Minervas, Rexes, F.N.'s, etc., either in payment for 1909 motors, or for spot cash; no rubbish.—Maude's, Motor Mart, Powell Street, Halifax.

S. J. FAIR, the Motor Cycle Exchange, Cheltenham Road, Bristol.—Wanted, 25 second-hand motor cycles, any makes, 1½ to 6 h.p. for shipment abroad; motor cycles sold on commission, or purchased outright; cash remitted by return; bankers' references if desired.

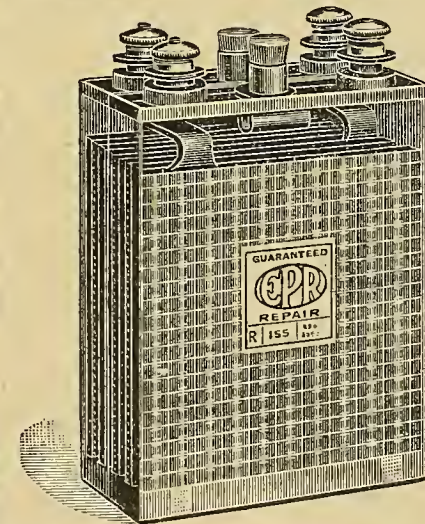


REPAIRS TO ALL MAKES OF ACCUMULATORS



Do not discard your old Cell if it should be at all faulty, but send it along to us to have it thoroughly tested and repaired.

If you would rather, we will allow you for your old Cell, and you can have one of our guaranteed E.P.R. Accumulators in part exchange.



Above is a specimen of our repair work carried out in our Factory. We fully guarantee these repairs, and providing that the ordinary amount of care is observed, these Cells will give the greatest satisfaction.

PRICE LIST OF REPAIRS ON APPLICATION.

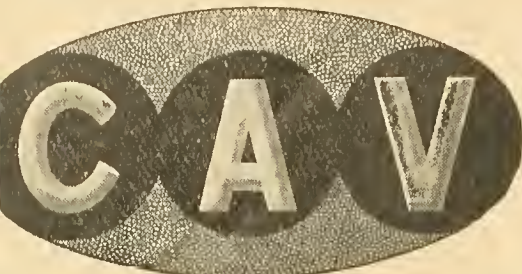
RICHFORD & CO.

(Proprietors of 'Richford Grinding Compound')

153, FLEET STREET,

Dept. M.C. LONDON, E.C.

Established 1876.



the mark that is synonymous with everything that is good in

ACCUMULATORS, IGNITION COILS, MAGNETOS, ELECTRIC LAMPS, & ELECTRICAL ACCESSORIES.

C. A. VANDERVELL & CO.,
Electrical Engineers and Motor Ignition Specialists,
Marple Way, Acton Vale, London, W.
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ECONOMY. **REGISTERED** **RELIABILITY.**

NO ACID. **NO CORROSION.** **NO CHARGING.**

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1909
NEW CATALOGUE,
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H.H. COMPLETE SYSTEM OF
Dry Battery Ignition,
Now Ready.

THE ONLY SYSTEM FOR WINTER RIDERS.
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REX
REPLACEMENTS
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We STOCK
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SAVE TIME AND MONEY BY ORDERING FROM
THE PREMIER MOTOR CO.

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ALL SPARES SUPPLIED PROMPTLY.
LOW PRICES.
Discount to the Trade

THE PREMIER MOTOR CO., LTD.,
ASTON ROAD, BIRMINGHAM.

WANTED.

REMINGTON Typewriter, new, and Triumph bicycle, offered for good motor cycle, cash adjustment if necessary.—15, Fulwood Road, Aigburth, Liverpool.

WANTED, Simms engine, 2½ or 3½ h.p., magneto, high or low tension; must be in good order; cheap for cash.—Clarkson, Cowan Bridge, Kirkby Lonsdale.

WANTED, 2½ h.p., of good make and sound, one in need of overhauling would suit if cheap; offer £1 per month.—Box L3,826, The Motor Cycle Offices, 20, Tudor Street, E.C.

WANTED, 5 to 7 h.p. Twin Motor Cycle, low built, condition of same no matter, if good make, reliable engine, magneto preferred; cheap, approval.—Wood, 108, Breck Road, Liverpool.

WANTED, good Motor Cycle, Tricar, or reliable modern car, exchange new high-class furniture, any description, valued wholesale, direct from the works.—Furniture Manufacturers, 7-11, French Place, Shore-ditch, London.

MOTORS, any description or condition, purchased cheap for cash, or sold, small charge, quick sale assured, or exchange with cash to values (either way) for any kind gramophone, pathophone, phonograph, watches or jewellery, records, push cycles, etc., or new motors, any make; write us at once; start the New Year well by getting rid of your trouble.—The Flywheel Cycle and Motor Co. 549, Seven Sisters Road, Tottenham.

MISCELLANEOUS.

ENGINES Re-bushed throughout from £1.—Tufnell and Co.

CYLINDERS Re-bored from 5s.—Tufnell and Co.

PISTONS Supplied new from 7s 6d.—Tufnell and Co.

RINGS from 9d.—Tufnell and Co.

CONNECTING Rods from 7s 6d.—Tufnell and Co.

VALVES—Inlet from 1s. 6d., exhaust from 2s. 6d.—Tufnell and Co.

PULLEYS for any motor.—Triumph, Brown, Fafnir, 4s. 9d.; Rex, Antoine, Kelecom, 5s. 9d.; De Dion, M.M.C., 6s. 9d. Above 4½ in. diameter 9d. extra.—Tufnell and Co.

AXLES, cranks, spindles, handle-bars, seat-pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed.—Tufnell and Co., 527, High Road, Leytonstone.

ANTOINE and Kelecom Parts in stock.—Crypto Co., 14, Mortimer Street, London.

MOTOR Cycle Saddle, Brooks, B96, nearly new; 12s.—Clark, 375, Edgware Road, London.

OVERCOATS, thick, warm, latest cut; 21s.—Write for patterns, Booth, tailor, Longton.

WHIPCORD Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, tailor, Longton, Staffs.

SHARPE'S Universal (brass) Silencer, cut-out, practically new; 6s.—55, Upham Park, Chiswick.

OSBORNE Four-speed Pulley, ball jockey, excellent condition.—Henshaw, wheelwright, Stockport.

FRAMES made to order, complete, £2 10s.; wheels, 17s. 6d. pair; also sidecars.—Millard, Belvedere.

GAS Engine, 1½ h.p., tank, and 20 feet piping; £10, or offers.—Dennis, 36, West Bar Green, Sheffield.

OUR Automatic Pulley is marvellous; throw away speed gears.—Particulars, Walker, Lutterworth.

STARTS and Steers like car, cheap as motor cycle.—Particulars, Walker, Lutterworth.

1905 Rex Frame and forks, 15s.; crank case and flywheels, 15s.; or 27s. 6d. lot.—Cross, jeweller, Rotherham.

WHIPCORD Motor Cycling Breeches, 8s. 6d., post free; jackets, 15s. 6d.; patterns.—Meredith's, Wearwell, Northwich.

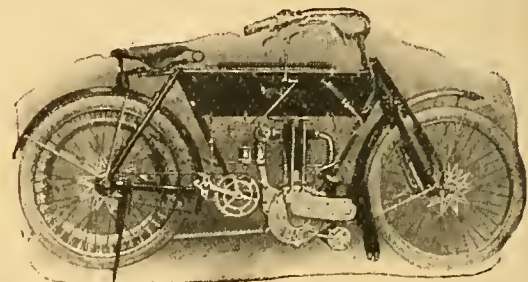
MATCHLESS MOTORS!!

LATEST SUCCESS ON
STANDARD 7-8 h.p. T.T. TWIN.

WORLD'S RECORD.

70 miles 105 yards in 60 minutes.

Brooklands, Oct. 8th, 1908.



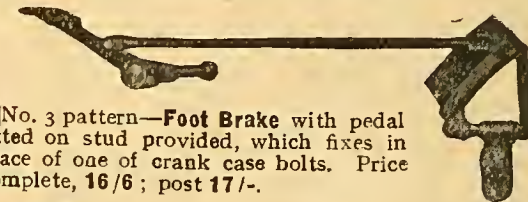
Tourist Trophy, 1907, First
Tourist Trophy, 1908, Second

158½ miles in 3 hrs. 57 min. 6½ sec. Bore 85, stroke 76 mm. Average speed 40 m.p.h., only 2 m.p.h. less than the winner, of 57,000 cubic millimetres greater cylinder capacity. Beating 21 twin-cylinder machines from 3½ h.p. to 7 h.p., and 12 single-cylinder machines of other makes.

No. 1 pattern—**Back Pedalling Brake.** Machines can be wheeled backwards. Extremely powerful. Price, 15/-; post, 15/6.



No. 2 pattern—**Footrest Brake, complete,** price £1 7s. Footrests only, price 13/-, with either ½ in. or 1¼ in. clip. Post 13/6.



No. 3 pattern—**Foot Brake** with pedal fitted on stud provided, which fixes in place of one of crank case bolts. Price complete, 16/6; post 17/-.



MATCHLESS PETROL FILTER.
No choked carburettors. 2/3, post 2/5.

MATCHLESS SPRING FORK ATTACHMENTS.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction.

15/6; post 16/-.



THE MATCHLESS SILENCERS.

Up to 3 h.p., 10/-; from 3½ to 5 h.p., 12/-; Cut out 5/- extra. Two connections for twins with separate exhaust pipes, 4/- extra.

NOTE.—70 miles an hour with a standard machine fitted with this silencer, proving absence of back pressure.

Catalogues of "Matchless" Motor Cycles and Accessories on application to

H. COLLIER & SONS, LTD.,

Motor Experts & General Engineers.

Offices and Showrooms:

18, HERBERT ROAD, PLUMSTEAD

(Nearest Station: Woolwich Arsenal.)

Telephone: 232, Woolwich.



THE MOTOR CYCLE



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Agents for the Colonies: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

Subscription Rates: Home, 6s. 6d.; Foreign, 10s. 10d.; Canada, 8s. 8d. per annum.

ADDRESS—20, TUDOR STREET, LONDON, E.C.

A POINT TO POINT.

WHEN I say a point to point I mean it both ways. There was the East Devon Point to Point Race Meeting—that was far the less important of the two—and then there was a motor bicycle ride between points, one of which was London and the other Exeter. There were, of course, heaps of other points which cropped up by the wayside—in fact, the whole trip was punctuated with points of one kind or another. There were hares and flints, and logs and mud, and chickens and dust, and last, but not least, there were hills. Oh! and I must not forget the biggest point of all—it was a motor bicycle driving belt. We shall come to that all in good time, and when we *do* begin on it we shall be haunted by it right up to the end of the story. Well! It was like this. My brother—a soldier man quartered in Exeter—wanted me to leave my comfortable home in order to go and admire him performing in this point to point affair—of course, I mean the one where you go jumping in the most dangerous manner, over banks and hedges and things. I should just like to mention here that you can get up an awfully sporting point to point on the high road if you use a motor bicycle instead of a horse, and calculate that one terrier dog equals a five barred gate (closed), and that a chicken which has lost its head—I don't mean *really*; that happens just as you pass over it—is about as deadly as a bank with a concealed ditch on the landing side. However, I'm not getting on very fast.

Testing a New Motor Bicycle.

There was a double attraction to me about this Exeter visit. It meant the hospitality of a regimental mess at the other end, and it also provided just the

opportunity I had been waiting for ever since the Stanley Show of 1907 to make a thorough trial of an up-to-date motor bicycle with a spring frame and variable gear. This, of course, is where we begin to get near that belt, and also, incidentally, on to rather thin ice, because no one nowadays can say a good word for any motor car or cycle without other people nudging each other in the ribs and whispering, "Oh! He's in the trade," or "He's got an axe to grind." Before we go any further we might as well get this matter cleared up. I am *not* in the trade, nor have I any interest whatever in Zenith Motors, Ltd., who made the Zenette machine on which I had my run. Having said so much, I hope I shall be allowed to mete out praise and blame as I like.

I got away from North London about noon, and made my way out *via* Putney Bridge. It is always rather ticklish work manœuvring in thick traffic on a fairly powerful and absolutely strange machine, and the fact that I had not been on a motor bicycle more than once in the course of the past three years was not calculated to inspire confidence in the breasts of those pedestrians past whom I swooped in my somewhat erratic career round Regent's Park and in the region of the Marble Arch.

Getting Accustomed to the Levers.

However, later on I began to get used to the taps and wheels and things, and soon became so much at home that I could have gone darting in and out under the horses' heads like the boys who carry the papers. I say I *could* have done so—that is, I think *now* I could have, but, of course, I wasn't so futile as to try. As far as Kingston my ride was rather marred by the fact

A Point to Point.—

that I had not quite mastered the method of operating the adjustable inlet valve type of throttle; but when I reached open country and could experiment in comfort without the fear of being overborne by an irresponsible motor omnibus, things began to settle down, and the steady throb of the engine showed that the mysteries of "mixture" had been solved.

The first thing which really struck me was the extraordinary way in which the Zenette's double frame and four coil springs suspension absorbed the road vibration. In the old days I was obliged to give up a very rigid frame machine, because I found it upset my nerves, but really with a frame built on the Zenette principle even the most nervy would have nothing to complain of. To watch the two front springs, while the bicycle was travelling at twenty miles an hour, was quite an object-lesson in the way of showing how much vibration there was to be eliminated. These coils were incessantly quivering, yet the frame to which they gave support was as steady as a rock. The variable gear was hardly brought into operation much on the first day's run, which took me as far as Sutton Scotney, on the Basingstoke-Stockbridge road, but from that village onwards there were perpetually hills that would have absolutely defeated me had I been obliged to rely upon a single gear ratio.

Climbed All Hills Easily.

So efficient did this gear prove itself that I had no difficulty whatever in negotiating the long, steep Devonshire hills, though my engine was a Fafnir single-cylinder of only 80 mm. by 80 mm., and the machine was heavy. It is on this point of weight that I think the makers go wrong. They seem to suppose that heaviness does not matter provided that comforts are provided, and that the machine can go anywhere with a small engine. To some extent this argument is plausible, but it will not appeal to elderly riders or to the physically weak. As far as I can see, there is no reason why the double frame should not be built far lighter. Now enough about the machine, its good points and its bad.

The belt began to slip badly just before I reached Basingstoke, so I skipped off in a light-hearted manner and proceeded to screw up a nut, which, as I fancied, would do the needful adjustment. When I got on again the thing was worse than ever. Being hot and cross, I stopped at a shop and asked the proprietor's advice, for I was not acquainted with the ways of this particular belt. The man took out a link, and said it would now be all right. I got a mile down the road, when the belt broke. I put in one of my three spare links, muttering anathemas upon the idiot who had tightened the thing up too much. After this I reached Sutton Scotney in safety, and stayed the night here.

The next day's trip was 120 miles, so I got off early, at nine o'clock. Suffice it to say that the belt broke four times and slipped all the rest of the way. I reached Exeter at 6 p.m.

Next day in the intervals of point to pointing, I got some collan oil, and dressed that belt well. I also purchased twelve spare links, just in case any more broke.

On the morning after the races I made a move for home at 10 a.m. It had rained all the previous day, and it took me one hour and a quarter to reach Honiton

(sixteen miles). The road was exactly like a butter-slide. I have never *seen* a butterslide, but I suppose it is extremely slippery, and that was what the road was. All things considered, I was lucky to get along at all without a bad skid. From Honiton onwards the road improved, and the belt began again. It came off twice between Honiton and Chard. It broke once between Chard and Crewkerne, once between Sherborne and Shaftesbury, and twice more between Shaftesbury and Salisbury. As luck would have it, the thing behaved itself while I tackled Shaftesbury hill from the Sherborne side, and the machine came up splendidly. I reached Salisbury, after proving of considerable interest to persons who, I take it, were the village idiots—I was cross, of course, and may have misjudged them—at five o'clock. With twenty-three more miles to go I quite thought my troubles were practically over. As a matter of fact, it took me two hours to cover the distance. Twice the belt broke again, and then, just when I was ready to drop down and cry from annoyance and weariness, the expanding pulley jammed! It was the only thing, other than the belt, for which I was compelled to dismount, and the fault lay not in the pulley, but in me, who had omitted to oil it. Anyhow, I had to take the thing to bits by the roadside and then put it together again, and I *was* so tired.

More Belt Troubles.

Once more I put up for the night at Sutton Scotney, and was not sorry to seek an early bed. The last day of the run was not quite free from trouble. It started early, and went on often. Before breakfast I thought I would just get the engine running so that there might be no delay when I finally wished to make a start. I ran the machine three hundred yards down the road, when—the belt broke! In order to unscrew one of my spare links I had to file up the end of my screwdriver. It was only when, within three miles of my starting point after breakfast, the belt broke again, that I found I had left the file by the roadside. It took me twenty minutes and a large Hampshire flint (used as a file) to get the screwdriver to do its job. Then I got on to Basingstoke and sought the railway station. No train up to town for over an hour! I adjusted the belt again very carefully, and once more dressed it with collan oil. On again. The wretched thing broke at (1) Hartley Wintney, (2) Blackwater, and (3) Chertsey. That was the last of it, and I got home without more trouble. It's my belief that belt was possessed of two devils. One caused it to break if it was tightened; the other had the same effect on it if one loosened it. In the latter case it would turn over on its side and snap for the mere fun of the thing. I notice the dogs and chickens have not appeared very prominently in this narrative. There were lots of them, but there is no space left to tell of their evilness. Already I can hear the Editor's voice gloomily asking, "Surely this must be the end?" And my reply is, it is!

H. C. L.



Thomas Clayton and Son, Ltd., 125-126, New Street, Birmingham, have sent us a copy of their motor cyclists' chart. This gives distances to and from one hundred principal towns in the United Kingdom, as well as the index marks for all county councils and county boroughs in the kingdom. Any reader of *The Motor Cycle* can obtain a copy of the chart by sending 2d. for postage to the above address.

THE SIX HOURS WORLD'S RECORD BROKEN.

ON Tuesday, the 22nd inst., at Canning Town, O. C. Godfrey made a successful attempt to beat the six hours record, previously held by H. Martin. Godfrey's machine was the 5 h.p. twin-cylinder Rex which competed in the Tourist Trophy Race of 1907. It had the ordinary type of pistons, 24in. wheels, a 2¼in. tyre on the rear wheel, and a 2in. tyre on the front. The tyres were Continentals. The gear ratio was 3¼ to 1, the belt was a Shamrock-Gloria, and the ignition was by Bosch magneto. At 9.50 a.m. the timekeeper, Mr. A. G. Reynolds, gave the word to go, and a few seconds after the machine dropped into a steady pace, from which it varied little during the rest of the long ride. At times lap after lap was covered at the rate of forty-eight miles an hour, or a lap in 25s.

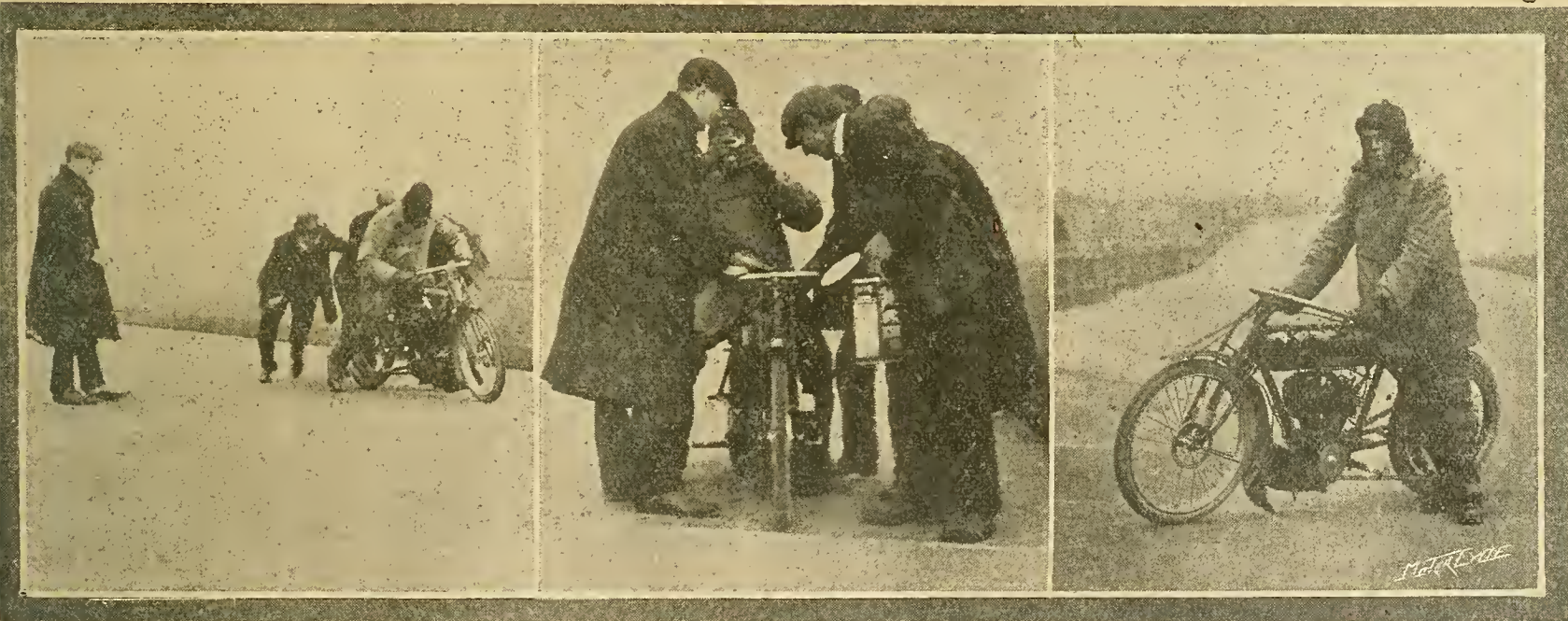
A Fine Day.

The day turned out fine and sunny, but a cool westerly wind swept the track. Precautions were taken against the track being wet, as the machine was fitted with a front mudguard with leather extension. Throughout the run Godfrey, although he was on his first attempt at a record ride on the track, rode most consistently, and in this he was no doubt assisted by the Jones speedometer which was fitted to his machine. His stops were for the following causes: At 71 miles for petrol. At 110 miles to change the back wheel—a precaution necessitated by the tyre being worn on one side through contact with the surface of the track, since Canning Town track is somewhat hard on tyres,

on account of its small size (three laps to the mile), as against Brooklands almost three miles to the lap. Shortly after Godfrey again stopped, as he was under the impression that the back wheel nuts were not sufficiently tightly screwed up. At 140 and 206 miles he again took in petrol. At 215 miles he replaced the front exhaust valve spring, and 15 miles further the valve broke, necessitating a stop of five minutes, which included changing the back wheel, in the tyre of which a nail was observed. At 245 miles he again changed the back wheel, the tube of which had been repaired after the puncture. The tyres stood up well, and the engine ran with the utmost consistency until the valve spring was replaced. The new spring, however, was a trifle too weak, so slight misfiring ensued, but not enough to prevent several laps being reeled off in 24½s.

268 Miles 285 Yards in 6 Hours—World's Record.

The total distance covered in the six hours was 268 miles 285 yards, as against Martin's previous world's record on April 13th, 1908, which stood at 244 miles 1,650 yards. The following are the distances covered up to five hours: First hour, 46 miles 100 yards; second hour, 93 miles 1,200 yards; third hour, 139 miles 320 yards; fourth hour, 186 miles 1,300 yards; fifth hour, 228 miles 1,600 yards. Godfrey also broke all previous records after 101 miles. We are asked to state that Price's lubricating oil and Shell motor spirit were used by Godfrey in his record ride.



Incidents during O. C. Godfrey's Six Hours' World's Record Ride at Canning Town last week.

Restarting after changing a tyre.

Replenishing the oil and petrol tanks.

O. C. Godfrey and his 5 h.p. twin-cylinder Rex.

Quite the best accessory catalogue exclusively for motor cyclists has reached us from the Service Co., Ltd., 292-293, High Holborn, W.C. There are many catalogues published by the different accessory dealers, but they usually contain car and motor cycle accessories combined. This latest catalogue of the Service Co. illustrates only motor cycle parts or accessories, and it is, therefore, essentially a motor cyclists' guide.

All the items in the list are up to date articles in constant use on various types of machines, and are well arranged and illustrated, priced in plain figures, and there is an index in the front. The Service Co. have specialised on motor cycle clothing, and in the Service All-weather suit, the Dryknee jacket, the Thery costume, and the Gordon-Bennett coat they have a line of outer garments to suit all tastes.

A HOME-MADE PASSENGER MACHINE.

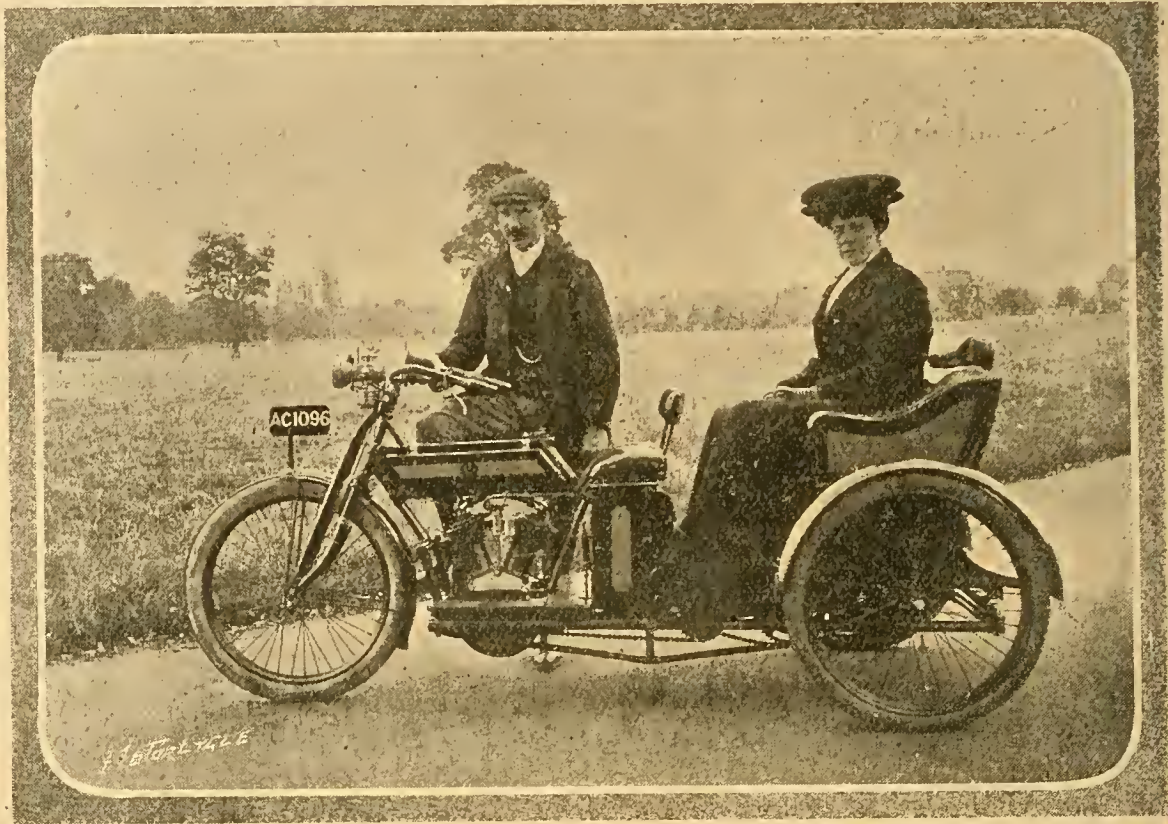
A NOVEL passenger motor cycle, designed and built by Mr. J. Warr, an amateur, of Archery Road, Leamington, is depicted in the illustration on this page.

The machine presents some sound, serviceable, features, and is speedy, light, and economical to run. It is not as wide as the ordinary tricar, which is an advantage for storage purposes. The 7 h.p. twin-cylinder Peugeot engine, fed by a B. and B. carburetter, is cooled as effectively as on a motor bicycle, and although on one occasion the low gear had to be used for a distance of eighteen miles, the engine did not become overheated.

The whole machine has been assembled by Mr. Warr with the most primitive of tools in his leisure time, and under adverse conditions.

The petrol tank is carried between the two tubes above the engine as in motor bicycle practice. The driver's seat swings back, and underneath is situated the oil tank, accumulator, and coil. Incidentally it will be observed that the wiring is very short. The back axle was taken off an old quad, and it is the adaptation of the axle and two-speed gear that is exceptionally praiseworthy. A chain runs from the engine to the counter-shaft, and on the latter are two free-wheels, a sliding dog in the middle locking one or the other to the shaft. The drive is transmitted from these wheels by chains to two wheels attached to the differential gear box on the back axle. To render the axle suitable for a chain drive the teeth of the old gear wheel and the brake drum were turned off. There is a big tool

box underneath the passenger's seat. A local contributor assures us that the performances of the machine would be a credit to any maker. It will attain a speed of 35 to 40 miles per hour on the flat, and will climb Sunrising and Newnham Hills in magnificent style, on the low gear of course.



The home-made three-wheeled passenger motor cycle referred to, which we are assured has proved quite satisfactory.

Mr. Warr said to our contributor: "In the trade there are some accomplished copyists, but my freak is original, and I claim nothing for it but that."

Mr. Warr was successful in obtaining a consolation prize in *The Motor Cycle* design competition four years ago for a design of a similar machine. The present tricycle is an improvement on the original design.

A NEW TYRE FOR MOTOR CYCLES.

THE Sirdar Rubber Co., 21, Crawford Street, Baker Street, W., have this year paid special attention to the manufacture of tyres for motor cycles. The two annexed illustrations show two types of covers specially constructed for powerful machines. Fig. 1 shows a non-skid cover. In this the studs project through a thin rubber covering A, beneath which there is a thick canvas backing B. Between this and the inner canvas C is a padding of soft rubber, which should render the tyre most resilient, and prevent it being damaged by puncturing agents. The grooved cover is also worthy of interest, as the tread A consists of hard durable rubber, while between this and the inner canvas C is a padding of soft rubber B. This idea strikes us as being an excellent one, and should tend to make Sirdar tyres most resilient. We have not at present tried these tyres, but from all appearances they show promise of being most successful. Two covers were shown at Olympia which, we understand, had been used on a motor cycle for 8,000 miles, and they were still in wonder-

fully good condition and fit to be retreaded, having been returned to the makers for that purpose.

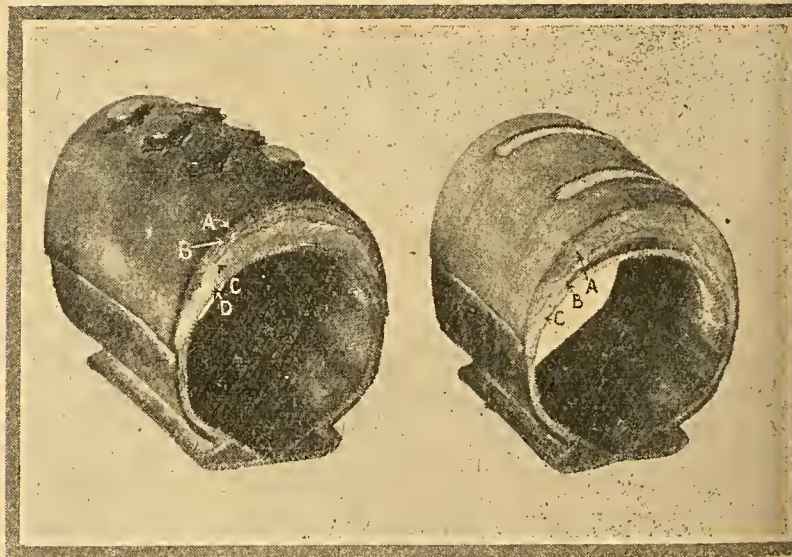


Fig. 1

Two new Sirdar covers.

Fig. 2.

HOW TO REMEDY FAULTS IN COILS.

By "RENDILE."

IN spite of the ever-increasing number of devotees to the newer magneto ignition for motor cycles, there are very many riders who, for various reasons, adhere to the older coil and battery ignition. The writer is one of the latter, and had the unfortunate experience of breakdown in a plain and also a trembler coil. The cause proved to be broken internal connections. Electricians advised me to "get a new coil, as undoubtedly the old one was played out," or words to that effect. Instead of adopting their

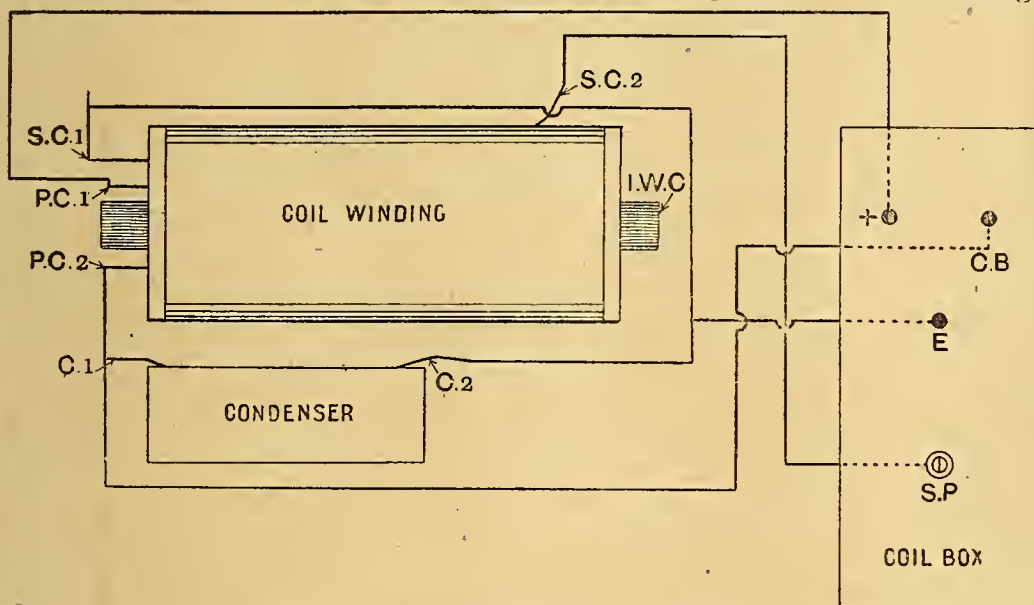
ends have been twisted together. Before connecting up it is advisable to cover every wire with rubber tubing. In any case, each wire should be well insulated, especially the secondary, which should always be well covered with rubber.

Now for the connections. These will be easily seen in the two diagrams showing a plain and trembler coil. Very often the internal wires are connected to the terminals from underneath; sufficient latitude in the lengths of these wires should be allowed for the purpose. When the connections are all made to the cover or terminals, a test of the coil should be made. Then, if found to be sound, the box should be filled with pure paraffin wax. This is almost colourless when solidified. This wax should only be melted by placing it in an earthenware vessel and then placing that vessel into hot water until the wax melts. After the wax is melted, keep down the heat until just sufficient to keep the wax in a liquid state. Pour in the melted wax to the level required, and arrange the connecting wires so that they will cross one another as seldom as possible. If some have to cross, put two or three thicknesses of thin paper, soaked in the wax, between the crossing wires. Every endeavour should be made to keep the secondary wire leading to the spark plug terminal quite apart from the others, even though it is rubber-covered. Having obtained a proper level of melted wax, screw down the cover

and leave the coil for a few hours to solidify, when, if the box has been properly filled, no amount of ordinary vibration will upset the interior. Any superfluous wax can be easily removed after cooling.

Faults in Ignition Coils.

It sometimes happens that a coil will buzz at the trembler well enough, but the spark will be intermittent or absent. The fault is either that: (a.) Internal connections are broken. (b.) Secondary winding is burnt out by use of too high a voltage battery; bad insulation in winding or wiring; insulation



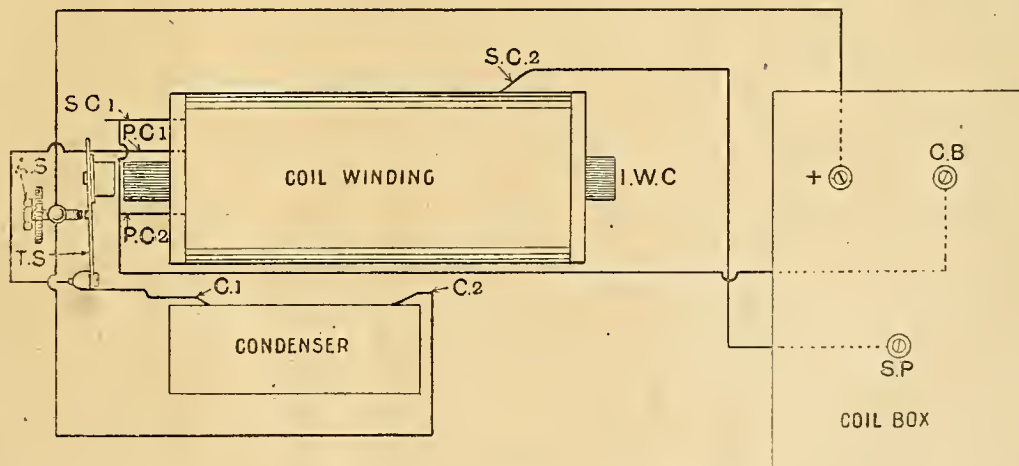
Plain or Non-trembler Coil Internal Connections.
P.C. (Primary coil) (1) to + pole of coil box.
(2) to condenser (1) and C.B. terminal.
S.C. (Secondary coil) (1) " (2) and E. terminal.
(2) to sparking plug terminal.
I.W.C. (Iron wire core).

advice, I opened the cases of the old coils, breaking more connections in the process. I repaired both the coils, and as a defective coil is no uncommon thing, I will give a short account as to how I executed repairs to my two coils.

Repairing a Plain Coil.

The plain one was set in a reddish-brown sealing wax, so after the cover had been removed the coil was placed on a tin plate smeared with grease, and placed in a gas cooking oven. The wax soon commenced to run on to the plate, and, owing to the grease, it did not stick to the tin. Water will answer the same purpose, provided that it is not allowed to evaporate too fast. The coil and condenser were then left exposed, and the superfluous pieces of wax removed with a warm knife.

The next thing was to reconnect the wires. Ignition coils consist of two windings of wire—one thick (called the primary), the other thin (secondary). These two are wound on a bobbin, through the middle of which is a bundle of soft iron wire. The two ends of the primary winding will be found near the centre of the bobbin. One of the ends of the secondary wire is nearer the outside of the bobbin; the other end is usually on the outside of the coil. The two condenser wires will be easily found. If any of the wires are broken off short, other pieces must be soldered on after the



Trembler Coil Internal Connections.

A.S. (Adjusting screw) to + terminal of coil box and condenser (C2).
T.S. (Trembler spring) to condenser (1) and primary (1).
Primary (2) to secondary (1) and C.B. (terminal of box).
Secondary (2) to S.P. (terminal of box).

How to Remedy Faults in Coils.—

perished through age. (c.) Condenser is out of order. A good spark is usually of a bright blue colour; a spark of a red hue is usually the sign of something being wrong somewhere, most probably in the condenser itself. From practical experience, a reddish spark need not be considered at all fatal, as long as the spark is there when required, but when purchasing a new coil a blue spark should be sought after.

In each of the above cases it only requires a little trouble to take the coil apart, and the fault remedied either by an amateur (if only one of the connections is broken) or by an expert (if the condenser or secondary is faulty).

It is hardly necessary for me to assume that the dealer will make certain that the outside connecting wires are unbroken, and that all the outside terminals on coil, battery, contact-breaker, and switch are clean and screwed up tightly, before he seeks a fault in the coil.

Supposing that the sparking has become faulty, the cause of the trouble should be sought for as follows: Test battery with voltmeter to see that current is up to efficient strength. If the battery has run down, a trembler will often stick. Examine points of trembler to see that they are clean and flat. Examine contact points on contact-breaker and see that contact is made

at correct moment. Examine connecting wires for breakages, and terminals to see that they are clean and firm.

To Test a Plain Coil off the Machine.

Connect positive (red) of battery to + terminal on coil, and negative (black) of battery to E (earth) on coil. Fasten a wire to C B on coil, and touch the S P terminal with the free end; a spark should result every time the S P terminal is touched.

Trembler Coil.

Connect positive of battery as in plain coil, and negative of battery to C B on coil. Fasten one end of another insulated wire to C B, and hold the free end one-sixteenth of an inch from S P terminal; a continuous spark should result.

In either case (plain or trembler coil) a sparking plug could be connected to the S P terminal of coil, and the metal or base of plug touched with the wire from C B. The plug should then spark between the points in the ordinary way.

It should be remembered that a wire leading from the S P terminal of coil is charged with high-tension current when a circuit is made; therefore not only must it be an insulated wire, but carefully handled as well, or a shock might result if any other metal part of machine or terminal is inadvertently touched.

M.O.I.V. FOR TWINS.

By B. H. DAVIES.

SOMETHING of a controversy is secretly raging on the merits of mechanically operated inlet valves for twin-cylinder motor bicycles, and one or two riders, possessing only experience of m.o.i.v. on single-cylinders, have been heard to assert that they will never purchase a twin-cylinder motor bicycle until they find one that strikes their fancy in other respects and employs mechanical inlets as a standard. Theoretically, I suppose the engineering ideal for motor cycle engines, as for motor car engines, is an inlet valve which shall employ a positive mechanical means of opening at slow speeds, and become automatic or suction operated when a high rate of revolutions per minute is attained, which theory points to a type of valve such as that fitted by the N.S.U. Motor Co. In the meantime, with the exception of such a combination as the N.S.U., we are left to choose between simple m.o.i.v. and a.o.i.v. Which shall we vote for?

In favour of the m.o.i.v. there is an impression that such engines are uniformly easier to start than a.o.i.v.—an impression my own experience fails to confirm. Two m.o.i.v. engines I have recently possessed have been on the average far more difficult to start than my a.o.i.v. twins ever are. Regular running at low speeds I have found equally possible with both types of valve, provided the carburation was right, and equally impossible with both if the carburation was wrong.

Turning to the a.o.i.v., we find this type of valve holds nearly all speed records. We find its alleged "sticking" when the engine is cold more or less of a myth, and that if it does occasionally stick up, it is instantly freed by means of the external spring pushers

supplied with all up-to-date a.o.i.v. engines. The sole indictment remaining against it is one that has been true in the past, but will not hold good in the future, namely, that it needs constant adjustment. An automatic inlet valve has to be light; consequently both cup and cotter have been found to wear very rapidly. You set the lift, or opening, as it is more strictly termed, of your automatic valve at, say, $\frac{3}{32}$ in. You drive for a certain number of miles, and you find the opening already fractionally increased, while in a thousand mile tour the cotters will wear so much that they have to be discarded by any stickler for efficiency. Also the drilling of the stem to provide a slot for the cotter causes these valves to snap off occasionally; whereas a mechanically operated inlet valve hardly ever breaks. These defects have been dodged on the latest types of inlet valve, and to satisfy one's self on this point it is only necessary to inspect such motors as a De Dion 'bus or a 1909 Vindec motor cycle. The inlet valve on these engines is no longer constructed with a sliding cap and a cotter that works in a slot. The stem is solid, and has a screw thread cut on it. The cap is internally threaded, and screws up and down the stem, so that the lift can be delicately adjusted without a supply of spare cotters being necessary, while a lock-nut takes the place of the old-fashioned cotter, and entirely prevents the cap from getting out of place. The idea is a revival of a system fitted some years ago to automatic valves and discarded on account of liability of breakage at the screw thread on the stem—a trouble that is apparently overcome, owing to the increased diameter of the stems. With such a valve as this the opening should not vary more than a fraction during 2,000 miles.

STARTING UNDER DIFFICULTIES.

I RECENTLY accompanied a friend who had just purchased a second-hand twin-cylinder motor bicycle, and who wished to exhibit its sterling qualities by riding out to the golf links, several miles away. It had neither pedals nor hand starting gear, and, knowing him to be not exactly an expert, I expected an amusing half-hour. The tank being brim full and the machine prepared as though for a long tour, he liberally soused the cylinders and induction pipe with paraffin and petrol, and commenced to run furiously with it down the street.

A series of alarming grunts from the machine ensued and an occasional explosion; something was evidently wrong. An additional half teacupful of petrol was poured down the induction pipe, and once more furious efforts were resumed, with no better results. The local repairer then came on the scene, and advised external heating of the cylinders. The machine was accordingly wheeled into the forge and a large brazing lamp brought to bear on the cylinders.

By this time a considerable crowd of interested spectators had gathered round, some armed with

buckets of sand in case of destruction by fire. The experiment was quite successful as regards heating the cylinders, and gave quite a businesslike aspect to the frame enamel. The bicycle was then hauled into the street again with feverish haste, lest the coveted head should be lost, and, having again administered copious draughts of petrol, the owner once more partook of violent exercise down the road.

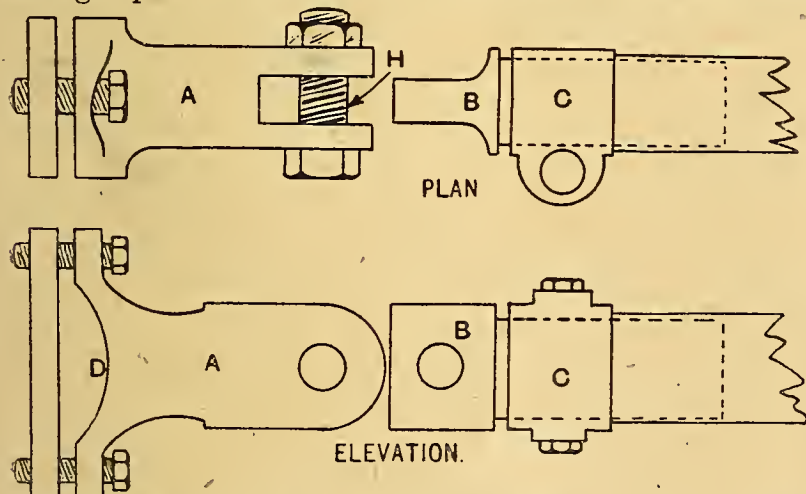
Lo and behold! one cylinder fired for at least ten yards, only to strike work finally with a sulk snort. After repeated attempts with unvaried results the machine was again taken to the shop, and the carburetter, plugs, induction pipe, inlet valves, and magneto were dismantled, and subjected in turn to much abuse and a thorough cleaning. All gears having been replaced, the obstinate twin was again put through its paces without the least sign of starting. My friend was on the point of giving the matter up and consigning the bicycle to a place where the cylinders would never need heating, when I drew his attention to the fact that the petrol tap was tightly closed!

T. C.

DETACHABLE SIDECAR FITTINGS.

THE great advantage of quickly detachable sidecar fittings has over and over again been pointed out in these columns. They render a bicycle so easily convertible to a passenger machine that the owner of a motor bicycle and sidecar almost imagines he has two separate vehicles. Moreover, the difficulty of storing a three or four-wheeled machine is rendered *non est*.

Instantly detachable fittings were not used this year on rigid pattern sidecars, but the want was apparent



to Mr. W. Williams, a North London motor cyclist, and he designed the fittings we illustrate, and had the parts made by Chater-Lea, Ltd. Thinking the idea will be useful to some of our readers, he sends the sketches for reproduction. The fittings are shown for attachment to the right side chain stay of a motor bicycle, but could easily be adapted for the left side. Mr. Williams used his rigid sidecar with the fittings illustrated all last summer in connection with his twin-cylinder Minerva. The sidecar can be attached or detached in five minutes, the total work involved being the withdrawal of three bolts and the slackening of a fourth.

The attachment is an ordinary Chater-Lea with the usual telescopic attachment at the front, and a strut from seat lug of bicycle to the extreme outside of

sidecar. The piece A is left permanently on the chain stay of the bicycle. Bolt H is withdrawn, the sole piece B inserted into A, and the bolt H replaced. Piece B has a telescopic adjustment into C, which never moved after once being set. Care must be taken that the piece A is set at right angles to the centre line of the bicycle, and not at right angles to the chain stay, otherwise A will be distorted away from B and it will be impossible to connect up.

An important point not considered by many sidecar users is that some motor bicycle chain stays are too light for attaching a sidecar, and spring a good deal. In a case of this kind it is a wise precaution suitably strengthen the chain stay of the bicycle by brazing on a piece of metal where clip D is fastened.

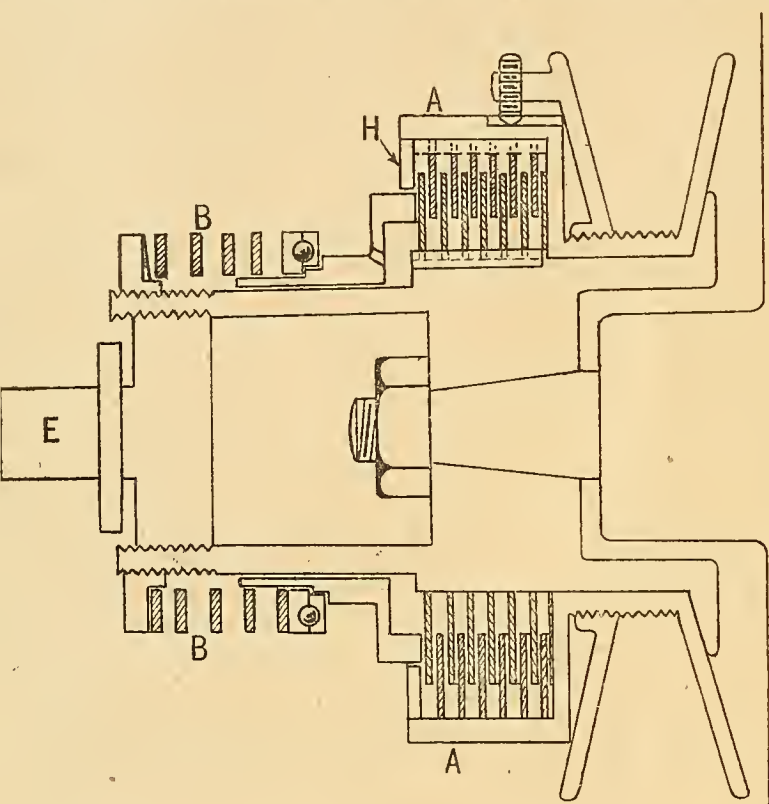
A useful hint to facilitate the building up is to place underneath the sidecar wheel a block of wood equivalent to the height of the back tyre above the ground when the bicycle is on the stand.

Messrs. Dunn and King, Ltd., wire rope manufacturers, Carronbridge Works, Larbert, Stirlingshire, have lately placed on the market some flexible steel wire, which motor cyclists will find to be of the greatest service in controlling brakes, throttles, air inlets, etc., on their machines. This wire possesses the advantage of being made in a special apparatus and the finished strands are turned out so that each individual wire takes its full share of the load. With many of the wires sold and used for motor work, some of the strands do not take up their share of the strain at the moment the others do, and in consequence, when the brake is suddenly applied, one or two of the strands take up the load, and, their strength being inadequate, they snap and in most cases fray. Another point in connection with the wire under consideration is that it may be had specially tinned, which is an undoubted advantage. In the first place, tinning protects the wire to a certain extent from rust, and, in the second place, it can be cut without fear of the strands fraying out.

A Metal-to-metal Disc Clutch.

AN article which has been mentioned several times in the columns of *The Motor Cycle* both in "Letters to the Editor" and in descriptions of trials held during the closing year is the Mabon free-engine pulley and metal-to-metal disc clutch. Under the circumstances a description and illustration of this very popular device will be of interest to our readers.

It will be seen on reference to the illustrations that the clutch is carried in the box A, and consists of a number of steel discs held in frictional contact by a coil spring



3. The pulley is, of course, free on the engine-shaft when the clutch is entirely withdrawn by the forked lever C, which is operated by a Bowden wire D connected to a Bowden lever on the handle-bar of the motor cycle. This lever on the handle-bar is provided with a stop, which holds the lever C in such a position that the clutch is entirely released and the pulley remains stationary, while the engine is started by means of a handle, which can be attached to the main shaft of the engine at E. The bracket F on which the lever C works is held to the crank chamber of the engine by one of the crank case bolts; usually the top forward bolt is found the most

The Mabon Clutch, showing clutch fork and attachment for Bowden cable fixed to one of the crank chamber bolts.

suitable. When ordering the clutch, the distance should be given between the centre of the bolt hole and the centre of the engine-shaft.

We went to Finchley recently to see Mr. Mabon, and had a short run on his sidecar, which was fitted with his latest pattern clutch. By means of the latter the combination started with ease from a standstill on the level. The engine is about $3\frac{1}{4}$ h.p., and it took up the drive without any appreciable effort. On Barnet Hill the engine took us up without a touch of the pedals, but the clutch required slipping a great deal, as we were hampered by heavy traffic.

When climbing hills and the engine shows signs of slowing down or knocking, a very light pressure on the lever on the handle-bar is sufficient to partly withdraw the plate clutch and cause the engine to accelerate. The clutch is oiled with cylinder oil.

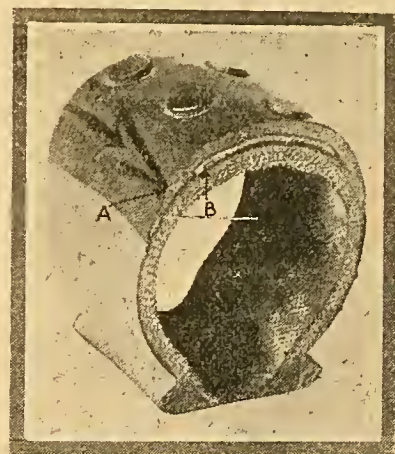
The average weight of the device is about 6 lbs., and it can be fitted to any motor cycle engine if the boss on the crank case does not exceed $2\frac{1}{8}$ in. in diameter. The pulley is adjustable, with flanges 5 in. in diameter, which can be set to give a gear of 4 to 1, and intermediate gears down to $5\frac{1}{2}$ to 1.

The pedalling gear can be retained if desired, the left crank being set out to enable it to pass the end of the clutch.

PETER UNION TYRES FOR 1909.

THE former models of the productions of the Peter Union Tyre Co., Ltd., remain practically unaltered for next year, but an innovation has been introduced in the shape of an excel-

lent non-skid which is here illustrated. It will be seen, on referring to the illustration, that the studs project through chrome leather, which is backed by a canvas lining. Between this lining and the canvas proper of the tyre there is a fair thickness of rubber. A glance at the illustration will show how strongly the walls of this tyre are constructed. Peter Union tyres were most successful in 1908, and were employed by some of the successful competitors in the London to Edinburgh, Land's End to John-o'-Groat's, and other important events.



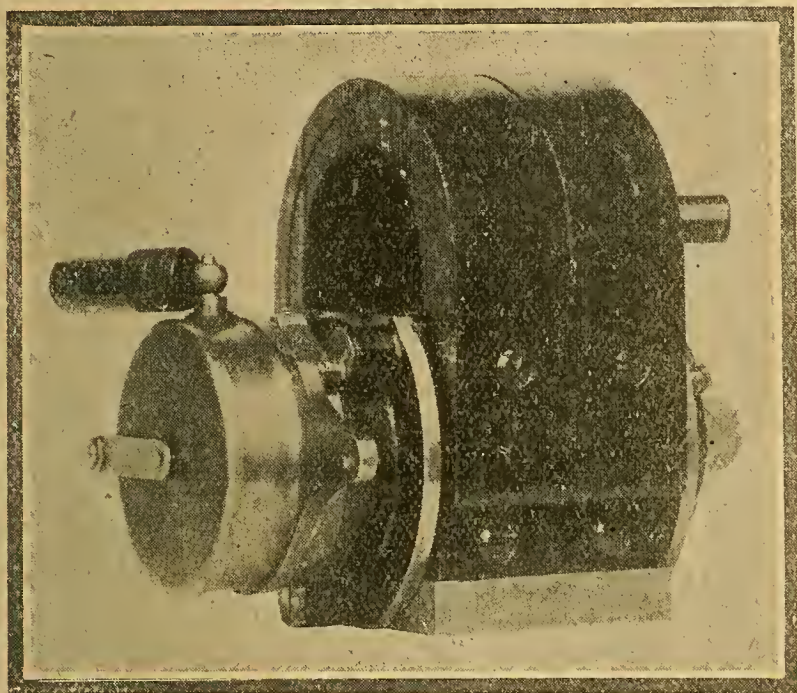
A. Chrome leather
B. Canvas lining.

We have received from Tesama, Ltd., 6, Major Street, Manchester, a sample of their puncture proof cover for motor cycles. The sample submitted to us for inspection has been used on a motor cycle for 1,000 miles over the roughest roads around Manchester. The puncture proof device consists of a patent steel woven section which is inserted between the layers of canvas which form the casing of the cover. The makers claim that it is impossible to puncture one of these covers provided the tyre is properly inflated, and they also state that they are quite willing to let anybody strew nails and glass on a road and ride over them with properly inflated tyres, and if the tyres puncture to withdraw their claim on condition that if the tyres do not puncture they are taken over by the one making the experiment.

A New Eisemann Magneto.

THE Eisemann motor cycle magneto made its bow to the British public as long ago as 1902. It was then of the low tension type with a separate coil to transform the low to a high tension current, but the latest model of this make is a self-contained high tension magneto. The machine is exceedingly neatly and simply made on up to date lines, and is splendidly finished. The type submitted to us, which is for single-cylinder engines, weighs 6 lbs. 5 ozs., and measures $4\frac{5}{16}$ in. high and $5\frac{3}{8}$ wide overall.

Special attention has been paid to the lubrication of the new Eisemann magneto, which can be well understood, as the makers are prepared to guarantee that it



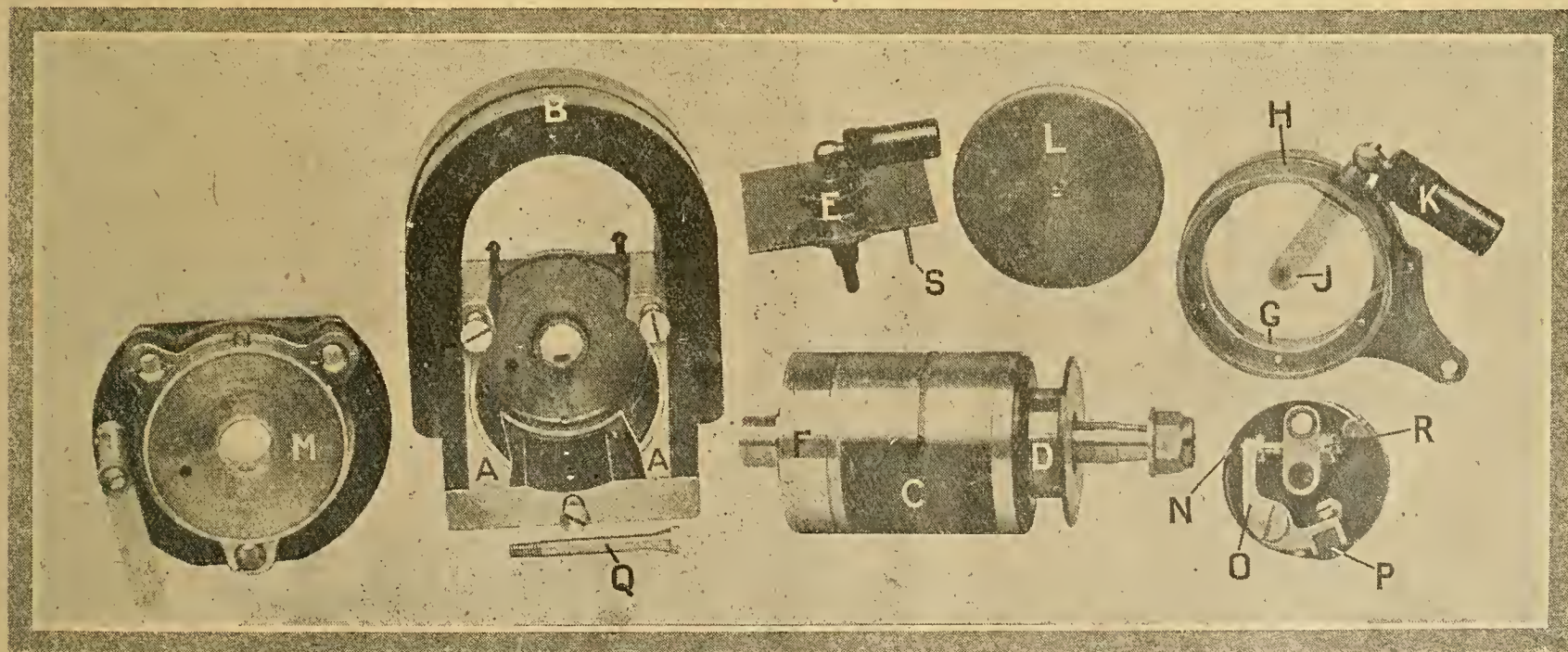
The complete motor cycle magneto for single-cylinder engines.

will successfully fire an engine at 4,000 revolutions a minute. The bearing on the driven end of the armature is plain, while the one at the opposite end is of the ball type. The plain bearing is fed by a wick lubricator, the end plate being hollow and forming an

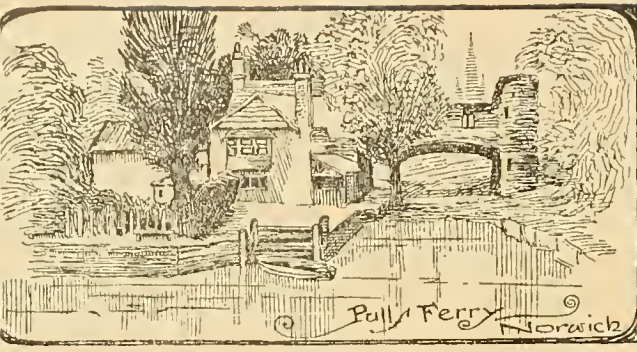
oil reservoir, the oil being conveyed by capillary attraction through the wick. The oil holes are very accessible, and dust is excluded from them by means of spring clips.

Turning to the larger half-tone illustration, the double magnets B are mounted on a brass bed plate, and the pole pieces A, fixed to the horseshoe, form a tunnel for the armature. The armature is of the usual H type, carrying both the primary and secondary windings C. D is the collector ring for the high tension wire terminal and carbon pencil E. The pin S is a fixture on the cover which is screwed down over the armature, and, coming in close proximity to the collector ring, provides a safety spark gap. The circular condenser F is mounted on the armature shaft immediately behind the end plate M.

The contact breaker is simple and well proportioned. To observe the working of the magneto, the dustproof cover L is removed, after pushing aside the spring shown. This reveals the steel cam G mounted inside the timing disc H, the red fibre block P on the end of the bell crank O coming into contact with the cam once during each revolution, and thus causing the two platinum points to break contact. N is a flat spring working against the action of the cam. A stop to prevent the platina from separating more than a certain distance will be observed on the contact breaker disc. Both of the platinum points are adjustable by means of $\frac{1}{4}$ in. nuts, the contact screw R having a lock nut. The contact breaker can be removed bodily by taking out the centre screw Q, a stud at the back of the plate, and a corresponding recess in the armature shaft, ensuring its accurate replacement. A switch can be used if desired in connection with this magneto, the wire from the handle-bar being attached to the terminal K insulated from the timing disc but connected to the flat spring J which is in contact with the centre screw. The high tension and switch terminals are of special construction and of the snap-on type. A line section of the terminal appeared in *The Motor Cycle* of August 5th, page 607. The sole agents for the Eisemann magneto in this country are the United Motor Industries, Ltd., 46, Poland Street, W.



Fundamental parts of the new pattern Eisemann High Tension Motor Cycle Magneto.



Occasional Comments

By Ixion

A New Exhaust Valve Lifter.

"H. S. C." sends me details of a new valve lifting device he has invented, which is arranged to only hold the valve up on the compression and exhaust strokes, *i.e.*, the *upward* strokes of the piston, allowing it to close just as if the engine was working on the suction and firing strokes, *i.e.*, the downward strokes of the piston. He claims as special advantages of his method that the cylinder is kept full of fresh gas, so that the engine will invariably start the instant the valve is dropped, that thus there is no need to have the throttle full open at starting, and so a slow start is possible, and that the engine is very rapidly cooled when coasting, as cold gas is sucked in, whereas with the ordinary system hot air is drawn in via the hot exhaust pipe and silencer. It is at once evident that this new valve lifter would increase the petrol consumption, as the suction of the down strokes could be entirely concentrated on the carburetter jet, and I do not think the alleged advantages are sufficient to compensate for the waste of fuel. Any good modern machine will cool with the standard valve lifter and start on half throttle. If it is so far out of order that it runs hot and is difficult to start, I do not think the new valve lifter will overcome existing derangements.

Motor Tricycles.

No doubt the chief reason for the disappearance of the two wheels astern type of tricycle has been that few riders have storage for them. A rider recently wrote to me to know if any were still being made, and I had to reply in the negative. If such isolated individuals contemplate building tricycles for themselves I should advise them to proceed, as this type of motor cycle is simply ideal for winter work, particularly with a two-speed gear. It is absolutely immune from side-slip, and, though the steering is diametrically different from that of a bicycle, when once the rider is at home on it, there is no limit of speed so far as safety is concerned. All the tricycles marketed in this pattern have suffered from one grievous fault—wrong distribution of weight. As a rule all the weight was thrown on the rear wheels, and as the wheelbase was excessively stumpy the vibration over rough roads was extraordinary. I saw a specially built tricycle about 1902 with a long wheelbase, within which all the weight was carried, and it made so comfortable a bad weather mount that I had a duplicate built for my own use. A tricycle could be built in modern lines with a powerful engine, chain or belt drive, really good brakes, magneto ignition, handlebar control, and so forth, which would be simply ideal as an all-weather mount for a business man.

Tricar Gear Boxes.

There has been a lot of ink slinging lately on the question of tricar gear boxes, some writers clamouring

for three speeds and reverse, others asserting that everyone will be content with two speeds forward, dispensing with the reverse altogether. It is surely a matter of price. The desire of the two-speed enthusiasts is to cheapen the tricar, and it is obvious that a belt or chain drive with a two-speeded epicyclic gear and self-contained clutch will work out at a lower cost than a transmission consisting of a separate clutch, separate counter-shaft, two chains, and a three-speed and reverse gear box. The question will be settled by the industry, and their answer will depend on the price at which they decide they can expect a brisk demand. In the meantime, it is instructive to notice that the year 1908 has only produced two new tricars—the 5 h.p. Rex and the 5 h.p. A.C.—and that both of these are supplied with two-speeded epicyclic gear boxes. I would further remind the three-speed party that, while an intermediate speed is essential to comfort and efficiency on a 5 cwt. or 6 cwt. tricar, a light air cooled vehicle scaling only 3 cwt. can very well dispense with the extra ratio.

Exhaust Whistles.

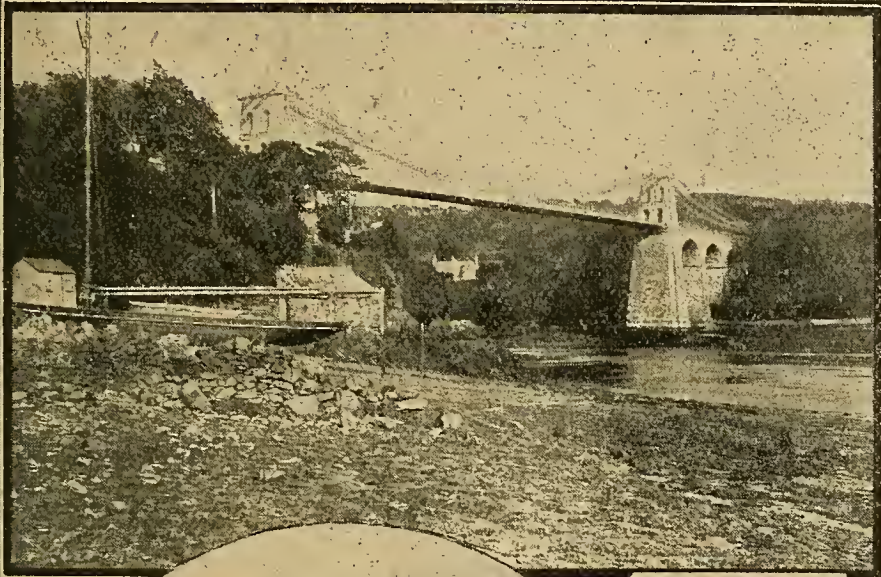
I have long been sighing for a more effective and not less gentlemanly noise producer than the average hooter, especially with a view to waking up drowsy carters in country lanes, and I believe I have found what I sought in the shape of an exhaust whistle. I have so far only used one a very few miles, but it has proved very handy on all those occasions when one has a right to a clear road, but is unable with a mere hooter to warn the unconscious obstructors of one's approach. It carries a long way, and at the same time it does not make either an excessive or an objectionable noise.



The Crowsley system of springing a sidecar wheel has already been dealt with in these pages, but a word or two on its behaviour on the road will doubtless be of interest. On a recent morning the inventor, Mr. E. A. Crowsley, brought a sidecar round to Tudor Street fitted with the device under consideration. During a short drive over rough roads we found the riding to be decidedly comfortable, and undoubtedly infinitely more so than is the case with an unsprung sidecar. We regard Mr. Crowsley's invention to be of a thoroughly practical nature, and one which will help to popularise the sidecar further. It has been taken up by, and may now be purchased from, the Chater-Lea Mfg. Co., Golden Lane, E.C.

THE NEW PENNY EDITION OF "THE AUTOCAR."

Readers of "The Motor Cycle" who are interested in motor cars are reminded of the new Penny Edition of "The Autocar," now obtainable of all Newsagents and Booksellers every Friday Morning.



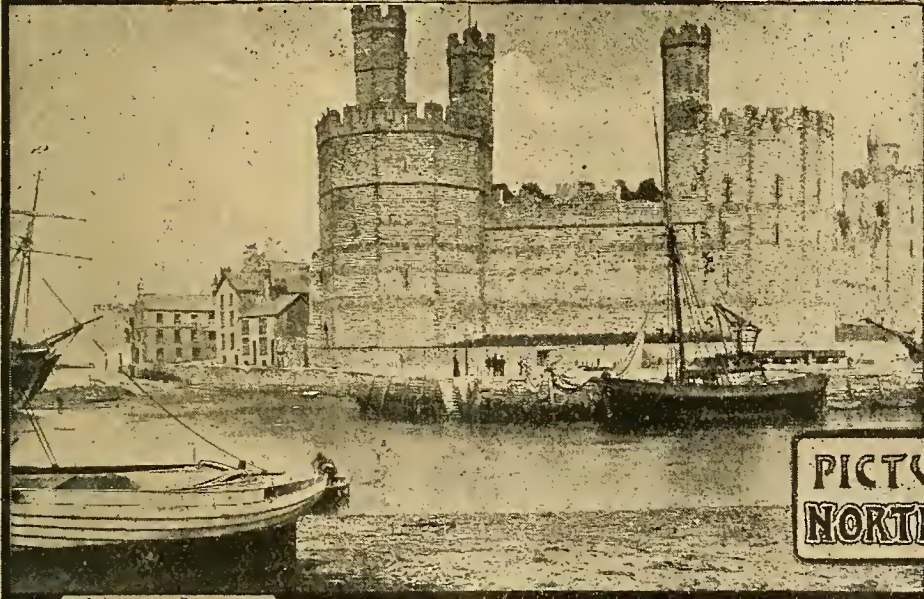
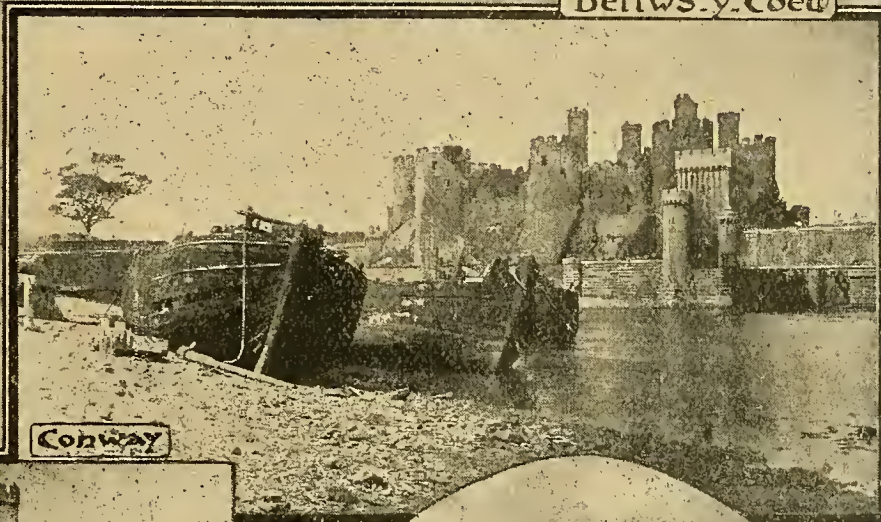
Menai Bridge



Bettws-y-Coed

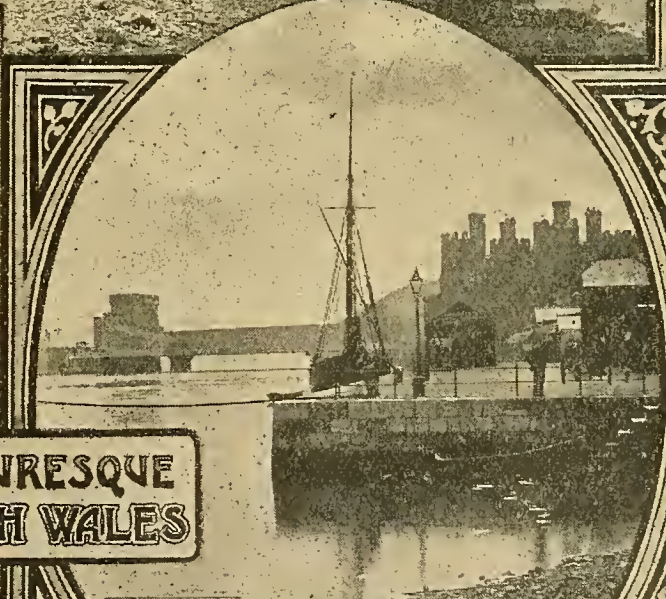


Conway

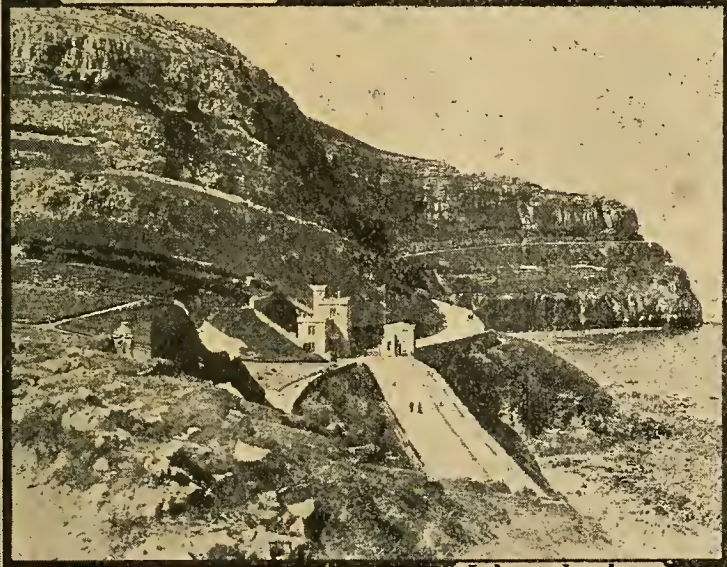


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Llanberis



A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E. C., and whether intended for publication or not must be accompanied with a stamped addressed envelope for reply.

Interested in Speedometers.

Will you kindly recommend me a good speedometer for my new Triumph motor cycle? I am a constant reader of *The Motor Cycle*, but have not yet found anything in it to suit me. If possible, I should like to pay about 3 3s.—E.A.C.

I recommend the following speedometers: The "Jones," sold by Markt Co., 6, City Road, E.C.; the "Covey," sold by the Cowey Engineering Co., 1, Albemarle Street, Piccadilly, W.; and the "Bullard," sold by W. Gamage, Ltd., Holborn, E.C.

Air or Water-cooled Engine.

I am in doubt whether to buy a 6 h.p. water-cooled Litette or a 5-6 h.p. air-cooled Triette of the latest pattern. Which do you advise, and why?—F.M., London, E.C.

If you intend to use the tricar in a district which will necessitate the low gear being used frequently and for long stretches, also if you intend to drive a tricar a good deal in London traffic, which will necessitate many stops and starts, we should recommend you to have a water-cooled engine. On the other hand, if you and your passenger are of light weight, and you want a machine as light and simple as you can get, the air-cooled engine would suit you well. The latter would, however, require more careful driving to keep the engine cool.

Timing the Spark.

I have a 3½ h.p. 1908 Rex, the makers of which advise the magneto to be set in one position, and the makers of the magneto advise it to be set in another. The Bosch Co. advise as per their catalogue, the maximum retard of magneto timing lever with engine at top of compression stroke, the break of the contacts about to set in. The Rex advise, as per their catalogue, the mean position of magneto timing lever, with engine on top of compression stroke, the break of the contacts about to set in. Will you please give me your advice on the matter?—H.G.

What the Bosch people have advised you is perfectly correct, as it is a golden rule to observe in timing a magneto. On the other hand, you must bear in mind that each engine has its own individual peculiarities, and the method of timing the magneto suggested by the Rex Co. may be most suitable for your engine. The obvious way out of the difficulty is to try and see from which position you get the best results.

Inlet Valve Springs and Hill-climbing.

(1.) My front inlet valve of N.S.U. is a great deal weaker than the back one. I have been told that it is right on account of it being a great deal further away from the carburettor than the back one. Is that correct? (2.) It climbs very badly; in fact, will not take a stiff gradient. The petrol supply is all right. The engine does not knock, but gradually falls off in power. What is the reason? Compression fairly good.—H.M.

(1.) Both inlet valves should have springs of the same tension and a rather small lift. (2.) Your trouble sounds like poor compression, and we should also say that the valve springs have lost some of their tension. Try new springs, carrying the old ones as spares. You might also try a lower gear.



The new inter-club team competition challenge cup, presented to the Motor Cycling Club by "The Motor Cycle."

Exhaust Valve Burning and Belt Slipping.

(1.) I have a 3½ h.p. Bat, M.M.C. engine. The exhaust valve burns away and has to be replaced every 250 or 300 miles. I do not drive very fast, averaging eighteen to twenty miles per hour. I keep the throttle closed as nearly as possible. (2.) What belt and pulley do you recommend? I have used canvas and leather belts; both everlastingly slip and wear out in a few hundred miles. I have changed my pulley without benefit.—B.P.R.

(1.) Perhaps the burning of the exhaust valve is due to a restricted area for the exhaust port or insufficient lift. Probably a special valve, such as that made by Arthur E. Heckford, Birmingham Metal Works, Birmingham, might overcome the difficulty. (2.) The belt trouble is probably due to using belts of too small a section. Both kinds will not slip at all if you see that both pulleys have the correct angle of 28°, and you use a good wide belt of the same angle.

Oil Leaking Out of Engine.

I recently purchased a three year old motor bicycle. Machine runs very well and regularly, but after a few miles the crankcase is covered in oil, and a recent run to Cambridge and back left it and the surrounding parts of the frame in an oily condition. The oil seems to ooze from around the bottom of the valves and the joints of the crankcase. This renders cleaning a tremendous task, and I wish to know if I can remedy it without taking the engine down by packing with brown paper, as being a novice I do not wish to interfere with it. Compression is excellent. I weigh eleven stones (approximately), the gear of machine is about 5 to 1, and on the ride mentioned I started with two pumpfuls of oil and subsequently injected four. The remaining oil drips out (not in a continuous stream) when drain stopper is unscrewed. Can you say whether the lubrication was correct? The engine gave no sign to the contrary.—E.J., Stoke Newington.

The trouble is probably due to the engine being rather worn, especially round the valve tappet guides. The only way to cure the trouble is to have the engine thoroughly overhauled and all defective bearings replaced, and new packing for the crankcase joints. We also fancy you are using oil which is too thin. Use only special oil for air-cooled engines. The quantity you give the engine seems to be about right.

Signs of Weak Magnets.

[?] What indication does a magneto give when it becomes weak and requires re-magnetising? Is there any test beyond using the small key that is placed on the high tension terminal? Does a magneto improve by being out of use? My own impression is that something of the kind takes place by getting very vigorous starting results from an engine that had been laid up during the winter of last year and untouched during that time.—R.G.L.

Apply the usual test. If you do not get a spark by turning over the magneto with the finger and thumb you will know that the magnets are probably demagnetised. You can also feel, to a certain extent, whether or not the pull of the magnets is strong. Failure to start on a strong mixture is also a sign. No, we do not see why magnetos should improve by being out of use.

Opening of Inlet Valves. Carbon Deposits.

[?] (1.) Can you say whether reducing the lift of an automatic inlet valve which now opens about 3-16in. to 1/4in. would give more power to engine?

(2.) When does the amount of carbon deposit on the piston demand removal? Is 1-16in. of carbon an excessive or a moderate amount? Would this much affect the running of an engine?—W.B.

(1) Reducing the lift of the inlet valve will often improve the running of the engine and cause the valve to wear better. (2.) Engines vary a good deal in this respect. An engine with a high compression will not stand much carbon deposit, as naturally the compression space is still further reduced. The surest signs of the engine requiring to be cleaned out is overheating and excessive knocking on hills, and failure to stop after switching off.

Shortage of Petrol.

[?] I have a 3 h.p. Triumph, 1905 model, fitted with Voltoo two-volt ignition, and I found that when climbing Hindhead Hill a few days ago with the throttle wide open the engine power gradually fell off, till finally it stopped. At first I thought it must be due to overheating, but I felt the cylinder and it was only hand warm; there was plenty of oil in crankcase. I went on again, and about a quarter of a mile further on the same thing happened. Is this due to carburetter level not keeping constant?—LC 4287.

We are inclined to think that the petrol pipe is stopped up, or the passage between the union of carburetter and the jet. If you thoroughly clean these parts and also remove the jet and clean it, it is unlikely you will be troubled again. Always use a funnel with a strainer when filling the petrol tank, as this prevents impurities from entering the tank with the petrol.

Oil-tight Joint between Cylinder and Crankcase.

[?] Please tell me of a really efficient material for packing the joint between cylinder and crankcase. I have tried card soaked in boiled linseed oil, and also brown paper smeared with secc-

tine, both of which allowed the oil to leak badly. The joint may not be too good a fit.—P 3507.

Brown paper soaked in boiled linseed oil usually makes a good joint between cylinder and crankcase. The brown paper should be fairly thick, and free from all bits or lumps which would be likely to cause an uneven joint, and might cause you to break the lugs off the cylinder if you tighten the nuts unequally. If a sheet of first quality brown paper soaked in boiled linseed oil will not make an oiltight joint, you must have the bottom of the cylinder turned true and the top of the crank chamber machined true before inserting the packing. If the top of the crankcase and the base of the cylinder are machined perfectly true, an oiltight joint is obtained without the use of any packing.

Strength of Motor Cycle Belts.

[?] Can you tell me the breaking strain of a leather or rubber belt as used on a 5 h.p. motor cycle?—LN 3980.

We have enquired of two prominent belt manufacturers. The firm of leather belt manufacturers reply as follows: "We regret we are unable, at the moment, to give you the information you desire. We may, however, say that on the basis of belt speed of approximately 15,500 feet per minute the strain on the belt when transmitting 5 h.p. would not exceed 1cwt., for which a lin. strong leather belt would be by no means an excessive load, and would not even approach the breaking strain." A further enquiry of a well-known manufacturer of rubber belts elicited the reply that they were not prepared to disclose the information desired. We think, however, you may take it that most belt manufacturers allow ample margin of safety.

Lubricating a Hub Gear.

[?] Kindly tell me how to lubricate the back wheel bearings of a 5 h.p. twin Vindec with two-speed gear? There is a lubricating place in the hub above the gear, but I can never succeed in getting any oil into it. I think it was originally packed with grease, but I have never lubricated the back wheel since I got the machine over a year ago. I have tried several times, but the oil only pours out as fast as it is put in. I am afraid of doing the bearings damage through want of lubrication.—MAJOR R., India.

The best way to get the oil into the gear is as follows: Obtain a piece of bent copper wire, heat it, and insert it in the hole. This will melt away any grease in the way, and you can then inject oil or grease. This should be put in with a force feed oil gun, after the latter has been thoroughly heated up, so that the oil or grease is as liquid as possible.

READERS' REPLIES.

Pitting of Contact Points.

With reference to "H.K.'s" enquiry in *The Motor Cycle* of December 9th, I had the same trouble (as I thought) with the pitting of contact points. In fact, I went to the trouble of having

the coil overhauled twice and had new platinum points fitted, and still there was no improvement, so I turned my attention to the carburetter. After running two or three miles my machine stopped firing. I turned the petrol tap off and took the float chamber top off and found that the float chamber was empty (or nearly so). The trouble was that the float chamber did not fill fast enough. I made the hole in which needle fits just a shade larger, and have never been troubled with misfiring since, and can run a hundred miles to a gallon of petrol. I find the points pit just as badly on my machine now, but they do not affect the firing in the least. I use the same ignition as "H.K." on a 2 3/4 h.p. Minerva.—J. T. LEE.

Irregular Firing.

In reply to the query by the "Rev. W." in *The Motor Cycle* of 16th inst. re irregular firing, the small ignition pinion on a Motosacoche is a driving fit, not keyed, and in all probability has worked loose and slipped round, thereby interfering with the timing. I would therefore advise your correspondent to test the timing, or if he lives near here (Gloucester) I shall be pleased to put it in proper order for him.—W. B. GIBB.

Re the "Rev. W.'s" query in *The Motor Cycle* of the 16th inst. I think he will find his trouble caused by the stretching of the Bowden wire controlling the contact breaker and exhaust, consequent on the continual and severe strain put upon the said wire every time the exhaust is lifted. As the wire lengthens the clock spring carries the contact breaker farther back, so that when he now fully advances the spark (or rather thinks he does by the position of the hand lever) it is only actually in the same position as it would be with the lever retarded when the wire was new and unstretched. Might I suggest that he should try shortening the stranded wire (not the outer spiral sheath) a little.—S. R. HORFORD.

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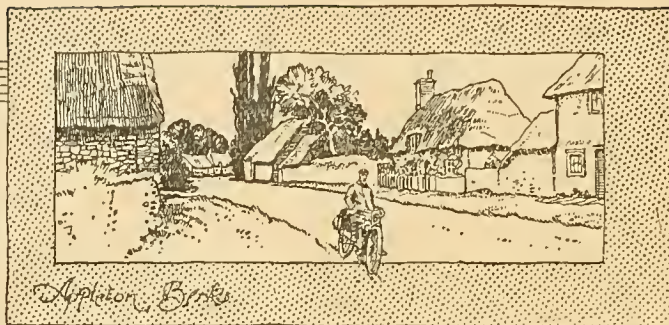
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CURRENT
CHAT

Sydney R. Jones



SPECIAL FEATURES

A POINT TO POINT
SIX HOURS' RECORD BROKEN.

TIME TO LIGHT LAMPS.—Dec. 30th, 4.56 p.m.; Jan. 2nd, 5.1 p.m.; Jan. 6th, 5.4 p.m.

Motor Cycle Races at Brooklands.

From a list of new regulations concerning the use of the Brooklands Track, we gather that motor cycle races are to be revived next year.

B.A.R.C. Appointment.

We are advised by the secretary of the Brooklands Automobile Racing Club, Carlton House, Regent Street, S.W., that Major F. Lindsay Lloyd, late Royal Engineers, has been appointed manager and clerk of the course, and that his duties commenced on Tuesday, December 22nd.

Manchester Motor Show.

We are pleased to inform our readers in Manchester and district that a large display of motor cycles will be included in the Manchester Motor Show. Among the firms who will exhibit motor cycles direct are Zenith Motors, Ltd., London; Humber, Ltd., Coventry; H. Reed and Co., Manchester (the Dot); and Bradbury and Co., Ltd., Oldham. B.S.U. motor cycles will be exhibited by the Northern Supply Co., Manchester; Browns by F. Bullock, Manchester; Rex by J. S. Looker and Co., Manchester; Midget Bicers and Corah light-weights by Lund and Sergeant, Stockport; and several different makes of motor cycles by J. W. Gourlay, Fallowfield. The exhibition opens on February 19th, and closes on February 27th next. Further particulars regarding space, etc., can be obtained from the secretary, J. H. Wightman, Palatine Hotel, Victoria Street, Manchester.

Competitions at Brooklands in 1909.

In addition to the regular race meetings on Bank Holidays and other days to be announced later, open to all comers, it is intended to hold one or more club meetings, when contests for ordinary touring vehicles, hill-climbing tests, and handicap races will be arranged for the cars and motor cycles of members only. It is also proposed to hold meetings of county and other clubs, at which members of the B.A.R.C. can be present. Private races can be arranged at any time by application to the London offices of the B.A.R.C.

Privileges of Membership.

The annual subscription to the B.A.R.C. is five guineas, and the committee announces that members wearing their badges, or ladies wearing the rooches (of which two are furnished to each member) now have the following privileges:

(a.) Free use of the motor course upon all days when it is open to the public for use upon payment.

(b.) Free admission to the club enclosure and all parts of the grounds at all meetings.

(c.) Free admission to the members' enclosure at all meetings.

Every facility and assistance will be given to members wishing to initiate gymkhanas or other social meetings.

Members wishing to learn to drive may do so on the "finishing straight" on any days when the track is open to the public.

The management is devoting much

1909 Programme of the Auto Cycle Union.

January 20th (Wednesday), quarterly trials; April 24th (Saturday), quarterly trials; May 15th (Saturday), hill-climb; June 5th (Saturday), penalty run (probably in South of England); June 12th (Saturday), twenty-four hours' run; July 5th to 10th, six days' trial; August 21st (Saturday), annual race meeting (provisional); September (during), Tourist Trophy Race (provisional); October 6th (Wednesday), quarterly trial.

Be Wise in Time.

Through the courtesy of a Liscard reader we notice that the head constable of Liverpool has issued a public notice to all drivers and owners of motor vehicles pointing out that complaints received by the police suggest that the speed of motor vehicles within the city is increasing. A warning of this nature shows that the Liverpool police are desirous of treating motorists with some consideration, therefore their timely hint should be carefully taken. Unless motorists themselves keep the speed of their vehicles within reasonable limits, timing methods will be adopted in Liverpool, and other steps taken for the prosecution of reckless drivers. Readers are also reminded of the speed limit of twelve miles an hour in force in Sefton Park.

Motor Cyclists Indispensable.

Brigadier-General Sir Henry Rawlinson, Bart., presided over a meeting dealing with the cycle in warfare at the Royal United Service Institution a few days ago, at which Capt. A. H. Trapmann, adjutant of the 25th Battalion County of London Regiment (Cyclists) stated that motor cycles were absolutely indispensable for the carrying of despatches from one body of cyclists to the other. These were useful, also, in signal communication, and there should be twenty at least attached to each cyclist battalion.

Motor Cycle Thefts Increasing.

On a recent occasion, during the course of a trial run, a motor cycle was stolen from the Excel Motor Garage, 140, Camden Road, N.W. The following is a description of the machine: Chater Lea frame, narrow, long and jointed handle-bars, 26in. wheels, rubber pedals, back-peddalling brake, trembler coil, and condenser fastened to frame, registered number LC 4006. Fafnir engine with top fin broken, tyres Macintosh front and Clincher back, frame enamelled black.

FUTURE EVENTS.

- Jan. 7—(Provisional) Essex M.C. Paper by Mr. H. M. Wyatt on "Magnetos."
 " 7—"Motor Cycle Lamps," a paper to be read before the Auto Cycle Union, by Mr. P. W. Bischoff.
 " 20—Auto Cycle Union Quarterly Trial.
 " 16-23—Motor Cycle Show at Madison Square Garden, New York.
 " 23—Essex M.C. Annual Dinner.
 " 23—Coventry M.C. Annual Dinner and Presentation of Prizes.
 " 30—Auto Cycle Union Annual Dinner, preceded by the Council Meeting, at the Waldorf Hotel, Aldwych, W.C.
 Feb. 19-27—Manchester Motor Show.

attention to the catering arrangements for the coming season, and every care will be taken to provide suitably in this direction.

M.U. Foreign Touring Facilities.

A motor cyclist writing from Co. Antrim to the Motor Union states that his chief reasons for joining would be for the Continental touring facilities, and he asks whether any extra charge would be made for suggesting tours, advice as to routes, etc. The reply is that no charge is made for services thus rendered, and that the Motor Union's foreign touring facilities are of a character that cannot be surpassed. These facilities are available for motorists, whether travelling with their machines or not. The Union's membership of the Ligue Internationale des Associations Touristes gives it unequalled opportunities for catering for the tourist in every European country. It is of interest to note that this organisation is to hold its annual congress in London next July, the business sittings being followed by visits to Oxford, Leamington, Stratford-on-Avon, Cheltenham, the Wye Valley, and Swansea.

CLUB NEWS.

Brighton and District M.C.C.

At a meeting of the above club on Thursday, the 17th inst., it was decided to hold the first annual dinner and prize distribution on Wednesday, January 20th. The time and place will be notified shortly. All members are requested to attend this event, and also non-members who are motor cyclists will be welcome. Tickets for dinner 3s. 6d. A whist drive and billiard handicap will take place a fortnight later.

Liverpool M.C.

On Wednesday, the 16th inst., the annual dinner was held at St. George's Restaurant, the chair being taken by Mr. T. Clarke (captain). About forty members and friends sat down to dinner. A letter of regret was read from the president (Col. W. Hall Walker, M.P.), who was unable to be present, being out of town. During the evening the usual toasts were given, and the prizes won in the various competitions held during the year were handed over to the successful riders. The programme which had been arranged proved a very enjoyable one, the artistes sparing no effort to make the evening a very pleasant one.

Hartlepool and District M.C.C.

The above club held a very successful whist drive and dance in the Grand Hotel, West Hartlepool, on December 9th, 170 persons taking part. After whist, supper was partaken of, and then dancing was indulged in until 2 a.m. The arrangements were admirably carried out, and the evening was thoroughly enjoyed.

Manchester M.C.

The annual dinner and prize distribution, combined with a high-class entertainment, at the headquarters, the Albion Hotel, Piccadilly, Manchester, was held on the 19th inst. The club is probably the largest and most democratic mixed motor club in Great Britain. Mr. A. J. Bell, the president, in his speech, casually mentioned that the club comprised about 180 motor cyclists and 120 car owners. For the dinner this year the function was thrown open to ladies, who attended fairly well. Evening dress was compulsory, and there were about 140 present. Mr. J. Tytler, a well-known motor cycle member, had designed a beautiful menu card, which was a work of art, embellished with pictures relating to club life, with portraits of officials, etc. The motor cycle section attended in large numbers, outnumbering the car section; they are certainly more in evidence at all club gatherings and enthusiastic in club affairs than the car owners' section.

After the well-served dinner had been done full justice to, and one or two variety turns, the President (Mr. A. J. Bell) and Mr. F. C. Hunt presented the prizes for the year to those who had competed successfully in the numerous competitions. The prizes were a valuable and fine lot. A shout was raised when it was proudly announced that both the winners of the single and twin-cylinder class in the Isle of Man Auto Cycle T.T. Race (Messrs. Marshall and Reed) were members of the club, and had also won prizes in club competitions. The Humber vase (won by W. Andrew in 1905, A. V. Baxter in 1906, and Percy Butler in 1907) was presented to Mr. Andrew as the 1908 winner, as his own property.

The entertaining artistes were Ernest Hastings (entertainer), Cuthbert Allan (baritone), Olly Oakley (banjoist), Jerry Routledge (conjurer, etc.), and Alfred Martin (pianist), and their turns were greatly enjoyed. The whole affair passed off most successfully, being voted the most enjoyable of the kind promoted by the club.



Mr. Jones, a very popular member of the Liverpool Motor Club, who was successful in winning—in three of the club's competitions held during the year—two reliability trials and a hill climb.

The Motor Cycling Club.

The annual general meeting of the club has been fixed for Wednesday evening, January 13th. The place of meeting will be announced later.

The club intends holding a few Sunday runs during the winter months, the first of which will be on January 3rd, to Burford Bridge, near Dorking.

A smoking concert will be held on Tuesday, February 16th. Arrangements for which are in the hands of Mr. J. Van Hooydonk. Mr. Hooydonk's smoker last year was a great success, and members are requested to keep this date open.

Nottingham and District M.C.C.

Mr. J. Van Hooydonk (Phoenix Motors, Ltd.) has kindly promised to lecture by lantern illustrations to the members of the above club. The lecture and concert in the interval have been arranged (by request of Mr. Hooydonk) for Saturday, January 9th next, at headquarters, Welbeck Hotel, Nottingham. All motor cyclists are cordially welcomed. A special invitation is extended to ladies and others interested in this increasingly popular sport. Tickets may be obtained from members of the committee, and by application to the hon. secretary, Mr. C. A. Aubert Spring, Stratford Road, West Bridgford, Notts., price 1s. each. The sale of such being limited, they will be allotted in the order of application.

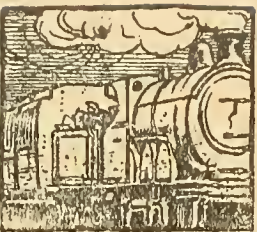
The University of Birmingham M.C.

At a meeting held recently at the Birmingham University, it was decided that a motor club be formed, membership to be open to the staff and students (past and present) of the University. The following committee was elected. The officers: Chairman, Mr. Lomax; captain, Mr. Brewsted; vice-captain, Mr. West; hon. secretary, Mr. Crawley; and also Mr. Arledge and Mr. F. C. Mustard, technical advisers to the club. The annual subscription will be 10s. 6d. and 7s. 6d. for motor car and motor cycle members respectively. It was resolved that the club should affiliate with the Auto Cycle Union and associate with the Royal Automobile Club. Anyone interested should send a postcard to the secretary, R. C. Crawley, the University, Edgbaston, Birmingham.

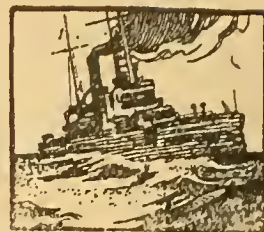
Western District M.C.

The second annual dinner was held on the 15th inst. at headquarters, the Milford Hotel, Isleworth, when Mr. E. Smart presided over a large attendance of members and friends. After the tables had been cleared, and the loyal toast enthusiastically drunk, the Chairman proposed the toast of "The Club and its Officers," pointing out the enthusiasm which existed amongst the members, and congratulating the club upon its success during the past year. The response to this toast was in the hands of Mr. A. R. Canham. Mr. W. E. Prosser, and Mr. R. R. Babbage (hon. sec.) "The Chairman" was then proposed by Mr. W. E. Prosser, who referred to some of the motor experiences of Mr. Smart, to which that gentleman suitably responded. The next toast was that of "The Auto Cycle Union," given by Mr. P. W. Vinsen, who referred to the good work done for motor cyclists by that body, and the excellent manner in which its various trials and competitions were organised. To this Mr. F. Straight, the secretary of the A.C.U., replied, giving instances of some of the legal benefits received through affiliation to the A.C.U. He also congratulated the club on possessing a member who had secured a gold medal and certificate in the recent Land's End to John-o'-Groat's Trial. "The Ladies and Visitors" was given by Mr. Canham, who, after apologising for the fact that he was a bachelor, expressed the pleasure it afforded the members of the club to see so many ladies present, to which Mr. Nias responded on behalf of the ladies and visitors. "Our Host and Treasurer" was then proposed by Mr. W. E. Prosser, who referred to the efforts of Mr. Williams to make them comfortable at their headquarters—a fact which was greatly appreciated by all the members. Mr. T. A. Williams suitably replied. The speeches were interspersed with a most enjoyable musical entertainment, under the direction of Mr. Harry Edwards.

Members are requested to note that the annual general meeting will take place at headquarters, the Milford Hotel, Spring Grove, Isleworth, on Friday, January 8th, 1909, at 8 p.m. sharp. Any notice of motion and alteration to the rules must be posted to Mr. Wilson-Prosser, 73, Loveday Road, West Ealing, W., not later than January 1st.



LETTERS TO THE EDITOR



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Magneto Manufacture.

[3750.]-I have been reading with much interest letters that have appeared in your paper lately concerning magneto manufacture. Of course, everybody's is the best if you take their word for it. I think the best magneto is the B.A.T. magneto, i.e., Best After Tests. I should very much like to see some results of tests appear in *The Motor Cycle*, so as to give every maker a fair chance. I should like to add that certain firm exhibited at the Stanley Show some magnetos lazily away like one o'clock, but the speed, I should say, of these little blazers was nearer 3,000 than 300 revolutions per minute.

HENRY GRAFTON.

Belt Drive: Revival of an Old Controversy.

[3751.]-I see that nearly every maker of motor cycles is touting that most troublesome and inefficient belt drive on his 1909 models. I should like to know why? As a rider who has owned both belt and chain-driven machines, my experience shows that the belt cannot be compared to the chain for efficiency, lack of trouble, and small expense.

As for smoothness of running, I consider the chain in no way inferior to the belt, as the amount of slip can always be kept constant, which is an impossibility with the belt drive. Is it because the majority of motor cyclists are so incompetent that they cannot adjust the spring clutch, or that there is much greater profit on belt-driven machines?

MYSTIFIED.

In Praise of a Passenger Motor Cycle.

[3752.]-I was very much interested in the article under above heading written by "ED 232." I see the machine used is a 5-6 h.p. Roc with two-speed and free engine clutch. I presume the Amac carburettor with H.B. control and Bosch magneto are used. If I may, there are just a few questions I would like to ask "ED 232." What size spray and choke does he use to get eighty miles to a gallon of petrol? Does he use the standard 4 to 1 and 8 to 1 gears to do fifty miles per hour, and forty miles per hour with sidecar fixed? What about the average hill he can climb on top speed with the decar fixed?

I have been a rider of motor cycles and tricycles as well as good many years now, in the days of the tube ignition and when carburettors were as big as silencers are now, but the more I read and see the less I know, and that is why I should like an answer to my three simple questions.

STONEIR.

The Knight Engine.

[3753.]-A paragraph under the heading of Occasional comments, contributed by "Ixion," contains reference to the Knight engine, and states that "Since the power curves of the big Daimler engines are apparently better than any secured from a poppet valve engine of similar capacity."

This is not really true, and I enclose you herewith a power curve from a six-cylinder Napier engine of practically the same rating, from which you will see it is a very large advancement in the case of the poppet valve engine over his American one.

S. F. EDGE.

We have examined the power curve sent by Mr. Edge, which is a reproduction from the chart exhibited at the R.A.C. on the night of the discussion on Mr. Knight's paper. The power curve of the Napier is certainly superior to that of the Daimler, but that does not prove our contributor's statement to be untrue, because the bore and stroke of the Daimler engine are well-known, whereas the stroke of the Napier engine has not been disclosed.—ED.]

Organised Meets of Motor Cyclists.

[3754.]-I read with interest the letter of your correspondent, Mr. H. B. Renner [3726], and I am thoroughly in sympathy with it, especially with regard to the Midlands, where such a "monster meet" would indeed be welcome. The motor cyclists of Notts, Derbyshire, Leicestershire, Rutlandshire, and the adjoining counties certainly do want the opportunity of having the whole question of motor cycling and its future possibilities placed lucidly before them.

If, as your correspondent suggests, monster meets take place in, say, London, in the North, and in the West, I, personally, would indeed be pleased to assist such a similar monster meet to be arranged either here at Nottingham, or in the neighbouring towns, Leicester or Derby.

C. A. AUBERT SPRING,

Hon. sec. Nottingham and District M.C.C.

Road Dangers at Night.

[3755.]-The roads in Cambridgeshire are in a shocking condition at present, and perfectly dangerous to motor cyclists. The method of repairing is to put patches of unrolled stones on all parts of the road, which at night are very dangerous, to say nothing of the ruin of tyres. Cannot anything be done to wake the authorities up, and make them follow the methods of other counties? One can tell by the condition of the roads when one is out of this county.

C. E. B. K.

[3756.]-With reference to letter 3696 in the issue of December 2nd, I thoroughly and deeply sympathise with the writer thereof. I myself have quite recently recovered from the effects of a collision at night under circumstances very similar to those described by "AH 441." Certainly I have only just joined the ranks of true sportsmen—to wit, motor cyclists—still, I have fairly well mastered the rudiments of steady driving, so that the point under discussion strikes me with special force (figuratively speaking), almost as much as did actually the point projecting from the rear of the cart, which, I should imagine, came off the better in the conflict.

The night was a particularly dark one, even for our dismal climate, but on that I was rather congratulating myself, for did it not allow me to show off my new lamp, and the brilliancy of its light quite came up to expectations? But when nearing my journey's end, and not exceeding the rate of ten miles per hour, I was struck in the chest with such terrific force that I feel it to this day (it occurred about two months ago), and fear I may do so for many a long day yet.

The ludicrous byelaw relating to rear lights must surely appeal to all and sundry blessed with even a minimum of commonsense, so let it be our great duty, for our own safety, if not for that of the lay non-motorists, to agitate most vehemently against the existing law, and to have it set on a more reasonable footing.

And if, as all intelligent individuals are bound to admit, it is essential to have a danger light on the rear of slowly moving traffic, how much more necessary is it that we include therein cattle and suchlike, which not only are at times even stationary, but as often as not reverse their engines quite unexpectedly, with obviously possible disastrous results? I decidedly join my feeble voice with all who think like "AH 441."

M.D.

Tandem Attachments.

[3757.]-In the issue of the 9th inst. I see a letter from Mr. B. H. Davies re tandem attachments, and there are some points in which I consider he is wrong: (1.) *Re* skid, I rode a motor cycle tandem (3 h.p.) for several years, and my experience was that it side-slipped terribly and was quite

dangerous in wet weather. Pedal cyclists know that tandems slip more than singles. My experience with tandems, triplets, and quads has shown that the longer the wheelbase the more tendency there is to slip, and the harder it is to correct. I now ride an 8 h.p. twin single sometimes with another rider over back wheel, and I find it slips much less than the tandem, in spite of the higher horse-power. (2.) My tandem was controlled from the back and steered from the front, and I found the arrangement very good. I always had plenty to occupy one hand, and very often two, and sometimes three would have been useful, what with air, spark, and throttle levers and brakes. I had quite enough to do without steering: though I had to be always watching the road, yet my hands were not cumbered with the steering. With handle-bar control, perhaps front control and steering would be all right.

If Mr. Davies doubts what I say, I shall be glad to introduce him to several friends who have ridden thousands of miles on the said tandem.

L. JEZZI.

A Curious Coil Experience.

[3758.]—I recently had the following experience with my 9 h.p. motor cycle which may be of interest. After two or three months running I began to be troubled with contacts pitting and requiring trimming at frequent intervals. This got so bad that a few hours running was sufficient to pit and burn them to such an extent that it was impossible to start engine until they were trimmed up. They being iridium I knew that the condensers of coils had gone out of action. I wrote the makers of the coil and they requested me to send the coil to them for examination. I received the report that the wax had been dissolved by petrol; in fact, they said that the coil appeared to have been soaked in petrol, the smell of which when the coil was opened was very strong. Now all this must have been caused by the bad fitting screw stopper of the tank. I have constantly noticed the top of the tank wet owing to the splashing about of petrol, and it leaking down the screw threads of tank stopper, but I was astonished to find that it had travelled ten or twelve inches along top of tank and then run into coil compartment. The petrol that I have wasted must have been a big quantity. I am therefore fitting a Davidson stopper, hinged, and fitted with a catch. I only regret that the makers of the machine fitted such a wretched affair as they did, and which has been the cause of my trouble.

CB 246.

Motor Cycling in Natal.

[3759.]—For the benefit of others who may be hesitating as to which motor cycle is the most suitable for use on bad surfaced roads with numerous steep gradients, I wish to give my experience.

For about two years I have watched the performances of numerous types of cycles, and, without exception, the single-gear machines failed to surmount the local hills. I then purchased (in association with a friend) a much-advertised belt-driven two-speed geared cycle. This article might justly be called the all-trouble machine, for from the day it arrived to the present time it has continually needed attention and repairs.

My friend kindly took over altogether this cycle, and in consequence, after some deliberation, and, further, seeing the work done by, I believe, the only Phelon and Moore cycle then in the colony, I ventured with a considerable amount of doubt as to my wisdom to order one of these first-class machines. My purchase is a 1908 3½ h.p. Phelon and Moore, and it is really beautifully manufactured, and does all the makers claim for it. It takes me up the steepest hills and over roads with execrable surfaces. The latter are so bad that frequently one would come down on the rims if not driving carefully. In fact, it is quite evident that the manufacturers of all motor cycles have not yet realised what is required of their machines on colonial tracks, for it is an insult to designate them roads.

I am very pleased with the chain drive, to which I attribute half the success of the cycle. The starting is easy, and I do not think pedals would add to the excellence of the cycle. My advice to others situated under similar circumstances is, Buy a Phelon and Moore. I have no interest whatever in the firm, and write purely out of a desire to help doubters such as I was.

A. E. CARTE.

Richmond, Natal.

Sidecars.

[3760.]—The opinion that it is unsafe to drive a motor cycle with rigid sidecar attached unless the latter contains a passenger or is otherwise weighted down seems to be fairly generally held among motor cyclists, as is also the belief that such a combination is difficult to steer until one is quite used to it. I myself laboured under both of these delusions until, in the early part of the present year, I purchased a sidecar of the rigid type and attached it to the 3½ h.p. single-cylinder machine I was then using.

My first experience with the combination proved to my satisfaction that no difficulty existed so far as steering went, although I had never had any practice in managing a tricycle. With a passenger seated in the car, I started from the top of a hill and ran down with exhaust valve lifted, letting the engine fire when required, this, in my opinion, being the best way in which to make acquaintance with the new conditions.

Since then I have driven some hundreds of miles, both with and without a passenger, and, although possessing no more than the average skill in these matters, have never experienced any difficulty or accident. Quite recently I drove the 5 h.p. twin I am now using from London to High Wycombe with empty sidecar attached, over thirty miles of the worst grease and stones I have ever experienced, passing over some of the Marathon route, with its many sharp turns and short steep rises, the journey being accomplished without incident in 1h. 35m. under the conditions mentioned, added to which a thick fog prevailed in places. All that is required is a little judgment in turning sharp corners and when passing vehicles on cambered roads. I am keeping the sidecar permanently connected through the winter, as it effectively prevents side-slip.

H 4220.

[3761.]—I read Mr. Douglas Leechman's article on "The Sidecar" in *The Motor Cycle* of Dec. 2nd with much interest. At the outset Mr. Leechman says he proposes to deal with how far the bicycle loses its original character and acquires that of a tricycle by the addition of a sidecar.

Seeing he is the avowed champion of the rigid form of sidecar, it is easy to understand that he does not deal with the subject in its entirety, and at the risk of reopening this much debated subject, I should like, with your permission, to supply the missing links.

No doubt the bicycle and sidecar can be correctly described as a tricycle, seeing it has three wheels, but the English language of to-day is largely composed of words which carry an entirely different meaning in their application from the use of similar words long ago. I remember hearing a notable man lecturing on this subject (i.e., language, not sidecars), and he instanced the words "nervous man." Time back this was descriptive of a strong, quick, decisive individual, whereas now it describes a timid, irritable man. In the case of the word tricycle, it has come to be accepted as describing a safe and easy vehicle, more suitable for the unathletic, middle-aged man or woman than for vigorous youth.

When Mr. Leechman goes on to say "that the bicycle when connected to a rigid sidecar" assumes the usual characteristics of the three-wheeler," the inexperienced reader could easily be deceived into thinking this true under all circumstances, which it most certainly is not.

As a matter of fact, independent of theory, there is a great difference between a vehicle answering to the generally accepted term of tricycle and a motor cycle with rigidly attached sidecar, although both run on three wheels.

The difference is as follows: The former is an evenly balanced machine with the driver seated in the centre, applying the motive power from the centre, and steering from the centre; but the latter vehicle is a considerably wider machine, having the motive power, and practically all the weight, and the steering on one extreme side. The sidecar action comes nearer the tricycle when it has its full complement of two passengers, but when carrying driver only and minus passenger it naturally becomes difficult to steer, and is easily upset when on a cambered road or in the act of turning corners.

This result is, so obvious, and has been proved so many times, as to be beyond dispute.

It is well known, however, that when the sidecar is fitted with compensating joints the act of riding minus passenger is rendered easy and safe, and the advantages of this are easily realised.

I am quite ready to admit that no particular sidecar as at present constructed is perfect, and because of this my firm has pleasure in providing facilities for purchasers to test each type before finally deciding which particular kind suits them best.

W. MONTGOMERY.

Inlet Valve Design.

[3762.]—On page 987 "Ixion" describes what he calls a new type of inlet valve. I think "Ixion" does not look round much or he would have found this type was made and fitted years ago. The M.M.C., Coventry, fitted this pattern to my 2½ h.p. engine in 1906; also the Darracq people fitted it to their cars in 1903. I have a pair of these in use at the present time, and they have been in use since that date.

G. H. P.

Two-speed Gears and Overheating.

[3763.]—I note that lately the question whether two-speed twins are likely to overheat on the low gear has cropped up rather frequently, and thought my own experience might be interesting. My machine has a 6 h.p. Antoine engine, fitted in a Chater Lea frame, with the Nala two-speed hub, and also an adjustable pulley on engine. I find the engine remains quite as cool on the low gear when climbing a stiff hill as it does on the high gear and a level road, and, better still, if it is abnormally hot at the start, unless the throttle is wide open, it will begin to cool down.

I mentioned in letter No. 3487 a hill in North Wales with five gates across it. The pedal-starting gear of the Nala was not fitted on that tour, and I had to leave the engine running on the stand at the third and fourth ones, as a push-off restart would have been impossible, but in spite of that I was not troubled with overheating. The Hindhead, taken with loaded sidecar, or any of the North London test hills under the same conditions, will leave it quite normal in temperature, and nothing but bad driving will get it really hot.

Mr. Karslake invited me to try his Devonshire terror, but the great advantage of a two-speed twin is that you do not *think* you can get up a hill, you *know* you can, which is worth a lot in my opinion.

"Ixion's" note on handle-bar control levers reminds me that early this year I moved my handle-bar throttle lever so that I could keep my right thumb and first finger on it. The result was a drop in consumption from about seventy-two to over eighty miles to the gallon.

R. MEESON.

A Suggestion for Finger-posts.

[3764.]—When reading through the prospectus of one of the unions for motorists, I noticed that one of its many objects was the "negotiating with local authorities for the improvement of the roads." In view of this I would like to suggest an improvement that might be made with advantage in the matter of finger-posts.

I have lately been travelling through counties quite new to me, and although possessed of fairly good maps, depended to a great extent upon finger-posts. What frequently happened was this. On approaching cross-roads or fork-roads, I had to decide before reaching the finger-post which road to take if I wanted to avoid stopping. Sometimes the finger-post acted as a corroborative of my choice, and I joyfully popped on, but more often than not it told me, all too late, that I was on the wrong road. In either case it did good service indeed, but in the latter it necessitated dismounting and often occasioned "unautomobile" language.

Many finger-posts are almost invisible, while all are placed in such a position that they fail, in my humble opinion, to serve the purpose of cyclist or automobilist, or, indeed, of any road traffic.

I therefore suggest that, in future, the finger-posts be put on the left side of the road several yards before the cross-roads. Example:

Left, Mark Cross.

Right, Lamberhurst.

Forward, Tunbridge Wells.

In the case of fork-roads:

Left forward, Paddock Wood.

Right forward, Yalding.

Perhaps the above suggestion may meet with the approval of the unions, and, it is to be hoped, with successful "negotiating with local authorities."

D 4139.

A Suggestion for Piston Rings.

[3765.]—*Re* the question of oil burning on the top of pistons, I would like to say that my experience in gas engine practice has taught me that the grand secret of maintaining good lubrication and at the same time preventing oil from getting burnt on the piston is to make the piston rings rounded on their face instead of flat, as the sharp square corner scrapes off the oil as neatly as a knife, so wasting the oil and putting it where it is not wanted. When the rings get worn so that the rounding has disappeared it is time to either renew them or to have them again rounded. This system also reduces the wear. The reason of the action is simple. One can readily scrape off oil from a surface by means of a sharp edge, but one cannot do so by means of a round surface.

INCANDESCENT.

The Sheffield Club and the A.C.U.

[3766.]—I venture to question the statement of Mr. Turner, the hon. sec. of the Sheffield and Hallamshire Club, to the effect that that club was boycotted by the A.C.U. at the annual general meeting, and that the A.C.U. does not want the provincial members. With respect to the A.C.U. annual meeting a certain member of the Sheffield Club was not elected to the General Committee, and really, considering the treatment he served out to those of us who could not quite see eye to eye with him, he could hardly expect certain members of the A.C.U. to receive him with quite open arms.

As to the other statement, Mr. Turner is wrong. The A.C.U. does welcome the provincial clubs, and, as stated in the official journal, it is arranging a really acceptable and workable centre scheme, and it will, I believe, be found to be practically on the lines which the Sheffield representative and his friends on the "committee of eight" so contemptuously rejected. It, however, has been a case of quietly working along, unmindful of the remarks made from time to time. There is no doubt whatever that the Auto Cycle Union is, after all, the organisation for motor cyclists, and the clubs will do well to help it along.

G. J. WILKINSON.

SUMMARY OF OTHER CORRESPONDENCE.

Chas. Larard, 38, George Street, Hull, writes: "The object of the variable pulley illustrated on page 998 is to produce four speeds and a free engine at will. The gear is entirely operated by foot, leaving the hands free for controlling the machine."

The Premier Motor Co., Ltd., write: "The letter from the Rex Motor Co. appearing in your issue of the 16th inst. *re* spurious exhaust valves points out a very real grievance. As vendors of Rex spare parts we wish to make it clear that we do not descend to such dishonest trading as that complained of. All Rex components supplied by us are genuine new fittings exactly as sold by the Rex Co., and we have given a written undertaking to that effect."

Messrs. Leo Ripault and Co., the sole agents for Oleo sparking plugs, write: "An almost exact facsimile of the Oleo No. 4 plug is being sold in this country. The resemblance to the genuine article is complete with the exception that the porcelain does not bear the negro head trade mark and the bodies of the plugs are a fraction of an inch smaller. If any of your readers are offered such plugs, will they kindly communicate with us at 64a, Poland Street, Oxford Street, W.?"

EXPERIENCES WANTED.

"INTERESTED NORWEGIAN" would like readers' experiences with the Scott-Jowett motor cycle, particularly with regard to the engine, automatic carburetter, silencer, and ease of starting on the level and uphill.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

MOTOR BICYCLES FOR SALE.**SECTION III.**

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

21 h.p. Alldays Motor Cycle, good condition; £10, or nearest offer. — Stacey, Chatsworth Road, Chesterfield.

1907 3½ h.p. Quadrant, spring forks, not done 1,000 miles, equal to new; sacrifice £16 5s. — R. Else, Leawood, near Matlock.

TRIUMPH, 1907, splendid order, new Shamrock-Excelsior back, new Dermatine, Miraculum in back; £26 10s. — Vickers, Offley Grove, Newport, Salop.

5 h.p. Twin Rex, just had two new pistons, two new cylinders, also new valve case fitted, will climb anything, equal to new; money wanted; price £23. — F. Bayley, Victoria Street, Macclesfield.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

1909 Triumph Motor Cycles from Stock; latest improvements; £48.

1908 Triumph Motor Cycles, shop-soiled; only £42.

ZENITH Bicar, 3½ h.p. engine, two-speed gear, in splendid order, very little used; £24.

MINERVA, 1½ h.p. engine, in good order and condition; trial given; £7 10s. — The Victoria Garage and Electrical Co., Ltd., Coventry.

TRIUMPH, 2½ h.p. Jap engine, in perfect order, plating and enamel as new, Dermatine-Bates non-skid; a bargain, £12. — Dowling, Dunchurch.

OFFERS wanted for 3½ h.p. Triumph, 2½ h.p. Triumph, 3½ h.p. Rex, 2½ h.p. Werner, 3½ h.p. Minerva, 3½ h.p. F.N., four cylinders; 16 h.p. light model Wolseley car, in new condition. — No. 1423, The Motor Cycle Offices, Coventry.

1908 Triumph, handle-bar control, Clinchers, Dermatine and two spare belts, lamp and generator, spare lamp, Cowey speed indicator, spare valve and cover (Palmer cord) and other spares, this is as good as new, and guaranteed in perfect order; price, cash £38. — J. W. Willson, Burgh, R.S.O.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SPECIALLY built for hills. — 2½ h.p. Spring Frame Bat, very low frame, first-class condition. — C. W. Unwin, Builder, Histon, Cambs.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

MOTO-REVE, new this summer, excellent climber, in perfect order, Shamrock rear tyre, lamp, stand, carrier, horn, number plates; nearest offer £28. — Green, Haverfordwest.

2½ h.p. M.M.C., Longuemare carburetter, 24 good reliable machine, just been enamelled and lined; £9 10s. cash; easy terms, or exchange. — Ward's, 24, Portman-moor Road, Cardiff.

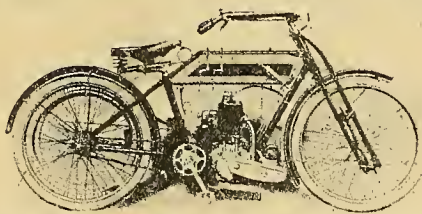
MOTO-REVE, only used few times, studied cover, spring seat-pillar, Lucas lamp, two belts, carrier, stand, practically as new; £28, or near cash offer. — Box No. 1,436, The Motor Cycle Offices, Coventry.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

1½ h.p. Stevens, B.S.A. frame, 2½ Palmer rear, Continental front, new condition everywhere, very powerful and fast; £25. — Full particulars, Kennedy, Fleet, Hampshire.

2 h.p. Ormonde, nearly new Edlin Sinclair tyres, Whittle's belt, handle-bar control, stand and carrier combined, good running order; 5 guineas. — Breeze, 74, High Street, Aldershot.

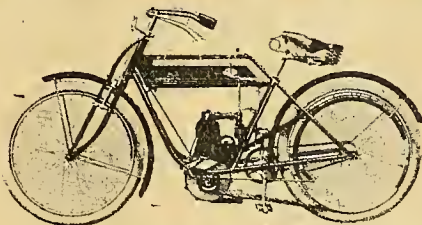
£40 for £29 10s.

A few BRAND NEW 3½ h.p. 1908 TOURIST REXES, magnetos, ball bearing engines, handle-bar control, 2½ tyres, makers' price £40. OUR PRICE £29 10s., or exchange.

£45 for £32 10s.

A few BRAND NEW 5 h.p. 1908 TWIN TOURIST REXES, magnetos, ball bearing engines, makers' price, £45. OUR PRICE £32 10s., or exchange.

PERFECTLY DESIGNED LIGHTWEIGHTS.



A few nearly new 2½ h.p. 1908 REX FEATHERWEIGHTS, magnetos, foot brakes, and all improvements. Weight 95 lbs. Handy and efficient. £19 19s., or exchange.

3½ h.p. MINERVA and SIDECAR, duplex steering, two-speed gear, and free engine	£17 17
3½ h.p. BROWN, magneto, spring forks....	22 10
2½ h.p. GERRARD, spring forks, two speeds	12 12
8 h.p. Steam Car, less boiler.....	8 15
4 h.p. N.S.U. TWIN, magneto, smart, two speeds	25 0
4½ h.p. TWIN MINERVA, magneto, 2½ in. tyres	25 0
5 h.p. TWIN G.B., magneto, up to date	25 0
5 h.p. TWIN VINDEC (1907), magneto	29 10
5 h.p. TWIN ANTOINE, new	22 10
6 h.p. TWIN REX and Sidecar, four speeds	20 0
3½ h.p. TWIN WERNER, spring forks	11 13
3½ h.p. REX, 1907, very smart	15 15
3½ h.p. REX (1906), low built	14 14
4 h.p. ANTOINE, magneto, Roc two-speed	20 10
5½ h.p. REX-DE-LUXE, twin tyres, Roc clutch, magneto	27 10
4 h.p. ZENITH BICAR, free engine	16 16
3 h.p. RALEIGH, Phoenix two-speed gear	11 10
3½ h.p. ARIEL, M.O.V., low built	14 14
3½ h.p. MINERVA, Chater-Lea	13 13
4 h.p. ANTOINE, M.O.V., low	12 12
3 h.p. BRADBURY, vertical engine	10 10
3 h.p. QUADRANT, spring forks	10 10
3 h.p. ARIEL, M.O.V., low	10 10
5 h.p. TWIN REX, Osborne four-speed	17 17
2½ h.p. WERNER, vertical, low built	9 10
2½ h.p. MINERVA, 26 in. wheels	9 10
2 h.p. SPARK, magneto, low built	9 10
3 h.p. SIMMS, magneto	10 10
2½ h.p. NOBLE, M.O.V., vertical	9 10
3½ h.p. REX, vertical engine	8 10
2 h.p. REX, vertical engine	7 10
2 h.p. ORIENTAL, B. and B. carburetter	5 0
1½ h.p. MINERVA, spray, good	4 15
2½ h.p. ARIEL Lightweight, spring forks	12 12
3½ h.p. QUADRANT, 1907, spring forks	17 10

Extended payments arranged.

TRICARS.

Open-frame Tricar Chassis and Wheels	£3 10
Ditto with Two-speed and Tyres	8 15
5 h.p. QUADRANT, two speeds, coach built	19 19
10 h.p. REXETTE, two speeds, open frame	29 10
5½ h.p. REXETTE, two speeds, open frame	27 10
6½ h.p. HUMBERETTE, Two-seater Car, three speeds, reverse, artillery wheels, three lamps, Stepney wheel	39 10

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CHARLES STREET (off Square Road), HALIFAX.
Two minutes from station.

MOTOR BICYCLES FOR SALE.

3 h.p., Fafnir engine, Dunlops, B.S.A. frame, Brooks saddle, spring stand, perfect; can be tried; 8 guineas. — Breeze, 74, High Street, Aldershot.

3 h.p. Clyde, just overhauled, nearly new tyres, low tension magneto, £12, or offers; 2½ h.p. Minerva, good order, several other motor cycles, different powers. — Engineer, Church Crookham.

TWIN and Sidecar, Rex, 5½ h.p., excellent order, footboards and pedalling gear, all new tyres, Palmer back, change speed gear and starting handle, with J.A.P. patent jockey lift, Whittle belt, tool box and spares, lamp, horn, everything complete; £30, or near offer, or sell separate. — Apply. X., c/o "Lee," Motor Engineer, North Street, Gosport, Hants.

3 h.p. Fafnir, special racing engine, No. 6 frame, very low, 18½ in., 26-2½ wheels, Clincher and Continental tyres, both good, Chater-Lea ball bearing spring forks, Brooks saddle, copper petrol and oil tank, two 20 amp. C.A.V. accumulators, horn, headlight, numbers, numerous spares, including valves, pulleys, piston, etc., enamel and plating like new, machine only three months old; price £15. — F. A. McNab, Motor Works, Liphook Hants.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

3½ h.p. Motor and Sidecar, perfect; £12 12s. — 1, Gascoigne Road, Barking.

3 h.p. Clarendon, low built, M.O.I.V.; trial; £8 10s. — 190, Mellison Road, Tooting.

3½ h.p. Kerry, 1907, powerful, good condition; spares; £14. — 14, Hall Street, E.C.

ARIEL, 2½ h.p., perfect condition; £8 10s. — Motorist, 42, Essex Road, Manor Park, E.

3 h.p. Quadrant, perfect running order; £6 10s. — At Wauchope's, 9, Shoe Lane, London.

3 h.p. Clyde, good tyres, all parts splendid condition; £10. — 52, Tredgar Square, Bow.

3½ h.p. Rex, magneto, 1908 model; £25. — At Wauchope's, 9, Shoe Lane, London, E.C.

FOR Sale, 2½ h.p. Antoinette, low frame, torpedo tank; £6 15s. — 8, Crieff Road, Wandsworth.

2½ h.p. Kerry, unscratched, thorough order, 24 spares; £15, bargain. — 18, Allison Road, Hornsey.

4½ h.p. Twin Minerva, perfect; first reasonable offer. — Mitchell, Artillery Road, Guildford

ROVER, 3½ h.p., splendid condition, comfortable; £16; photo. — While, Wellwyn, Grove Park, Kent.

8 h.p. Twin Cycle, in splendid order, guaranteed; £25. — Wm. Baldwin, Engineer, Wadhurst, Sussex.

OWNER no use for 3 h.p. Humber, free engine; what cash offers? — Robson, 11a, Blomfield Street, E.C.

MOTOSACOCHE, 1908, ridden 500 miles, equal new; bargain, £18. — Robson, 3, Cremorne Road, Chelsea.

4 h.p. Roc, standard model, good running order assured; £19 19s. — At Wauchope's, 9, Shoe Lane, London, E.C.

3½ h.p. Kerry, unscratched; genuine bargain; £15, or offer. — Greenfield, 16, Temperley Road, Balham.

7 h.p. Twin-cylinder New Bat Motor Cycle, a 1908 standard model; offers. — Wauchope's, 9, Shoe Lane, E.C.

3½ h.p. Rex, perfect condition, spring forks, footboards; trial; £12. — W., 58, Earls-hall Road, Well Hall, Kent.

£6 10s. — Minerva, 1½ h.p., splendid condition throughout, running order; any trial. — 21, High Street, Gravesend, Kent.

ORIENT, 4 h.p. Aster motor, Otto two-speed gear, tools, perfect condition; £20. — W. N. Howell, Carlton House, 11a, Regent Street, S.W.

IF You want bargains in second-hand motor cycles, you can get them at Wauchope's, 9, Shoe Lane, Fleet Street, London, E.C.

MOTOR BICYCLES FOR SALE.

If You Want Exchanges or Bargains in second-hands come to 5, Heath Street, Hampstead.

HAMPSTEAD.—5½ h.p. twin Rex, magneto, and spring forks, 1907; £16; good condition.

HAMPSTEAD.—Brand new 40 guinea Rex twin, magneto, and spring forks; £28.

HAMPSTEAD.—5 h.p. twin Vindec, two-speed gear, complete with all accessories; £32.

HAMPSTEAD.—Twin N.S.U., magneto, and spring forks, free engine; £25, great bargain.

HAMPSTEAD.—4 h.p. Roc, free engine, handle-bar control; bargain, only £12.

HAMPSTEAD.—¾ h.p. 1907 Quadrant, splendid condition, all accessories; only £12, great bargain.

HAMPSTEAD.—2½ h.p. De Dion, fine order, with accessories; only £5; splendid machine.

HAMPSTEAD.—We allow £38 for 1908 Triumphs in part payment for 1909 F.N.'s.

HAMPSTEAD.—Kerry; £7 10s.; splendid condition, long bars, very low, grand machine; bargain.

HAMPSTEAD.—4 h.p. Antoine, fine going machine, all accessories; only £10 10s., bargain, guaranteed.

HAMPSTEAD.—1½ h.p. 1908 Model F.N. Lightweight, new condition, splendid order; £20.

HAMPSTEAD.—5½ h.p. Twin Jap, very low, splendid condition, handle-bar control; £18.

HAMPSTEAD.—5 h.p. Vindec, like new, with all accessories, magneto; £26, great bargain.

HAMPSTEAD.—2½ h.p. Minerva, M.O.V., spring forks, vertical, 1907 model; only £11.

HAMPSTEAD.—2½ h.p. F.N., good condition, all accessories; bargain, £8 only, a nip.

HAMPSTEAD.—5 h.p. T.T. Vindec, 1908, only run few hundred miles; £32.

HAMPSTEAD.—3 h.p. Kerry, late model, long bars, good condition, new tyres; £12.

HAMPSTEAD.—We allow highest prices for your old machine part payment or new model; write at once.

HAMPSTEAD.—Sole agents for Griffons, F.N.'s, Vindec, Minervas, N.S.U., Triumphs, etc.; we allow from £10 upwards for old machines, any condition, in part payment for new models.—Rey, Motor Works, Heath Street, Hampstead. 2678 P.O. Telephone.

21 h.p. Moto-Reve Lightweight, 1908 model, magneto, Druid forks, guaranteed; £25.—At Wauchope's, 9, Shoe Lane, London.

HAYES, Fenn, and Co.—Rex motors; exchange, cash, and gradual terms.—Mortimer Market, Tottenham Court Road.

5 Twin Rex Motor Cycles, 5½ h.p., all at £15 each; splendid value.—Wauchope's, 9, Shoe Lane, Fleet Street, London.

21 h.p. Triumph, vertical engine, Longue-mare, 26in. wheels, good order; £11.—Greenwood, 36, Chatham Place, Hackney.

51 h.p. Brand New 1908 N.S.U., magneto, standard model; 30 guineas.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

3½ h.p. Rover, splendid condition, 26 by 2½ Palmers, will take sidecar easily; £13 10s.—Norris, Little Pagehurst, Staplehurst.

If You Want Bargains in second-hand motor cycles you can get them at Wauchope's, 9, Shoe Lane, Fleet Street, London.

LADY'S Motor Cycle, two-speed, excellent condition; best offer.—Hayes, Fenn, and Co., Mortimer Market, Tottenham Court Road.

TRIUMPH, 1908, as new, handle-bar control, belt new, wants seeing; bargain, £36.—Moore, 3, Avonmore Road, West Kensington.

FOR immediate disposal, a few second-hand and new 1907 and 1908 Triumphs; offers.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.



1909 MODELS.

All requiring a Motor Cycle for the 1909 season should call and inspect our grand selection of new and second-hand motor cycles. Most of the leading makes are represented.

As in previous years, we have decided to take any number of second-hand machines in part payment for new, as

**Triumphs,
F.N.'s,
Vindec,
Moto-Reves,
Douglas,
Rexes,
Bats,
Browns,**

**Motosacoche,
Nortons,
L.M.C.,
Humbers,
Rocs
Quadrants,
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Etc.**

All who have a 1906, 1907, or 1908 machine should get our terms of allowance. We have every intimation of a great season this coming year. Orders should therefore be placed early to secure delivery when required.

Good market value will be allowed for second-hand models, and offers will be made by post subject to their tallying to description given at sight.

Copies of testimonials on application.

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MOTOR BICYCLES FOR SALE.

2½ h.p. Clyde, spring forks, thoroughly overhauled, good reliable machine; £9 10s.—Motor, 9, French Place, Shoreditch, London.

3 h.p. Falcon, low, absolutely perfect condition very reliable, 26in. wheels; take £7 15s.; must sell.—Motorist, 7, Bodney Road, Hackney, London.

3½ h.p. 1907 Triumph, as new, 1908 pulley, speed indicator, spares; £28, or near offer; trial.—Lieut. Fyfe, Army Service Corps, Woolwich.

4 h.p. Kelecom-Chater-Lea Cycle for Chater-Lea lady-back tandem and £8, or sell £18; good as new; no rubbish.—Bone, 38, Scotland Green, Tottenham.

2½ h.p. De Dion-Bat, Phoenix two-speed gear, good running order, gears perfect; £10 10s., splendid bargain.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

MINERVA, 2 h.p., good running order; no time to ride; seen by appointment; £9.—Chaufeur, Thatched House, Richmond Park, Kingston-on-Thames.

5½ h.p. Rex de Luxe, 1908 model, black finish, free engine clutch, magneto, twin wheel; £25.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

£10.—Motor Cycle, 3½ h.p., footboards, Palmer, Clincher, splendid climber, running order; trial given any time.—Kew, 160, Manor Park Road, Harlesden.

5-6 h.p. F.N., four-cylinder, 1908 model, in new condition; £38, includes spares and accessories.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

ARIELS, new, 2½ and 3 h.p.; money required; list 30 and 35 guineas; offer above 17 guineas considered.—Box L3,842, The Motor Cycle Offices, 20, Tudor Street, E.C.

1½ h.p. Lightweight Motosacoche, in best possible running order, very smart; £15, great bargain.—Seen at Wauchope's, 9, Shoe Lane, Fleet Street, London.

TRIUMPH, 1908, and rigid sidecar, new July, good order, unpunctured, lamps, horn; £42, or near offer.—Triumph, Earl's Court Garage, adjoining Station, London, S.W.

3½ h.p. Brown, magneto ignition, non-skids both wheels, 26 by 2½ tyres; very lowest price £19 19s., splendid bargain.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

2 h.p. Minerva, new piston and rings, all accessories and gas lamp, good tyres, Dunlops; can be ridden away if purchased; £6 10s.—15, Warwick Road, New Southgate, London.

3½ h.p. Magneto Quadrant, vertical engine, spring forks, etc.; £17 10s., in first-class condition and running order.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

3½ h.p. 1908 Vindec, only ridden a few times, in perfect condition, enamelled cream, Truffaut spring forks; only wants seeing; £35.—Gwynne, White Lodge, Crediton Road, Hampstead.

3 h.p. Kerry, in grand going order, powerful and fast, splendid for beginner, as it requires no attention, everything in excellent condition; £13 10s.—1, Kimberley Avenue, Seven Kings, Essex.

3½ h.p. 1908 Triumph, handle-bar control, magneto, spring forks, good condition throughout; £33 10s.; ready for the road; opportunity.—At Wauchope's, 9, Shoe Lane, Fleet Street, London.

1907 3½ h.p. Triumph, built January, 1908 perfect, spare covers, lamps, horn, etc.; lowest £31; Montgomery latest sidecar, scarcely used; together £38; splendid turnout.—Vicar, Shipley, Horsham.

3 h.p. Fafnir, magneto, re-enamelled and overhauled. £14, offer; 1908 Matchless 6 h.p. J.A.P., magneto, fast and powerful, run 700 miles, very low.—L. Hudson, Jesmond, Arlington Road, Eastbourne.

5 h.p. Vindec Special, two-speed gear, in perfect condition throughout, a good looking machine, having been well looked after; £33 10s., an ideal passenger machine.—At Wauchope's, 9, Shoe Lane, London.

MOTO REVE, 1908, new, not run 50 miles, magneto, special non-skid 2in. tyre on back, special saddle, all latest fittings; cost over £42; owner bought car; £35, or near offer.—J., 9, Great Tower Street, E.C.

XMAS TIDE

was the time to discuss with your friends the merits of the various models for 1909, and select your new mount. Will you kindly bear in mind that we can send you particulars and supply any make, and if in doubt as to what to do with your old machine, send it to us for sale or part exchange; or we are in most cases prepared to buy outright for cash.

Our advice on the selection of a new machine is unbiassed. The best machine is the one best suited to your requirements, and this we can offer from the following makes:

P. & M. 2-SPEED.	DOUGLAS.
F.N.	MOTO-REVE.
NORTON.	MOTOSACOCHE.
TRIUMPH.	MATCHLESS.
PHANOMEN.	MINERVA.
HUMBER.	BROWN.
L.M.C.	VINDEC SPECIAL
REX.	BAT.
PEUGEOTS.	N.S.U.
DOT PEUGEOTS	ZENETTES.
Etc., Etc.	

THE LATEST P. & M., HANDLE-BAR CONTROL.

Handle starting, two speeds, magneto, spring forks. PRICE £52 10s. Sole London Agents for the above. Trial runs arranged. A few 1908 models to clear. Cash, exchange, or extended payments.

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Can we help you to select the best. Trial runs arranged. PRICES from £8 8s.

SECOND-HAND MACHINES.

We have some high-class Triumphs, N.S.U. P. and M., and other makes to offer. Write for list.

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JEBRON Contacts, registered 291-289, vastly superior to platinum; cures misfiring; is reliability and efficiency.

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JEBRON, magneto screws, complete for Bosch magneto, DA2 and DAV, will fit contact breakers 5a, 5b, 5c; 5s. 6d. pair, old screws refitted with Jebron, 2s. 6d. each, equal to new.

JEBRON, the King of Contacts, fitted per return post; no delay; post free home or abroad; liberal trade terms.

JEBRON.—From the Inventor, J. Edwards Brown, 38, Herbert Road, Plumstead, Kent.

IRIDIUM Champion Contacts.—Any parts fitted, returned same day. 1s. 3d. each, warranted pure; special iridium trimmers, 9d.; no filing required; magneto screws refitted, 1s. 3d. each—Williams, 16, Wellington Street, Woolwich.

ENGINES.

2½ h.p. Buchet Engine, perfect condition; £4.—Bruce, Seaton, Arbroath.

h.p. Peugeot Engine, Vindec pattern, exhaust pipes, and silencers, perfect; £7.—105, Lark Lane, Liverpool.

3 h.p. Engine, complete with adjustable pulley, silencer, etc.; £2, bargain.—1, May Terrace, Mount Florida, Glasgow.

LATEST Pattern 6 h.p. Twin Sarolea Engine, 76 by 80, domed top, pistons, large valves, heavy flywheels, etc.; seen any time.—Jennings, 268, Hornsey Road Holloway, N.

KERRY-SAROLEA Twin, 5 h.p., in splendid running order, £7 15s.; B.D. free engine clutch and pulley, £1 5s.; Minerva carburettor, with automatic air valve, 10s. 6d.—7, High Street, Altrincham.

2 b.h.p. Water-cooled Marine Engine, suitable for dynamo, by Universal Motor Co., petrol and oil tank, oil pump, all new; buying motor bicycle; £6, or nearest offer.—Baker, Bungalow, Stanford, Loughborough.

TYRES.

26 by 24 Covers and various other sizes from 12s.—Wauchope's, 9, Shoe Lane, London.

BOOTH takes your old cover and tube in part payment for new tyres; liberal allowances.

PAIR New Unused Palmer Cord Covers and Tubes, 26 by 24; sacrifice £4.—12, Market Square, Horsham.

CLINCHER, new, two 26 by 24 A Won covers, three 26 by 24 tubes; 55s. the lot.—Box 1,442, The Motor Cycle Offices, Coventry.

JACKNOSKID, latest improved type at reduced prices.—Hayes, Fenn and Co., Mortimer Market, Tottenham Court Road.

RETREADING Motor Cycle Covers, plain, 11s. 6d.; fitted Shamrock-Excelsior bands, 21s.—Ardea Company, 331a, King Street, Hammersmith.

BOOTH keeps big stocks of Continentals, Clinchers, Palmers, Shamrocks. Write for prices; money saved.—Booth's Motories, Charles Street, Halifax.

MOTOR Cycle Tyres, finest value in the trade; this month's goods; beaded or wired, heavy, all sizes, 12s. 6d.; tubes, 7s. 6d.—Universal Motors, 37, Chestergate, Stockport.

REPAIRERS.

ACER, Ltd., for repairs.—64, Grosvenor Road, Hanwell, W. Telephone, 438, P.O., Ealing.

COMPRESSION Restored, cylinder ground to .001 inch guaranteed; pistons fitted.—Acer, Ltd.

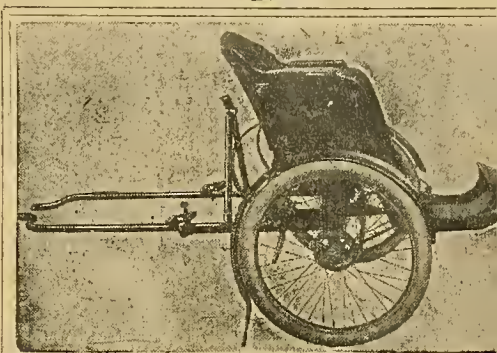
ENGINE Repairs in all branches.—Overhauling, re-bushing, replacements.—Acer, Ltd.

RAPID Delivery and reasonable charges. Lists free.—Acer, Ltd.

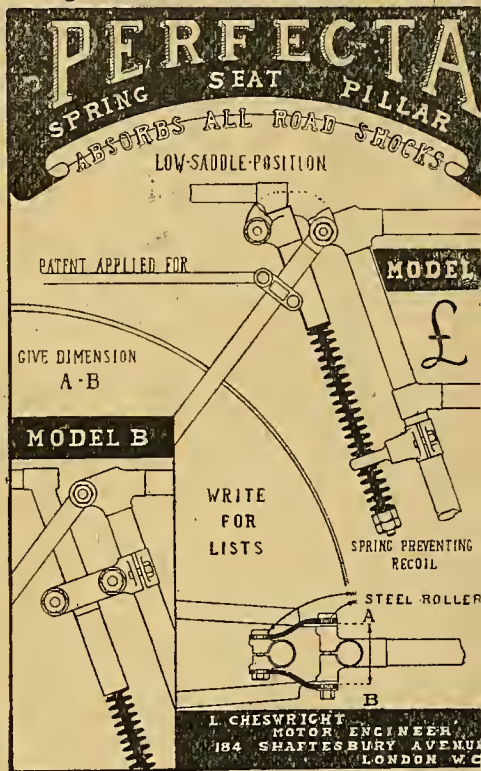
Why run
risk



of Side
slip



When you can fit the **PHOENIX** attachment for £12 For Passenger, from £15 10s. Lists by return.
PHOENIX MOTORS, LTD., Blundell St., LONDON



G. T. RICHES & CO
LTD.,

19, STORE STREET, LONDON

RICH DETACHABLE AIR TUBES

24" x 2"	26" x 2"
13/6	14/-
24" x 2½"	26" x 2½"
14/-	15/-
24" x 2½"	26" x 2½"
15/-	22/-
26" x 2"	28" x 2"
14/-	14/-

Please write for Special List with full prices and particulars of all sizes, together with instructions and how to convert Your OWN TUBE CONVERTED. Write for p

VALVES ALL SIZES
PISTON RINGS ALL SIZES
REBORING ALL SIZES
CYLINDERS 10% VARIABLE FULL LEYS
GEARS CUT REBUSHING NEW PARTS
PLEASE GET OUR LATEST LIST
THE MARCH MANUFACTURING CO. CLIFFE ROAD, SHEFFIELD

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

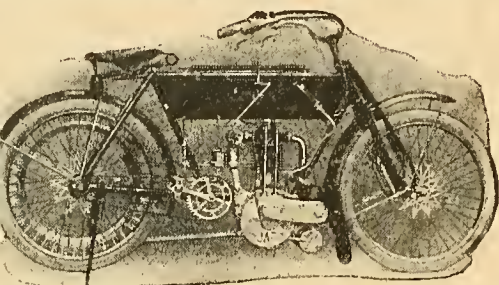
MATCHLESS MOTORS!!

LATEST SUCCESS ON
STANDARD 7-8 h.p. T.T. TWIN.

WORLD'S RECORD.

0 miles 105 yards in 60 minutes.

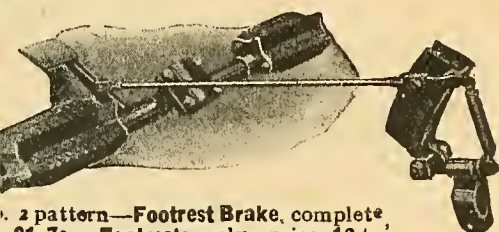
Brooklands, Oct. 8th, 1908.



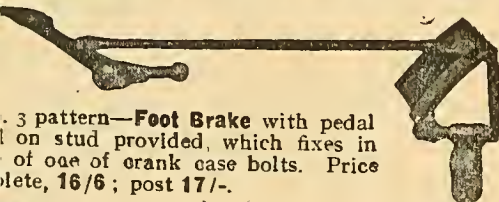
Surist Trophy, 1907, First
Surist Trophy, 1908, Second

81 miles in 3 hrs. 57 min. 6½ sec. Bore 85, stroke
mm. Average speed 40 m.p.h., only ½ m.p.h. less
the winner, of 57,000 cubic millimetres greater
under capacity. Beating 21 twin-cylinder machines
3½ h.p. to 7 h.p., and 12 single-cylinder machines
her makes.

2 pattern—Back Pedalling Brake. Machines
be wheel'd backwards. Extremely powerful.
e, 15/-; post, 15/6.



2 pattern—Footrest Brake, complete
81 7s. Footrests only, price 13/-,
either ½ in. or 1¼ in. clip. Post 13/6.



3 pattern—Foot Brake with pedal
on stud provided, which fixes in
of one of crank case bolts. Price
complete, 16/6; post 17/-.



**MATCHLESS PETROL
FILTER.**

No choked carburetters.
2/3, post 2/5.

**MATCHLESS SPRING
FORK ATTACHMENTS.**

Converts an old pattern
motor cycle into an up-to-
date luxurious motor.
Thousands in use, giving
every satisfaction.

15/6; post 16/-.

**THE MATCHLESS
SILENCERS.**

0 3 h.p., 10/-; from
5 h.p., 12/- Cut out
extra. Two connec-
for twins with sepa-
exhaust pipes, 4/-



E—70 miles an hour with a standard machine
with this silencer, proving absence of back
ure.

atalogues of "Matchless" Motor Cycles and
series on application to

COLLIER & SONS, LTD.,

Motor Experts & General Engineers.
s and Showrooms:

HERBERT ROAD, PLUMSTEAD

(Nearest Station: Woolwich Arsenal.)

phone: 232, Woolwich.

REPAIRERS.

£5 any motor cycle we cannot repair.—
White's, Brooks Alley, bottom Bold
Street, Liverpool.

CRACKED Water Jackets of motors suc-
cessfully repaired by Lea's metallurgi-
cal process.—Lea and Son, engineers, Run-
corn.

F.N. Motor Cycles and other makes over-
hauled and repaired by expert special-
ists at the F.N. Repairs Dept., Kelvin Road,
Highbury, N.

IGNITION Coils and Magnetos Repaired,
any make; accumulators repaired and
charged; best workmanship, moderate
charges. Telephone, 453.—Glover Bros., Elec-
tricians, Coventry.

TO West of England Motorists.—Car and
motor cycle repairs, prompt and reli-
able; cylinders re-bored, new pistons and
rings fitted; don't hesitate; send straight
to us.—Hamlin, Motor Works, Bridgwater.

CCCCCCCC.—Compression means power;
cylinder rebored and new pistons fit-
ted; guaranteed fit 4-1,000 inch, bears 13
stone on pedal; write for list.—Gradior Ma-
chine Co., Compression Specialists, Stafford.

ANY cast or wrought iron parts repaired
equal to new at nominal cost, by oxy-
acetylene process, broken cylinders a speci-
ality; no charge if unsuccessful.—Stansell's
Acetylene Co., Engineers, Carbide Importers,
Exeter.

BIRMINGHAM.—Overhauling, cylinders re-
bored, re-bushing; pulleys, valves any
make; frames cut down, accumulators
charged and repaired; ideas carried out;
prompt attention.—Priest and Williams, 66,
Bishop Street

EXCHANGE.

EXCHANGE Large tricar horn for B100
saddle, or sell cheap.—13, Somerville
Road, New Cross.

BILLIARD Table, three-quarter; exchange
for motor bike.—L. N. Palmer, 190, Mel-
lison Road, Tooting.

3 h.p. Motor Cycle, vertical, trembler, per-
fect; £9; dynamo part exchange.—112,
Gough Street, Poplar, E.

EXCHANGE 20 guinea gun, well broken
spaniel, for magneto motor cycle.—3,
Cremorne Road, Chelsea.

EXCHANGE R.W. path racer, nearly new,
for motor cycle out of order.—1,434, The
Motor Cycle Offices, Coventry.

3½ h.p. Rover Motor Cycle, low, chain drive,
32 good condition, for phonograph and
cash.—Gladwin, Village, Felsted, Chelmsford,
Essex.

EXCHANGE back-gear lathe, by Cohen
and Co., London, with compound slide-
rest, gap bed, and face plate, etc., for 3½ h.p.
motor cycle.—B. Finch, 47, Doods Road, Reig-
ate, Surrey.

EXCHANGE £25 Columbia graphophone for
magneto motor cycle, screw-cutting
lathe, Roc conversion set, or sidecar, etc.;
cash adjustment, or sell £16—Quinn's, 450,
Scotland Road, Liverpool.

HIGH-CLASS Disc Machine (£8), quantity
3s. records, also good push bike
(Swift) exchange motor cycle, medium or
lightweight, magneto preferred.—P. John-
son, "Arnside," Swinton, Manchester.

EXCHANGE Monarch Junior Gramophone
and thirty records, all brand new; cost
£9, and Royal Enfield cycle, three-speed
gear, for magneto motor cycle, or good gas
engine.—Porthouse, joiner, Maryport.

EXCHANGE for good motor cycle and cash
(twin preferred) 5½ h.p. tricar, Rex en-
gine, and two speeds, wheel steering, pump
cooling, good tyres, coach-built, perfect con-
dition, or sell £29.—152, High Street, Har-
borne.

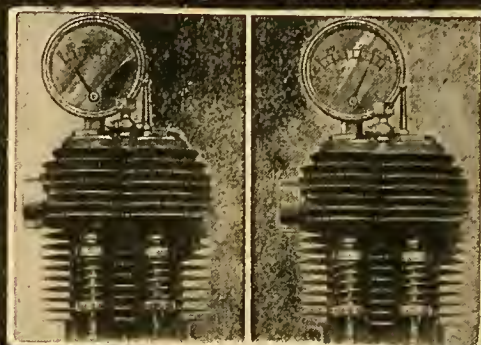
3½ h.p. Minerva, M.O.V., Chater-Lea frame,
32 long, low, 2½ Palmers, specially built
late last year, very little used, plating un-
scratched, climb anything; accept £20; ex-
change lower power and cash.—The White
Hart, Southgate, N.

EXCHANGE 1907 Quadrant Carette, 6½ h.p.,
two speeds, handle starting, open frame,
wheel steering, coach-built, light, extremely
powerful, thoroughly reliable, for magneto
motor cycle and cash, or sell.—Tricar, 86,
Colvestone Crescent, Dalston, London.

Compression means Power

Before reboring.

After reboring.



We re bore your cylinder and fit new piston complete
with rings and gudgeon pin. Please send for our new
repairs booklet, giving prices for this work.

The LAYSTALL MOTOR ENGINEERING WORKS, Ltd.

AUTOMOBILE REPAIRERS,

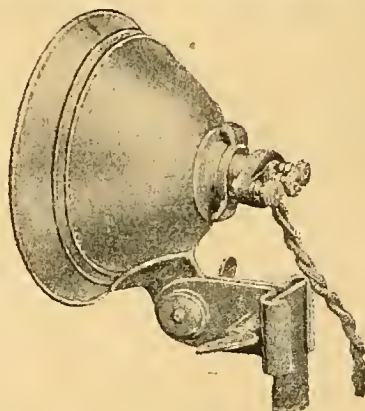
27 & 29, Laystall St., Rosebery Av., LONDON, E.C.

Established 1901. Tel. 12301 Central.

J. W. G.

Have you sent for copy of "Hidden
Treasure for Motorists" ?

The 'GLARE' Electric Motor Cycle Headlamp.



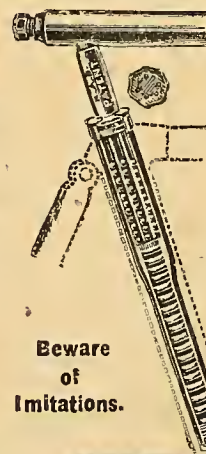
Consumes
only
½ Amp.
at 4 Volts.

Weights
only
8 ozs.

J. W. GREENWOOD, LIMITED,
Portland Place, Works,
HALIFAX.

Tele: 207x.

If you find you've the hump,
Through the bicycle bump,
And you're sad—and, what's
worse, saddle-sore—
Try the real **N.A.B.**
You will hail it with glee,
And in comfort you'll ride
evermore.



Send for

**BOOKLET
FREE.**

**RELIANCE
WORKS CO.,
Ltd.,
SOUTHAMPTON.**

Beware
of
Imitations.

DERMATINE

SPEAKS AT LAST.

Speaking only of British-made Motor Cycle Belts at the Stanley Show,

90 %

were British-made Dermatine Belts.

THE LEADING BRITISH MAKERS' STANDARD BELT.

Humber, Triumph, L.M.C., Norton, Douglas, Quadrant, Arno, J. T. Brown Bicar

were fitted at the Stanley Show with

DERMATINE BELTS

(See *The Motor Cycle*, Nov. 25th, page 927).

The LEADING BRITISH-MADE MOTOR BELT.

*Fair trading, no bribes, no paid riders.

BEWARE OF IMITATIONS.

The Dermatine is the only belt to win 1st Prizes in Tourist Trophy Race two years in succession, 1907-1908.

Hundreds of Testimonials.

British Made.



NOTE THE PRICES.

1/2 in.	3/4 in.	7/8 in.	1 in.
1/2	1/4	1/8	1/11

per ft.
POST FREE.

ME, TOO, at the Stanley Show.



The Stanley Detachable Belt Fastener.

80 %

of all motor cycles were fitted with the **STANLEY FASTENER.**

Sole Manufacturers :

THE STANLEY DERMATINE MOTOR BELT CO.,

32, LONDON ROAD, BROMLEY, KENT.

STANLEY WEBB, Manager.

EXCHANGE.

23 h.p. Chater-Lea Minerva, vertical, new 24 2 1/2 tyres; bargain, cash; exchange push bike with speeds.—1a, Lyall Mews, Eaton Square

EXCHANGE £6 disc machine, play three 10in. discs one winding, new, 26in. horn, complete, for motor cycle, any condition.—Barber, 17, Galena Road, Hammersmith.

EXCHANGE for good motor cycle, tricar, or reliable modern car, new high-class furniture, any description, direct from works, valued wholesale.—Furniture Manufacturers, 7-11, French Place, Shoreditch, London.

WANTED.

2 1/2 h.p. Jap single-cylinder wanted.—Bolton, Terrace Road, Walton-on-Thames.

2 1/2 h.p. 1908 Lightweight, magneto, not Rex.—Letters, 265, Leahurst Road, Lewisham.

WANTED, cheap sidecar, for motor.—Leslie, 65, Lexham Gardens, Kensington, W.

6 h.p. Engine, air-cooled, two-speed gear for same.—Browning, Mawney's Road, Romford.

£20.—5-6 h.p. magneto cycle, with or without sidecar.—Tuckwell, Forest Rise, Walthamstow.

1907 or 1908 Triumph Motor Cycle, in first-class condition.—A. Daynes, 17, Sheep Street, Rugby.

EXHAUST Box, also sound radiator.—Sketch and measurements to Snowden, Kingsgate, Thanet.

WANTED, Excelsior head; cash, or exchange baby torch, new.—Hood, Castle, New Cumnock.

SPEED Indicator, Cowey or Jones; approval, deposit.—M.C., 74, Church Street, Eekington, Derbyshire.

WANTED, cylinder and piston, for 80 mm. Fafnir 3 1/2 h.p. engine; cheap for cash.—J. Fenn, Bridge, Kent.

WANTED, sidecar, suitable for 4 h.p. Roc.—Age, particulars, and lowest price, Dale, Cleland, Lanarkshire.

WANTED, two-cylinder car, cheap, any condition; 7 h.p. Panhard preferred.—Stimpson, Stratford-on-Avon.

ENGINE, Jap, 2 1/2 h.p., or Fafnir, recent and undamaged.—Letters only, J. Campbell, 5, Devonport Street, W.

WANTED, three-speed and reverse gear box, for 6 h.p. car, entirely chain-driven.—Bruce, Seaton, Arbroath.

WANTED, three-speed gear box, and thermo-syphon radiators, for tricar.—14, Clarence Road, Wood Green, N.

WANTED, 5-6 h.p. 1908 motor cycle, with two-speed gear, in good condition.—Waring, Priory Road, Bedford Park, W.

WANTED, two Voltco Coils in exchange for large XI'all motor saddle.—Lill, Thomson, 14, Waverley Park, Edinburgh.

WANTED, small Dynamo, to light twelve 16 c.p. lamps, must be in good condition.—Wood, Chemical Works, Okehampton.

WANTED, in Scotland, sidecar, rigid preferred, 26in. wheel, good condition; cheap.—No. 1435, *The Motor Cycle* Offices, Coventry.

WANTED, 26 by 2 1/2 covers, no rubbish; exchange phonograph, everything complete.—Halcomb, Berkeley Road, Bishopston, Bristol.

WANTED, Tricar, 5-6 h.p., by good maker, in new or nearly new condition; give date and lowest cash price.—Cox, 196, Aldersgate Street, London.

WANTED, wicker or light passenger attachment, for 3 1/2 h.p. Quadrant tricyle; state condition and price to Mumford, Gillingham, Dorset.

WANTED, 3-3 1/2 h.p. engine, good make and condition; exchange gent's cycle, nearly new, and lady's gold watch.—25, Meadow Street, Coventry.

WANTED, 2 1/2 bore cylinder, complete, with valves, A.O.V. inlet valve, Jap or F.N. preferred; write particulars; cheap for cash.—S. Spearey, 68, Englands, Chippenham, Wilts.



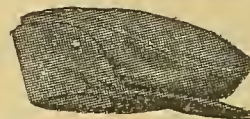
THE INVINCIBLE MOTOR CYCLE SUIT.

Warmth without Weight. Comfort and Elegance.

It is made as an ordinary Norfolk Suit. The Breeches are lined throughout with flannel, with lace knees. The Jacket is made with a detachable leather body lining, which can be taken out when the wearer is not requiring it. With the leather lining in, this jacket is perfectly wind-proof. It is made in fancy Tweeds and Homespuns.

46/6 and 50/-

Patterns and Self-measurement Forms gladly sent.



Reasonable and Reliable

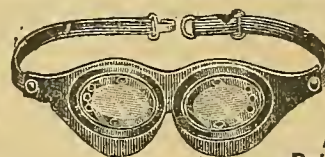
RUBBER MOTOR CAPS.

In P. & O. or Golf shape. 3/6, Postage 2d.

Price

1/11 1/2

Postage 2d.



All Rubber.

All-Rubber Motor Goggles, with extra pair of Tinted Lenses. Ventilated, light and comfortable.

Illustrated Motor Clothing and Accessories Catalogue post free.

JOHN PIGGOTT, Ltd.

117-118, Cheapside, and Milk Street, London, E.C.

For . .

TRIUMPH MOTOR CYCLES

and all kinds of

ACCESSORIES,

SPARES,

PETROL,

REPAIRS,

and PROMPT ATTENTION

MORRIS GARAGE,

Holywell, Oxford.

Tel.: "Auto, Oxford."

'Phone: No. 238.

Send for Lists of STOCK CASTINGS FOR REPAIRS.



J.C. DALMAN & SONS, BIRMINGHAM.

Genuine Birmingham

"QUADRANTS."

A large stock of parts still to be cleared. Write for latest list.

REG. SAMSON,

232, LADYWOOD RD., BIRMINGHAM.

¶Readers who purchase, or contemplate purchasing, a new machine, should advertise their present mount in these columns. ¶Experience has shown that "The Motor Cycle" is, in the majority of cases, successful in finding a purchaser. ¶This applies also to accessories and spares.



A CCUMULATORS

THE 'CORONET.'



4-volt—5 amp.
Size: 3 3/4 x 1 x 4 1/2 high.
ABSOLUTELY UNSPILLABLE.

PRICE 7/6



2-volt—20 amp.
Size: 2 1/2 x 4 in high

PRICE 8/6

Specially made for low tanks.
Can also be made in 1-volt size at 10/6
Unspillable types, 2/- extra.

"SPECIAL DOUBLE CROWN."



4-volt—12 amp.
Size: 3 1/2 x 1 1/2 x 4 1/2 high.

PRICE 12/6

Unspillable type. 14/6.

All above accumulators fitted with our
Non-corrosive Terminals and Splash Proof
Vents. Best quality workmanship throughout.
Lists on application.

RICHFORD & CO.,

Proprietors of "Richford Grinding Compound,"
153, FLEET STREET,
Dept. M.C. LONDON, E.C.
ESTABLISHED 1876.

WANTED.

WANTED, good motor cycle, tricar, or reliable modern car; exchange new high-class furniture, any description, valued wholesale, direct from works. — Furniture Manufacturers, 7-11, French Place, Shore-ditch, London.

S. J. FAIR, the Motor Cycle Exchange, Cheltenham Road, Bristol.—Wanted, 25 second-hand motor cycles, any makes, 1 1/2 to 6 h.p., for shipment abroad; motor cycles sold on commission, or purchased outright; cash remitted by return; bankers' references if desired.

WANTED, 4 1/2 h.p. four-cylinder F.N. bicycle, in exchange for one. 4ft. 6in. screw-cutting Drummond lathe having permanent gap bed, 5 1/2 in. centres, 7 in. centre at gap, together with two first-class chucks, the whole is in condition as new.—Reply to No. 1,410, The Motor Cycle Offices, Coventry.

MISCELLANEOUS.

ENGINES Re-bushed throughout from £1.—Tufnell and Co.

CYLINDERS Re-bored from 5s. — Tufnell and Co.

PISTONS Supplied new from 7s. 6d.—Tufnell and Co.

RINGS from 9d.—Tufnell and Co.

CONNECTING Rods from 7s. 6d.—Tufnell and Co.

VALVES.—Inlet from 1s. 6d., exhaust from 2s. 6d.—Tufnell and Co.

PULLEYS for any motor.—Triumph, Brown, Fafnir, 4s. 9d.; Rex, Antoine, Kelecom, 5s. 9d.; De Dion, M.M.C., 6s. 9d. Above 4 1/2 in. diameter, 9d. extra.—Tufnell and Co.

AXLES, cranks, spindles, handle-bars, seat-pillars, or any other parts made to pattern or sketch at lowest prices; accuracy guaranteed.—Tufnell and Co., 527, High Road, Leytonstone.

ANTOINE and Kelecom Parts in stock.—Crypto Co., 14, Mortimer Street, London.

MOTOR Cycle Saddle, Brooks B90, nearly new; 12s.—Clark, 375, Edgware Road, London.

QUADRANT, spring forks, and tank, as new; 30s., or nearest.—Smith, plumber, Wivenhoe.

OVERCOATS, thick warm, latest cut; 21s. Write for patterns. — Booth, tailor, Longton.

WHIPCORD Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, tailor, Longton, Staffs.

WHITTLE 1/2 in. Belt, almost new, £1; belt rim, 3s.—Brown, 26, Frederick Street, Sunderland.

26 by 2 1/2 steel studded leather covered tyre; 45s.; cost recently £3 5s.—Lord, Mountfield, Prestwich.

MABON Clutch, new, fit 3 1/2 h.p. Brown; sacrifice £2.—Traxter, 5, Calverley Road, Tunbridge Wells.

FRAMES made to order, complete, £2 10s.; wheels, 17s. 6d. pair; also sidecars. — Millard, Belvedere.

1908 Triumph Cylinder, - piston, rings, valves, almost new, perfect; 25s.—R. Moffett, Dungannon.

OUR Automatic Pulley is marvellous; throw away speed gears.—Particulars, Walker, Lutterworth.

FULLER'S Bichromate Battery four cells; nearly; 35s.; free on rail.—Breeze, 74, High Street, Aldershot.

UTOGENOUS Welding.—Send that broken casting to the Alvaston Motors, Derby, to be welded by patent process; metal reunited.

UTOGENOUS Welding. — Costly castings saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, and a thousand other things.

UTOGENOUS Welding. — Wonderful results. Broken flanges, lugs, brackets, etc., all amenable to our process; send part to-day; quotations on sight.

UTOGENOUS Welding.—Alvaston Motors, Derby. Telephone, 1, Alvaston.



4/-

WHITE'S

4/-

Ensures instant starting.
Controls main air intake.
Only takes a minute to fit.
No need to flood to start.
Overcomes misfiring at slow speeds
More air at high, less at low speeds
Invaluable for cold weather riding.
Starts free engine machine first pull
Effects saving in petrol. [over
Range of throttle greatly increased.



TRY ONE—YOU WILL BE WELL SATISFIED

In solid leather through out
6/6 each.



THE 'ELECTARY' will outlast your machine. The finest motor cycle lamp ever produced.

each.
Brass . . . 22/6
Nickel . . . 23/6
Generators, best quality 7/6



W. & R. JACOBS,
39c, King William Street,
London Bridge, E.C.



WHY USE 4 VOLTS.

Write for particulars of the

VOLT00 2-Volt Coils.

Midget Non-Trembler 15/- Ordinary N.-T. 21/-
High Speed Trembler (1 cyl.) 30/-

— LIBERAL DISCOUNTS TO THE TRADE. —
The City Ignition Co., 14, Spencer St., Goswell Rd., E.C.

A. D. POWELL & Co.,

3, Aylestone St., Leicester.

FITALL & POWELL

HUB GEARS.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MINERVA

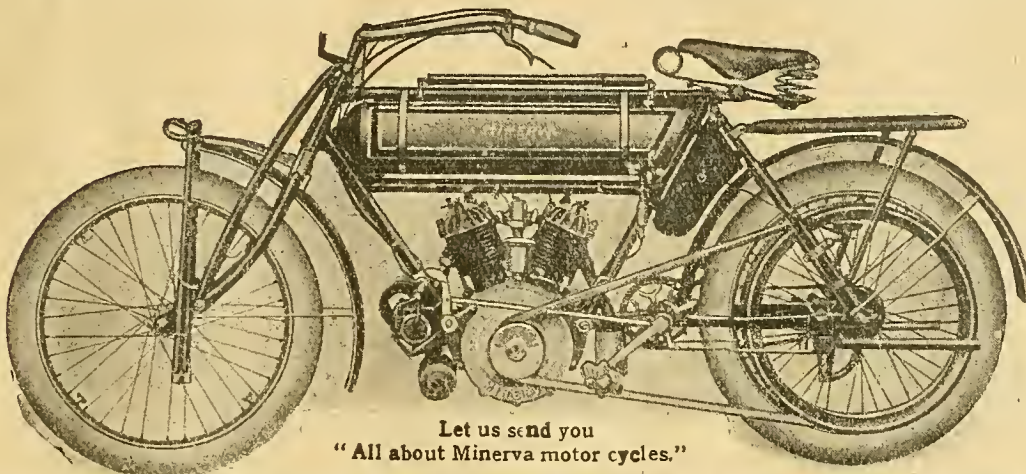
Complete handlebar control and magento ignition are features of the 1909 models. Spring forks can be fitted to any machine at 50/- extra. A reduction of £4 is made from the following prices when accumulator ignition is required.

Single-
cylinder,
2 $\frac{3}{4}$ h.p.,
Bosch Ignition

£36.

3 $\frac{1}{2}$ h.p.,
Bosch Ignition

£37.



Let us send you
"All about Minerva motor cycles."

Two-
cylinder,
4 $\frac{1}{2}$ h.p.,
Bosch Ignition

£45.

8 h.p.,
Bosch Ignition

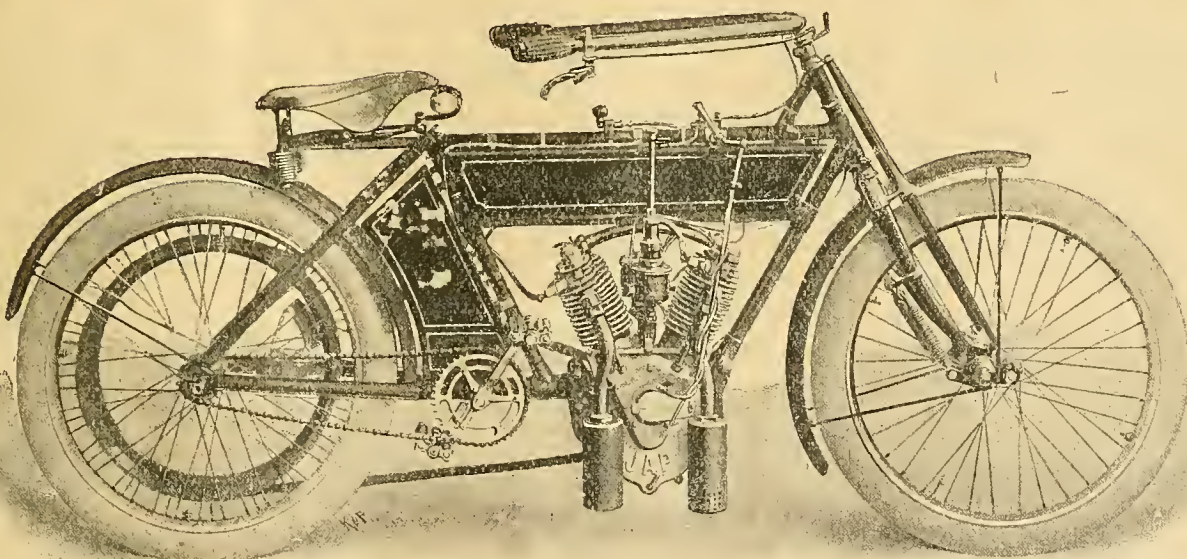
£48 10.

Showrooms, Spare Parts & Repairs, MINERVA GOODS & REPAIRS, Ltd., 15-17, Charlotte St., Tottenham Court Rd., W.

MINERVA MOTORS, Ltd., 40, Holborn Viaduct, LONDON, E.C.

A.J.W.

CHATER LEA No. 6 MOTOR FRAME.



Our latest pattern has been designed with the head larger in diameter, and with the lugs specially strengthened to withstand the strain of sidecar work.

We make a speciality of sidecar frames, and build them to be attached to either side of motor bicycles. We have produced a special socket joint for ease in attaching and detaching.

**HAVE YOU SEEN OUR NEW REGISTERED
FORK END WITH STAND AND CARRIER?**

**OUR SPRING FORKS
ARE A LUXURY.**

1909 HANDBOOK
NOW READY.

CHATER LEA Ltd.,

114/120, Golden Lane,
LONDON, E.C.

"Autoclipse"

MOTOR CYCLE LAMPS

combine in a manner hitherto unattained, just those features that every motor cyclist has wished for.

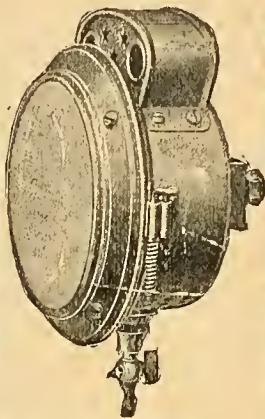
"AUTOCLIPSE" Lamps give twice the light of any others of equal size, and are specially constructed to withstand vibration.

They are light in weight, neat in design, and being riveted throughout will be found to outlast any other make of lamp in ordinary use.

Model F.

Candle Power, 400.

Prices, Brass, 30s. Plated, 35s.

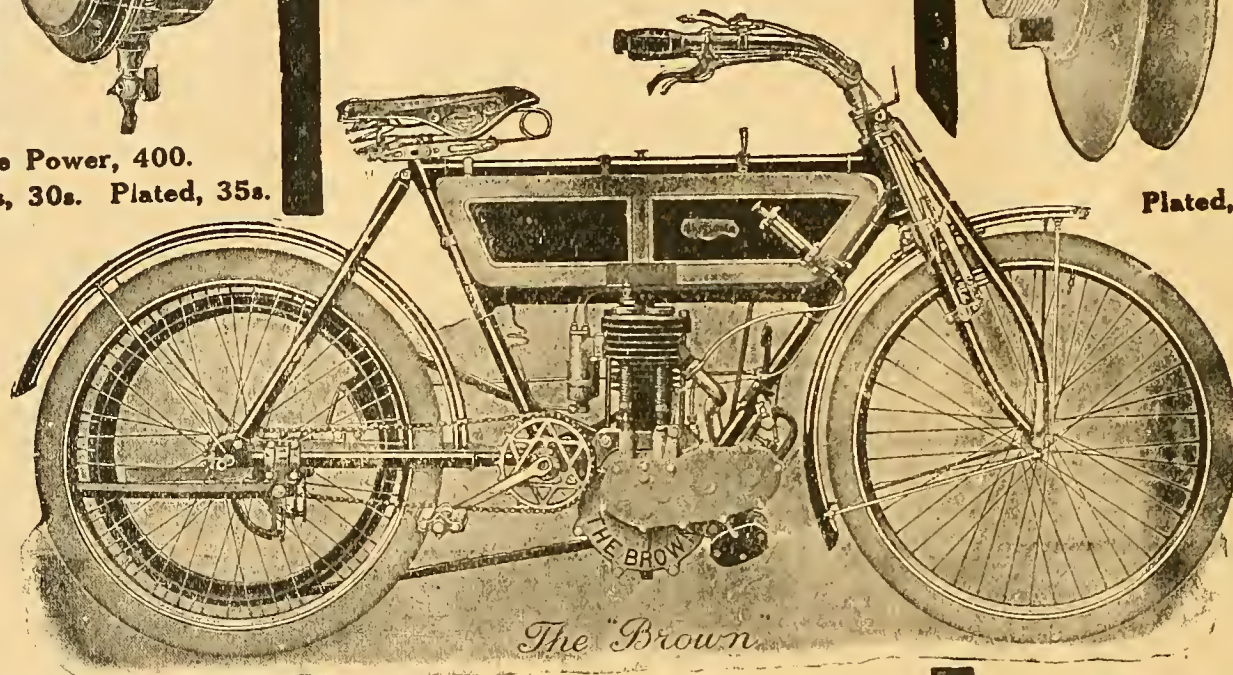


Why not fit an Auto-clipse Motor Cycle Lamp, and have no further troubles?

No matter what ordeal the 'BROWN' motor bicycle is put to it can invariably be depended upon to give good service—even under adverse conditions.

Is this not the ideal mount you are seeking? One that is thoroughly reliable and

Easy of Control.



The "Brown"

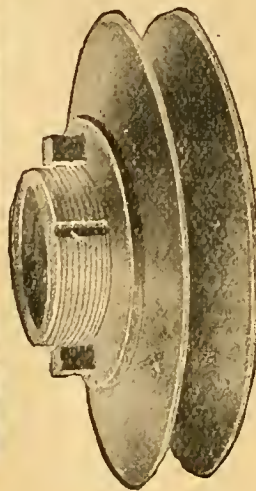
The "BROWN" Adjustable Motor Cycle Pulley.

The simplest and most effective pattern ever devised. The outer flange is adjustable to any width, and is fixed in position by a

locking ring that prevents any lateral movement whatever.

The outer nut (on main driving axle) not being recessed as is usually the case is readily accessible.

Can be supplied to fit any make of motor cycle.



Plated, Price 15/-.

Fitted to all 1909 models of the 'BROWN' Motor Bicycle without extra charge.

"PEERO" ANTI-RUST.

A splendid preparation for preserving the plated parts during the damp weather, only a slight smear being necessary, which is easily removed when required.

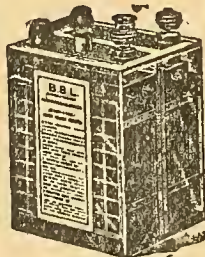
Sold in 6d. tins.

B.B.L. Motor Cycle Accumulators.

British made and fully guaranteed for twelve months.

Enclosed in neat celluloid cases.

- 10 a.h. $2\frac{1}{2} \times 2\frac{1}{2} \times 6\frac{1}{2}$ 12/-
- 15 a.h. $4 \times 1\frac{1}{2} \times 6\frac{1}{2}$ 13/3
- 20 a.h. $4\frac{1}{2} \times 2\frac{1}{2} \times 6\frac{1}{2}$ 14/9
- 25 a.h. $4\frac{1}{2} \times 2\frac{1}{2} \times 6\frac{1}{2}$ 22/-



The "H.H." Handle-bar Switch.



With interrupter plug, one way, price 3/6; two way, price 4/-.

THE

Brown

MOTOR BICYCLE

is certain to enhance its splendid reputation in 1909. Every model embodies distinct improvements, conducing to a degree of comfort and satisfaction that only a rider of the 'BROWN' can fully appreciate.

Write to-day for the 'Book of the BROWN,' which gives full particulars,—a postcard will do.

$3\frac{1}{2}$ h.p. model, £37. $5\frac{1}{2}$ h.p. Twin, £50. Magneto Ignition, or Spring Forks, extra.

Come and see the new models at

BROWN BROTHERS LTD.

West End Showrooms—

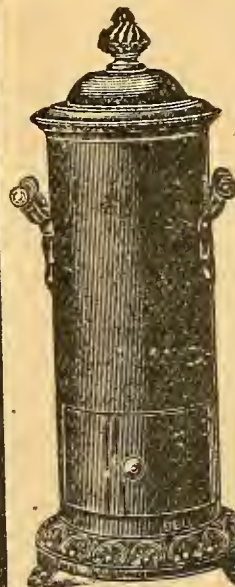
15, Newman St., Oxford St., W.

(Wholesale) Gt. Eastern St., London, E.C.

Also on view at

JOHN PIGGOTT, LTD.,

117-8, Cheapside, E.C.



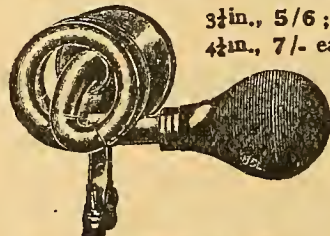
Don't let the damp play havoc with your machine, but install your cycle house with a

"BROWN"

Carbotron Stove, which will keep it thoroughly weather-proof. No chimney or flue is required; it will burn without attention with no smoke, no smell, and no danger. Size 2ft. 3in. by 8in., price 20/-.

Carbotron Fuel is specially prepared for use in these stoves. It develops great heat and burns with very little draught. 1 cwt. bags, 16/-.

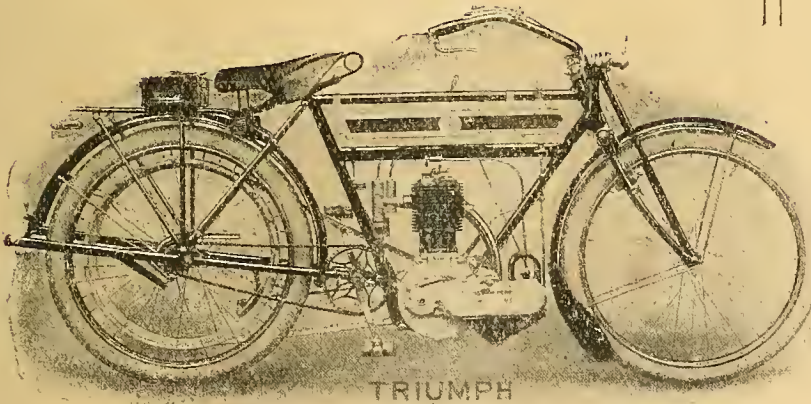
The "DUCO" TRIPLE-TWIST MOTOR CYCLE HORN.



$3\frac{1}{2}$ in., 5/6;
 $4\frac{1}{2}$ in., 7/- each

Triumph

THE TRIUMPH IS NOT AN IMITATION!



The Triumph is not an Imitation!

A motoring expert, writing in *The Motor*, gives his opinion that "Some manufacturers are for ever merely copyists, and, therefore, invariably a year behind."

Imitation has never yet surpassed the original; for one thing the original has moved a step forward, and further, all imitations lack as least one important factor—Brains.

The Triumph Motor Cycle is a notable case of the original. Never as yet has it been equalled, much less surpassed. Year after year it has led with others following in its wake, and to-day it stands pre-eminent amongst its fellows.

And why is this?

Its designers have the brains to originate, not for the sake of change, but for added efficiency and reliability—its constructors are mechanically skilled in carrying the design to a successful issue, and its material is specially chosen for its suitability and high-grade qualities.

Will you not learn more about this wonderful machine? Our descriptive catalogue, which is at your disposal, will be issued early in January—preliminary catalogue ready now—post free.

TRIUMPH CYCLE CO., LTD.,
COVENTRY.

LONDON: 4/5, Holborn Viaduct, E.C.
MANCHESTER: 160, Deansgate.
LEEDS: 4, King Edward St.

GLASGOW: 101, Mitchell St.
DUBLIN (Wholesale only): 62, William St.

PETER UNION

1909 TYPES.

“Leather Non-skid.”

UNSURPASSED FOR RELIABILITY.

Do not fail to read our interesting Booklet, entitled “CANVAS OR LEATHER.”

“Model Re-enforced.”

FOR HEAVY AND HIGH-POWERED MACHINES.

Butt-ended Tubes.

SPECIALLY RECOMMENDED FOR REAR WHEELS.

Ordinary Covers and Tubes.

OF THEIR WELL KNOWN GOOD QUALITY AND CONSTRUCTION.

Write for further particulars and new List to

THE PETER UNION TYRE COMPANY,

6, Upper Saint Martin's Lane, W.C.

Telephone No. 2433 Gerrard.

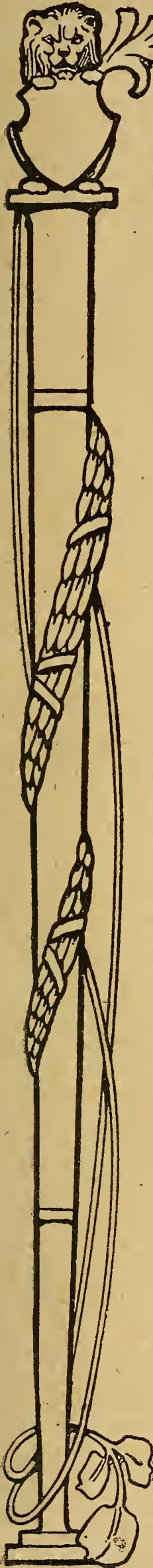
Telegraphic Address—“Pneupeter, London.”

Birmingham Branch—160, CORPORATION STREET.

Telephone No. 5338 Central.

Telegraphic Address—“Pneupeter, Birmingham.”

Agent for Scotland—Mr. W. Gerard, 18-22, Swinton Row, Edinburgh.



VINDEC SPECIAL

THE MOTOR CYCLE OF MERIT.

**"VINDEC
GREY"
AND
OTHER
GOOD
FEATURES
FOUND
ONLY
ON
1909
"VINDECS."**

**WHAT MR. H. G. COVE
IN HIS PAPER
"MOTOR CYCLES AT THE
STANLEY SHOW,"
SAID ABOUT
"VINDEC SPECIAL"
MOTOR CYCLES:**

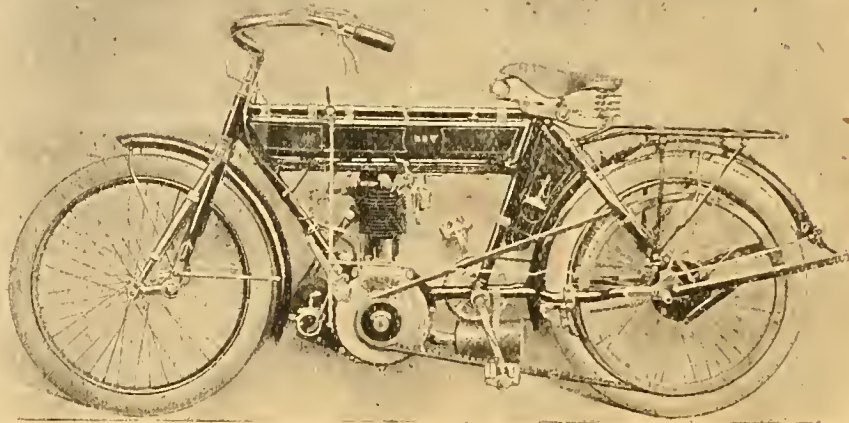
"After one has heard so much lately as to the better appearance, both in bad and fine weather, of the grey over the black finish of machines, it was really surprising to find that only one firm had the courage to wholly stage machines enamelled grey. I refer to the 'Vindec Special,' which well-known machines I feel will gain for themselves even greater popularity by their go-ahead methods. The frame is wholly in stone, or 'Vindec' grey. The panels of the tank are white, lined black, with borders of 'Vindec' grey, and the whole is the smartest idea in enamelling one could conceive. Another matter that has often struck me as strange is, that makers build machines with virtually fixed handle-bars, so that a man has to adapt himself to the handle-bar of the machine, instead of the handle-bar being adapted to the rider's fancy or comfort. This certainly seems to be far from the correct method, and quite a roundabout way of getting at the ideal. The 'Vindec' machines are now fitted with handle-bars which have an adjustment for slope. A small nut on the forward lug has only to be slackened and a little pressure applied to raise or lower the bar to any height. This can be done without the length of the head stem being altered—a most desirable thing, and one which I feel sure will be very popular. An ingenious device for retaining the pedals in any position has been fitted, and the great discomfort so often experienced by the pedal swinging round when one is just about to mount is obviated. The carburetter this year on the 'Vindec' is placed in a central position, and I feel sure that this is an improvement."

"Vindec" Riders are Satisfied Riders.

Let us send you the Booklet which illustrates and describes our 1909 Models.

**VINDEC MOTOR CYCLE CO.,
13-15, Wilson Street, Finsbury, LONDON, E.C.**

In answering this advertisement it is desirable that you mention "The Motor Cycle."



A beautiful model

—without exaggeration the attraction at the Stanley Show. 4 h.p. engine, 82 x 105 mm., m.o.i.v., ball bearings to engine shaft, improved type of carburetter, handle-bar control and magneto ignition, 31 in. leg stretch, this model represents all that is good in motor cycles. Like all other models in the range, it is fitted complete and ready for the road with just the exception of the lamp and horn. Write for full particulars of the 1909 range of the

N.S.U.

N.S.U. MOTOR COMPANY, Limited,

Offices and Showrooms:

186, GREAT PORTLAND STREET, LONDON, W.

Goods and Repairs:

83-85, BOLSOVER STREET, W.

A.I.W.

Specification of "TWINWOLF."

ENGINE & POWER—A. J. Stevens 3 h.p., over 4 h.p. R.A.C. formula.

CYLINDERS—Two.

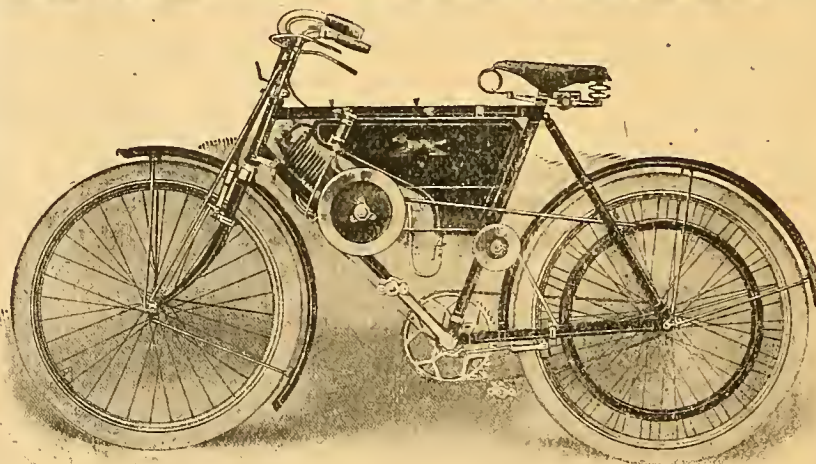
BORE & STROKE IN MILLIMETRES—63 x 66.

INLET VALVES—Automatic.

IGNITION—Ruthardt Magneto.

CARBURETTER—A. J. Stevens.

FRAME—20 in. Rigid.



Specification of "TWINWOLF."

FORKS—Druid Spring Forks fitted with girders.

DIAMETER OF WHEELS—26 in.

TYRES—26 in. x 2 in. Three Spires Non-skid.

TRANSMISSION—"V" Belt.

GEAR—4½ to 1.

FITTED WITH PEDALLING GEAR.

JUST AS EFFICIENT BUT CHEAPER.

Wolf Motor Cycles, although their prices range from **£19 : 19 : 0**, are every bit as efficient as their higher priced rivals; the full pleasures of motor cycling can be realized on a Wolf, for they are powerful, durable, and not given to wayside breakdowns.

THE WOLF FEATHERWEIGHT MOTOR CYCLES.

THE "TWINWOLF" ————— 45 Guineas.

The 'TWINWOLF' is the King of our machines, and is a powerful, two-cylinder motor cycle, beautifully finished—you cannot better it at any price.

Write for
Lists.

WEARWELL MOTOR CARRIAGE CO., Ltd., WOLVERHAMPTON.

THE SILENT

MOTO REVE



FOR 1909.

S. & H.

DEEDS THAT SPEAK.

During 1908 the MOTO-REVE took part in all classes of open competitions—Reliability, Speed, Hill-climbing, etc.—and in 23 meetings secured

40 AWARDS,

24 of which WERE HIGHEST POSSIBLE AWARDS.

Specification and full particulars of the 1909 Standard and Spring Fork Models sent on application.

**THE MOTO-REVE
COMPANY, LTD.,**

**138-142, GRAY'S INN ROAD,
LONDON, W.C.**

**PRACTICAL POINTS
THAT SPEAK.**

A perusal of the Specification will convince every practical motor cyclist of the many points wherein the MOTO-REVE easily outstrips all competitors.

CLINCHER

MOTOR CYCLE TYRES

are now manufactured by a new Hydraulic Moulding Process, which further increases durability—
Are Much Improved in Quality,
**GREATLY REDUCED IN PRICE,
FULLY GUARANTEED.**

If you were not able to see them at the Shows, write us now for particulars of new Season's Programme.

North British Rubber Co., Ltd.,
CASTLE MILLS, EDINBURGH.

1909 REX OP

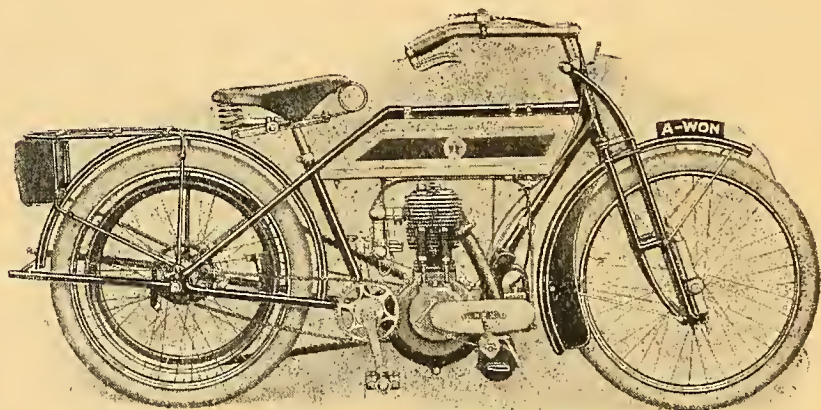
**It was predicted at the Stan
more improvements than an**

*To still more emphasise these improvem
assailed the 6 hours' track record at Ca*

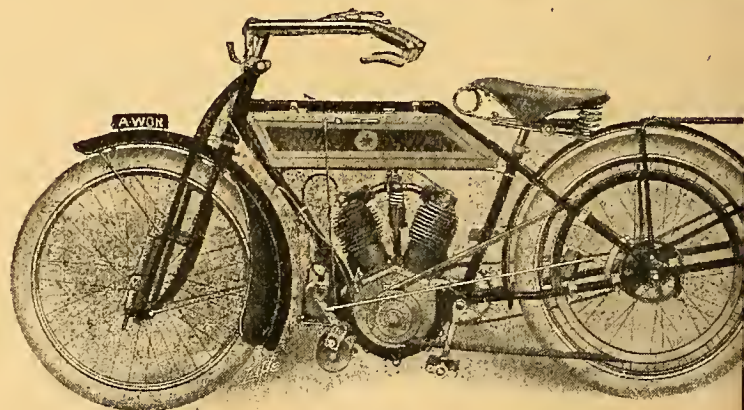
5 h.p. Tourist Rex 268

Breaking all records from 101 miles.

THESE ARE RI



3½ h.p. 1909 Rex, 40 guineas.



5 h.p. 1909 Rex, 43 guineas.

THE REX 1909 SUNDRY SCHEME:

22 Sundry Stocking Agents all under

J. HORNER & Co., 21, Store Street, London, W.C.
THE SERVICE Co., LTD., 292, High Holborn, London, W.C.
HAYES, FERNI & Co., 27, Mortimer Market, Tottenham Court
Road, W.C.
F. C. JONES & Co., 3, Redcross Street, Liverpool.
M. H. TILLEY & SONS, 45, South Street, Dorchester.
M. H. TILLEY & SONS, The Esplanade, Weymouth.
ATKINSON & GRIFFIN, The Westmorland Garage, Kendal.

THE PREMIER MOTOR
J. E. BRASSEY & SONS
W. E. CLARKE & Co.,
J. PARSONS & Co., 54,
WAYTE BROS., Lemon
E. TIDSWELL, 61, Pres
ALEXANDER & Co., 108
J. WINSLOW, 90, Rege

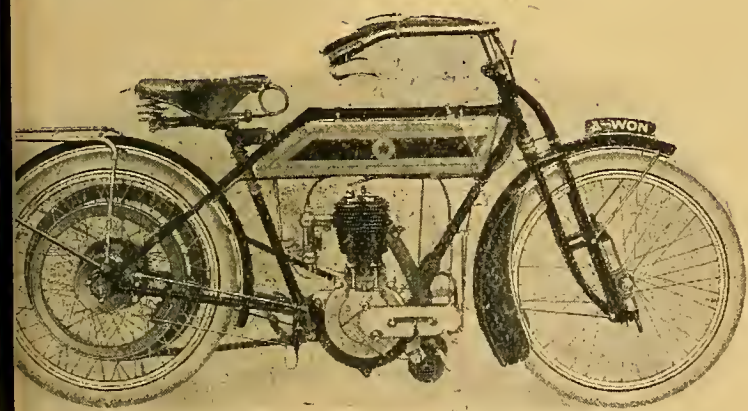
THE REX MOTOR MAN

NS THE BALL

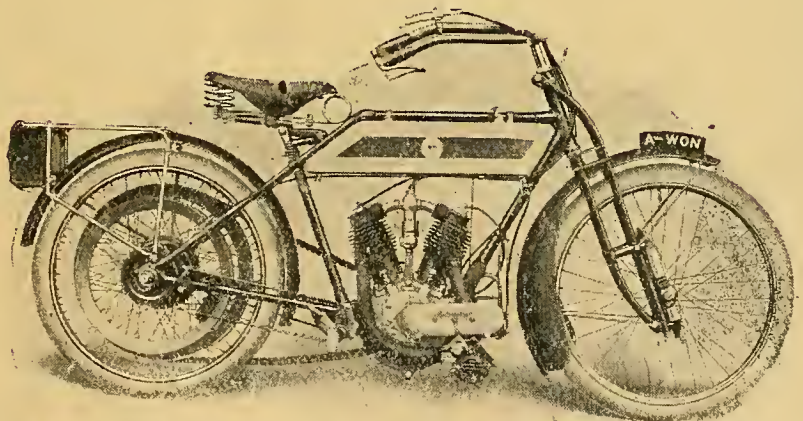
**Show that the 1909 Rex had
ther make of Motor Bicycle.**

**, Mr. O. C. Godfrey on December 22nd
g Town, and covered on a
miles in 6 hours**

CORD MODELS.



**h.p. 1909 Rex de Luxe, fitted with Rex
proved Roc Clutch, and Rex two-speed
gear, 50 guineas.**



**5 h.p. 1909 Rex de Luxe, fitted with Rex
improved Roc Clutch, and Rex two-speed
gear, 53 guineas.**

ment to look after the Riders' Interests.

on Road, Birmingham.
egate Street, Chester.
Road, Doncaster.
Cardiff.

adford.
ad, Edinburgh.
don.

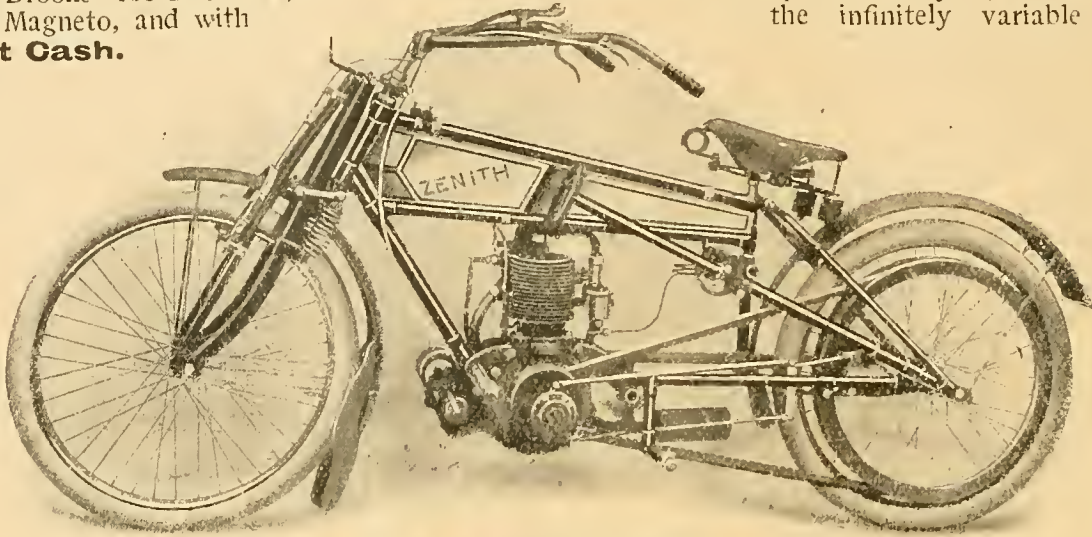
C. M. FARROW, 32, Cowcaddens Street, Glasgow.
F. GREEN, 19, Anlaby Road, Hull.
W. H. SWINDELLS, 199, North Road, Preston.
J. G. LOOKER & Co., 225, Deansgate, Manchester.
KIRSOP, MURRAY & Co., LTD., 43, Pilgrim Street,
Newcastle-on-Tyne.
PRINCESS MOTOR STORES, 32, King Street, Leicester.
A. I. GREENWOOD, 39 Guildford Street, Leeds.

G. Co., Ltd., COVENTRY.

On account of the wonderful success of the "Gradua" Gear, a considerable number of motor cyclists—in spite of the greater amount of comfort offered in the "Zenette" Spring Frame bicycle—have approached us to know if we will fit this gear also to a rigid frame machine.

We have therefore designed a machine with rigid frame (but spring forks) to meet this demand. The "Zenith-Gradua" is not a copy of any other pattern, but has been specially designed, at great expense, by one of the first designers of the day. It has been thoroughly tested for many months before being put on the market. It is built low, but with long base, and has a decidedly smart and "racy" appearance, and is indeed a machine-de-luxe.

Price with 3½ h.p. Fafnir Engine, Fafnir or Longuemare Carburetter, Whittle or Rubber Belt, Druid Spring Forks, Handle-bar Control, Brooks' 100-B Saddle, 26 × 2½ Clincher Tyres, Michelin Butt-ended Tubes, Gear Driven Bosch Magneto, and with the infinitely variable "Gradua" Gear,
49 Guineas Net Cash.



THE "ZENITH-GRADUA."

"The Motor Cycle"—28th Oct., 1908—says of the "Zenith-Gradua": "A NEW MODEL.—Zenith Motors, Ltd., although they have found their spring frame model to have been a great success, have turned their attention also to the production of a lighter rigid frame model. The machine which we have under consideration is a *really sound job*, and from the trial we were able to enjoy in the dual capacity of both witness and participant we expect it to meet with considerable success. It will be seen that, as in the case of the spring frame 'Zenette,' the top tube is sloping, thus giving the rider a low saddle position, and we must congratulate Zenith Motors, Ltd., on utilising the sloping tube in order to obtain this end. The machine is fitted with handle-bar control, Druid spring forks, and 'Gradua' gear—that most ingenious contrivance, the excellent working of which we can vouch for personally after an extensive trial. On the one in six portion of one of the steepest hills in the London area, it twice ascended the hill in excellent form, and restarted on the gradient from a standstill without the slightest effort. In the saddle it is most comfortable, and after a short ride we found it to be easy to control, fast, and a good hill-climber. The 'Gradua' gear has now been before the public for some months and the makers have been wise enough to enter machines fitted with the gear in this year's long distance trials—the 'End-to-end Run' in particular—and it emerged with flying colours."

ZENITH MOTORS, LTD., WEYBRIDGE (SURREY). 30 minutes rail from Waterloo, L. & S.W.Ry. Trial runs by appointment only

Consider Comfort.

We have made it our first consideration, and a glance at the illustration will show the means we have adopted to bring to every rider of a motor cycle the maximum of same.

Note particularly the sectional view of springs which will make clear to you their compensating action—the one in tension—the other in compression.

These are fitted to all models of the

BROOKS

ANTI-VIBRATORY MOTOR CYCLE SADDLES AND SEATS.

Their embodiment ensures the complete absorption of all vibration within themselves and a resulting ease and absence of fatigue which will be immediately appreciated by every rider. At the same time, that common fault—a tendency to bounce—is entirely eliminated.

That is comfort, and you should ask to see and test a BROOKS—in the meantime write us for Saddle Manual. Dept. B 45.

J. B. BROOKS & Co., Ltd.,

The Saddle Specialists,
BIRMINGHAM.

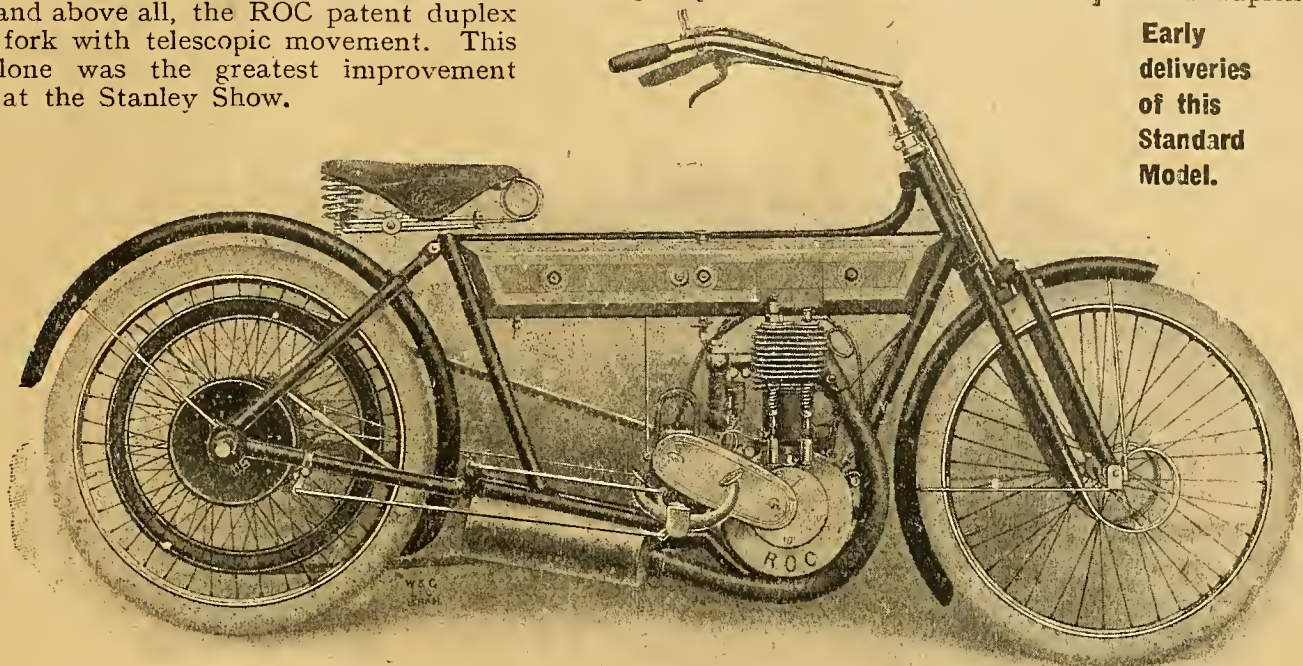


IF YOU WANT

a downright reliable machine, with all the most up-to-date comforts and refinements, you cannot do better than place your order **now**. The ROC is the one machine you must sooner or later come to. The ROC has **always** been the pioneer model to the world. Notice how the ROC clutch and speed gear, with hand starting, has altered old notions, and how other firms are following the lead. Notice also the safe and easy riding position—the long wheelbase—the strong duplex frame construction—the divided duplex tanks, and above all, the ROC patent duplex spring fork with telescopic movement. This fork alone was the greatest improvement shown at the Stanley Show.

Early
deliveries
of this
Standard
Model.

4 h.p.
Royal
Military
Model,
inclusive of
Clutch
and
Speed Gear,
48 gns.



But if you cannot at present afford this outlay, and you find your existing mount still serviceable, you can have it converted into the ROC clutch and gear system for 10 guineas. This gear gives you a 50 per cent. reduction, and a new sense of security. It is worth double the cost. Machines sent for conversion are returned within a few days from receipt, and finished in keeping with the rest of the machine.

WRITE FOR LISTS AND USERS' OPINIONS.

A. W. WALL LTD., Roc Motor Works, Aston Rd., & Dartmouth St., BIRMINGHAM

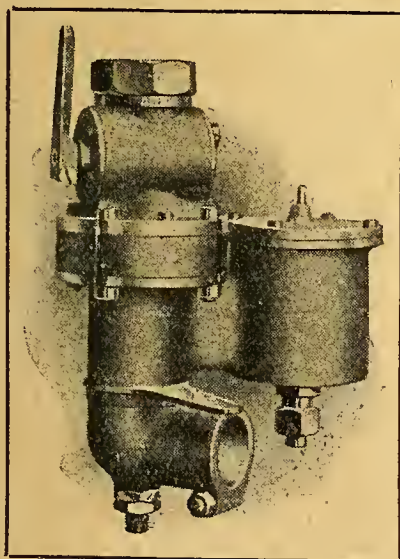
Oldest English firm exclusively making Motor Cycles.

Contractors to British and German War Departments. Crown Agents to the Colonies, etc.

Telegrams: "ROC, Birmingham." Telephone: 5712.

Trials anywhere by appointment.

"J.A.P." MOTORS.



When ordering your new mount, ensure satisfaction by insisting on having a J.A.P. Engine and Carburettor.

Write for Illustrated Catalogue (post free).

J.A.P. Patent Carburettor, 1909 Model,

Has no equal for easy starting, slow running, power, and general efficiency.

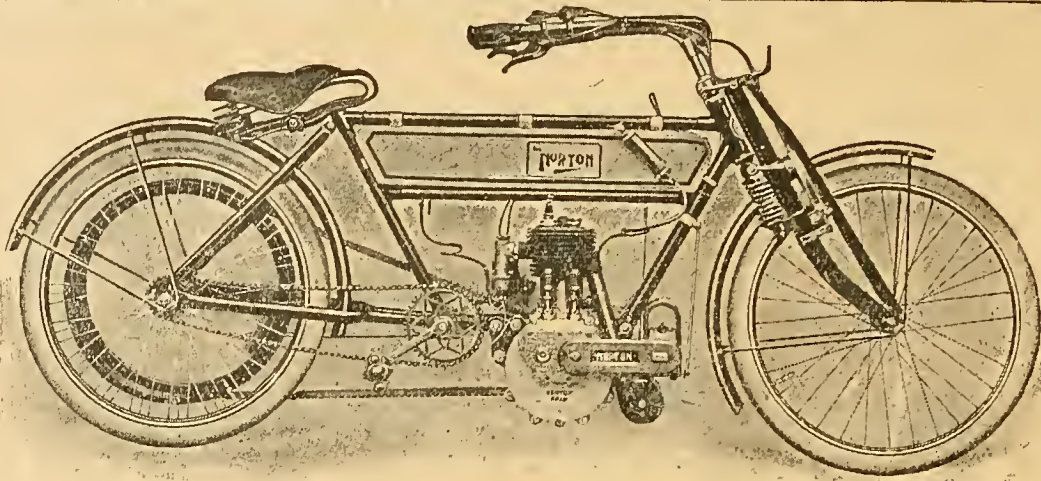
J.A.P.
Patent Carburettor,
Price 36/-.

Price reduced to 36/-.

John A. Prestwich & Co. 1, Lansdowne Road, Tottenham, London, N.

Telephone—1822, Tottenham.

Telegrams—"Prestwich, Tottenham."



"MY UNAPPROACHABLE"

NORTON

A FEW BARGAINS IN SHOP-SOILED AND SECOND-HAND NORTONS. . . .

THE 5 H.P. NORTON HOLDS THE RECORD FOR THE T.T. COURSE I.O.M.

NORTON MOTORS are MECHANICALLY and SCIENTIFICALLY CORRECT.

Note the lines. Their simplicity and neatness. "The smoothness and comfort is marvellous."

5 h.p. TWIN, 50 Guineas  Ready for the Road.  3½ h.p. SINGLE, 43 Guineas

THE NORTON MANUFACTURING CO., LTD., BIRMINGHAM.

LONDON—The Service Co., Holborn.

GLASGOW—Alexander and Co., Lothian Road.

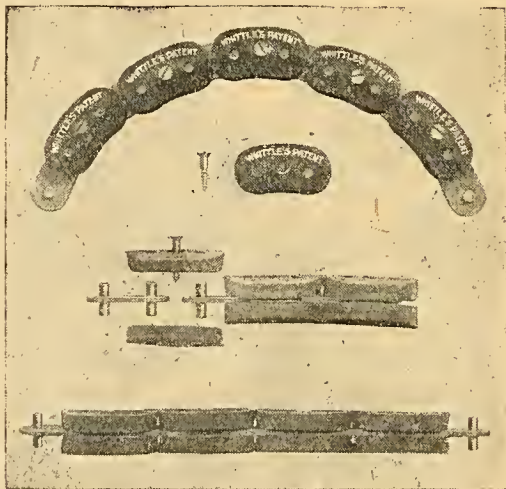
WHITTLES' (PATENT) LINK-GRIP

Non-slip Endless Leather Belts for Motor Cycles, Fans, etc.

No fastening link required.
Less power required.

Shortening simple and easy.
Not affected by wet.

Great strength.
Will drive when slack.



Trebles the life of the Pulleys.

WHAT MANY OF OUR CUSTOMERS SAY:

- "Have had belt in use for over three years."
- "Done upwards of 20,000 miles."
- "The only belt for heavy passenger work."
- "Five times cheaper than any other."
- "The poor man's belt."
- "No sign of slip."
- "The 'no trouble' belt."
- "Have not taken belt off pulleys for two years."
- "The best belt on the market."

Send for new Booklet with full directions and copies of recent testimonials.

Thos. Whittle & Sons, Ltd., Rose and Crown Street, **WARRINGTON.**

Telephone 365Y.

Telegrams—"Belt," Warrington.

THE MOTOR CYCLE LIBRARY.

Useful Books for Motorists and Motor Cyclists.

"HINTS AND TIPS FOR MOTOR CYCLISTS."

Reprinted from *The Motor Cycle*. First Edition. Strongly bound and copiously indexed, giving valuable practical advice on almost every possible point connected with motor cycles, their use, care, and upkeep. Quite the most useful book ever published for motor cyclists. Price 1/-. Post free, 1/2.

"THE AUTOCAR HANDBOOK."

A Guide to the Motor Car. How to select, maintain, and drive an automobile. Well illustrated. Price 1/6. Post free 1/9.

"THE AUTOCAR LOGBOOK"

and Motor Cyclists' and Cyclists' Record. Containing list of Agents who stock petrol, competent repairers, list of hotels, mileage, and maintenance records, and other information useful to autocarists, motor cyclists, and others. Morocco case, elastic band, ball-point pencil. Price, post free, 3/2.

"USEFUL HINTS AND TIPS FOR AUTOMOBILISTS."

Indispensable to Motorists. How to care, or what is better still, how to prevent road troubles. Third edition (revised and enlarged) now ready. Price 2/6. Post free 2/10.

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By John Henry Knight. Invaluable to those who have a penchant for mechanics, and prefer to keep their car or motor cycle in running order themselves. Price 2/6 nett. Post free 2/9.

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By Mervyn O'Gorman, M.I.E.E., Assoc. M.I.M.E. A pocket volume for constant reference. Bound in limp leather. Rounded corners. Illustrated. Price 7/6 nett. Post free 7/9.

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By Sigmund Krausz. A collection of twelve thousand technical terms and words employed in connection with motor cars and motoring in three languages—English, French, and German. Strongly bound, and printed on linen-faced paper, which will not tear or fray with constant handling. Price 3/6. Post free 3/8.

"PETROL MOTORS SIMPLY EXPLAINED."

By T. H. Hawley. Price 1/- nett. Post free 1/2.

"PRACTICAL MOTOR CAR REPAIRING."

By Eric H. Walford. Price 1/- nett. Post free 1/2.

"THE COMPLETE MOTORIST."

By A. B. Filson Young. Being an account of the evolution and construction of and maintenance of the same, and on the pleasure of the modern motor car, with notes on the selection, use, and travel upon the public roads. Bound in cloth. Price 12/6 nett. Post free 12/10.

"PETROL MOTORS AND MOTOR CARS."

A Handbook for engineers, designers, and draughtsmen. By T. Hyler White, A.M.I.M.E. With numerous illustrations. Price 4/6 net. Post free 4/9.

"THE MOTOR CAR REGISTER."

A diary and record of mileage; petrol expenses, with yearly summary; also forms for tyre register; capital accounts; list of accessories, insurance details, etc., to which is added a copy of the "Motor Car Act," a list of Town and County index letters, and a speed reckoning table. Bound in leather, with pocket for inserting licence. Price 3/- nett, post free 3/3.

All the above books may be obtained by post if ordered (with remittance) from "The Motor Cycle," Offices, 20, Tudor Street, London, E.C. £ £ £

Nothing

can tempt an up-to-date motorist if cheapness of an article is proclaimed as its principal feature. This is well understood by all who are in the know, and it does not take long to convince sporting friends that specially in the rubber line many articles are put upon the market which are everything

but

suitable for the purpose. In the way of Tyres the year 1908 has proved that the old fashioned plain tread tyre is no longer wanted. Something better was required, and the appearance of the rubber studded Shamrock Excelsior was universally acclaimed. The introduction of same was a complete success, and nothing but

Praise

is heard of all who have used them. Made of special wear resisting quality, the construction allows great resiliency and comfort; of all imitations at the end of the season none come near the Non-Skid qualities of the Shamrock Excelsior, and it may truly be said that they are incomparable with any other.

For

popularity no tyre has ever achieved such rapid progress; remember London-Edinburgh, Six Days' Trials, etc., etc., in which S. E. Tyres out-classed by far all others; the year 1909 will add many friends to the already large number of users. Another line which has constantly increased in popularity and is acknowledged as the British favourite is the

Shamrock

Gloria Rubber Belt. All manufactures of high-class machines fit the S. G. as Standard Belt. Stanley Show, 1908: all N.S.U., all Vindec, all Rex, all Bat, all Roc, and the majority of Triumph machines have S.G. Belts. This settles the question of merit and popularity. Britain's best known amateurs and leading authorities acclaim and testify to the high standard of our

Specialities

In our new booklet; ask for a free copy with prices, which are revised and reasonable.

Sole Manufacturers:

THE HANOVER RUBBER Co.,

29/31, Old St., London, E.C.

Retreading successfully carried out.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—1d. per word, minimum 1s. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Friday morning, or sent to London (20, Tudor Street, E.C.), the Thursday afternoon previous to the date of publication.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, it has been suggested that the advertisements be classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Experimentally, therefore, we have divided the advertisements into eleven sections, as follows:

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.
York and Lancashire.

SECTION III.
Cheshire, Flint, Denbigh, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Derby, Stafford, Northampton, Lincoln, Leicestershire, Rutland, Warwick.

SECTION V.
Cambridgeshire, Huntingdon, and Bedford.

SECTION VI.
Gloucestershire, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Oxford, Buckingham, Berks, Wilts, and Hants, Channel Islands.

SECTION VIII.
Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Lancashire.

SECTION XI.
Lancashire and Isle of Man.

1909. IS VERY NEAR

It is time to see about exchanging your old machine for a 1909

**TRIUMPH, PREMIER, REX,
F.N., VINDEC,
N.S.U., ROC, BROWN,**

or other up-to-date machine of leading make. Let us have a specification of your present mount and we will make you approximate offer. You will be surprised to find what liberal terms we allow.

DEFERRED PAYMENTS.

Second-hand and Shop-soiled Single-cylinders.

TRIUMPHS. EIGHT SECOND-HAND TRIUMPHS, 1905 to 1908 patterns, from £17 upwards. Details on application.

ROC, 1908, two-speed, magneto, 4 h.p.	£33 0
N.S.U., 1908, magneto, 3½ h.p., shop-soiled, £40 machine.....	£30 0
N.S.U., 1907, spring forks, Roc two-speed gear	£28 0
WARWICK, 1908, shop-soiled, two-speed, clutch, magneto, spring forks, £50 machine	£31 0
SINGER, 3 h.p., magneto, belt drive, Mabon clutch, perfect order	£15 0
ASTER, spring forks, Longuemare carburettor, tyres sound, good order	£9 0
B.S.A. M.M.C. engine, 3½ h.p., Druid forks, Lomax band, grand condition	£11 0

Twins.

N.S.U., 1908, magneto, 4 h.p., shop-soiled, £50 machine	£39 0
BROWN, 1908, shop-soiled, 5½ h.p., two-speed, Palmer tyres, cost over £67	£42 0
ROC TWIN, 5 h.p., magneto, clutch, show model, done 300 miles, perfect	£30 0
N.S.U., 1907, 6 h.p., magneto 2½ in. tyres, perfect order	£28 0
REX, 5 h.p., spring seat, spring forks	£17 0
MILLS & FULFORD SIDECAR, shop-soiled, Palmer cord 2½ in. tyre	£9 10

TRADE DISCOUNT ALLOWED OFF ANY OF ABOVE.

REX REPLACEMENTS AND REPAIRS.

SAVE TIME AND MONEY BY ORDERING FROM
THE PREMIER MOTOR CO.

ANTOINE ENGINE PARTS.

ALL SPARES SUPPLIED PROMPTLY.
LOW PRICES.

Discount to the Trade.

WRITE FOR LISTS OF ACCESSORIES.

We have a limited number of Shop-soiled and Second-hand PREMIER Lamps, Stands and Carriers, etc., at Clearance Prices. List free.

PREMIER MOTOR CO., LTD.

Aston Road, BIRMINGHAM.

Telephone 4,310.

Telegrams: "Primus, B'ham."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, and upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of 1s. for registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

All letters relating to advertisements must state distinctly under what heading they appeared, and date of issue.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

2½ h.p. Minerva, low built, brand new engine, Longuemare. Brooks saddle, two accumulators; £15 10s., or nearest offer. — W.G., 41, Grange Road, West Hartlepool.

SECTION II.

York and Lancashire.

1908 2½ h.p. new Rex Lightweight; £18.— Lord, Mountfield, Prestwich, Manchester.

TRIUMPH, 1908, magneto, spring forks, rubber studded tyre, excellent condition; £30.—Below.

5½ h.p. Twin, with Phoenix forecarriage, chain drive, free engine, B.B. carburettor, handle-bar control, with front wheel to convert to single; £18.—Allen Bros., 75, Wellington Road South, Stockport.

1908 5 h.p. Rex Racer, magneto, very fast, won numerous competitions; best offer over £25.—Heaton, Watchmaker, Atherton.

4½ h.p. Auto, No. 6 frame, B. and B. carburettor, Continental, B100 saddle, perfect; £20.—Scale, 311, Great Western Street Rusholme, Manchester.

1908 Triumph, in splendid condition, Shamrock-Excelsior tyres, lamp, horn, and spares, new in May; £35, no offers. — Rev. Ellison, Fairhaven Road, St. Annes-on-Sea.

TRIUMPH, November, 1907, 3½ h.p., perfect running order, all spares, new back tyre and belt, £29; N.S.U., 3 h.p., magneto, in running order, all spares, £17.—45, Wigan Lane, Wigan.

K.D., 1½ h.p. Lightweight, latest model, on Eadie specially built low frame, Continental tyres, brand new, £20; also one Continental non-skid cover, guaranteed new, 26 by 2½, 28s.—Ives, 2, Upper Newington, Liverpool.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chester Road, Old Trafford.

In answering any of these advertisements it is desirable that you mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

F.N. four-cylinder, 1907 model, just entirely overhauled, perfect order throughout; £30 for immediate sale; can be seen F.N. Motor Agency, London. — Apply, Lieut. Lewis, Chiddingstone, Kent.

1907 5½ h.p. Rex de Luxe, double back wheel, cantilever spring seat, spring forks, latest pattern low frame, condition better than new, scarcely used; £22, or close offer.—17, Kenmore Road, Hackney.

31 h.p. N.S.U., in No. 6 Chater-Lea frame, two-speed gear, pedals, short reach, powerful motor cycle, in splendid condition throughout; £17 10s., a great bargain. —At Wauchope's, 9, Shoe Lane, Fleet Street, London.

3 h.p. Scout, Chater-Lea frame and fittings, new Palmer tyres, with detachable tubes, complete set of spare parts, all guaranteed in excellent condition; £20, or best offer.—A., c/o Plum, 102, Richmond Road, Earl's Court.

1907 3½ h.p. Rex, magneto, spring forks, very low, finished as latest models, absolutely perfect condition, many refinements; £16; after 8 evenings, or by appointment.—Motorist, 29, Casterton Street, Mare Street, Hackney, London.

33 h.p. 1908 N.S.U., magneto, rubber studded cover, very low, brand new condition throughout, scarcely ridden; £30, or would consider magneto lightweight (Motosacoche preferred) and cash.—Hoffman, 60, Chiswell Street, Finsbury Square, London.

NOT yet Delivered.—New Motosacoche, 1909 pattern, including spring forks, Price's stand, spare belt, lamp, generator, and carrier, horn, complete with spares; invoiced £36, will take £30.—For further particulars write, A.W.O., 16, Dorset Street, E.C.

WAUCHOPE'S, of 9, Shoe Lane, E.C., is the best source to purchase a new 1909 motor cycle; any make supplied; exchanges arranged; careful and prompt attention at all times.—Only address, 9, Shoe Lane, Fleet Street, London, E.C. (off Ludgate Circus).

7 h.p. Twin Puch, 80 by 90, magneto ignition, handle-bar controls, two petrol tanks, one extra large, three pulleys, T. and M. three-jet carburettor, lamp, horn, and spares, new last September, weight 163; accept £32.—Bright and Hayles, Church Street, Camberwell.

1908 6 h.p. Twin N.S.U., two speeds, free engine, magneto, spring forks, complete, handle-bar control, very low, long wheelbase, 2½ in. tyres, unscratched, brand new condition, take sidecar anywhere; £40, or Triumph and cash.—S., 86, Colvestone Crescent, Dalston, London.

1908 F.N. Lightweight, hardly used, exactly same as machine at Stanley Show, all latest refinements, including spring footrests and forks, magneto ignition, very powerful, fast and reliable, ideal winter mount; price, including all accessories, £25.—S. Harris, 41, Albert Road, Stratford, E.

9 h.p. Bat, J.A.P., free engine clutch, guaranteed in general condition as new, drip feed lubrication, sprung back and front, a perfect machine for passenger work; £35.—On sale at Wauchope's, where machine can be seen and tried, 9, Shoe Lane, Fleet Street, London, E.C.

WHO Would have solid value for hard cash will at once write p.c. for Juno motor cycle and cycle accessories list, 250 illustrated pages; lowest prices in the trade; all latest novelties in lamps, swan-neck seat pins, long handle-bars, footrests, free engine pulleys, spring forks, belts, tyres, covers, etc.—Metropolitan Machinists' Co., Ltd., M.C. Dept., 75, Bishopsgate Street Without, London, E.C.

GORDON GIBSON'S famous 3½ h.p. Tourist Trophy Triumph, winner of Brooklands Plate, October 3rd, at 53 miles per hour, beating 5 h.p. to 8 h.p. twins ridden by professionals, 28 entries. This machine has had very little use, and is in new condition, it has the 1909 improvements, including engine, lamp bracket, etc., one of the fastest and best machines in England; £40.—Apply to Stanton, 86, Colvestone Crescent, Dalston, London.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

PLYMOUTH Motorists. — The Plymouth agent for the James motor cycle is Walter Williams, 118, Tavistock Road; book free trial early; exchanges; deferred payments; several second-hand bargains.

R U

contemplating the purchase of a new or second-hand motor cycle?

IF SO

you cannot possibly do better than to drop us a line as to what you require and remember that it is absolutely impossible for us to list every week our stock, but we will willingly send you a complete list upon request.

We are, owing to our forethought in bookings, able to give practically immediate delivery of 1909

**F.N.
ROCS.**

BROWNS.

MINERVAS.

MOTO REVE.

PHELON MOORE.

VINDEC SPECIAL.

MOTOSACOCHE.

MATCHLESS.

HUMBERS.

WOLFS.

NORTONS. L.M.C. DOUGLAS

MILLS & FULFORD AND

MONTGOMERY SIDECARS.

4 MAGNETO REXES. 4

5 h.p., spring forks and cantilever seat-pillars; £22 cash or exchange.

3 QUADRANTS. 3

3½ h.p., spring forks, lovely condition, and beautiful pullers; £18 cash or exchange.

3 TWIN REXES. 3

Spring forks, good tyres, 5 h.p. models; £17 cash or exchange.

1 1908 N.S.U. 1

1908 magneto, 6 h.p., Roc two-speed gear. Winner three competitions. Absolutely like new; £36.

2 1908 MINERVA. 2

4½ h.p., spring forks, perfect order and condition; hardly ridden; £26 10s.

1 1908 ROC. 1

4 h.p., spring forks, two speeds, ball bearing engine, magneto, just been thoroughly overhauled; £30.

YOUR CYCLE AND 80/- SECURES

If in good condition.

2 h.p. SINGER, magneto ..	£9 10s.
2 h.p. QUADRANT, good tyres ..	£9 10s.
2½ h.p. JAP, Phoenix built ..	£9 15s.
2 h.p. HUMBER, spray ..	£9 10s.

50/- DOWN AND 5/- WEEKLY SECURES

REX, 3 h.p., vertical engine	£8 10
HUMBER 2½ h.p., splendid condition	£10 0
QUADRANT, 2 h.p., good condition	£7 0
J.A.P., 2½ h.p.	£9 15
WERNER, 2 h.p.	£9 0
EXCELSIOR, 3 h.p., very good tyres	£10 0
REX, 3½ h.p., 1905, 26in. wheels	£13 0
PHOENIX, 2½ h.p., good tyres	£8 0
QUADRANT, 2 h.p., splendid condition	£8 0

For other accessories and machines see other column.

MAUDE'S MOTOR MART, Powell St., HALIFAX

The fair factors (behind the Victoria Hall).
National Telephone: 433 day, 904 night.

MOTOR BICYCLES FOR SALE.**SECTION X.**

Scotland.

TRIUMPH, 3½ h.p., Palmers, £30; Rex, 3½ h.p., magneto, £20.—Campbell, 29, Barossa Place, Perth.

3 h.p. Fafnir, Chater frame, Dunlops, rubber belt, non-skid on back, grey enamelled, little used; bargain, £15.—Thomas Hope, 83, Rosetta Road, Peebles, N.B.

HUMBER Motor Cycle, 3 h.p., chain drive, two batteries, lamp, horn, spares; what offers? ready for road; approval, if carrying both ways.—H., 28, James Street, Peterhead.

BARGAIN.—3 h.p. N.S.U., 1908, magneto, very low and long, renewed tyres; exceptional reliability; £22 cash, cost £37; expert examination.—Oswell, Grammar School, Jedburgh, N.B.

TRICARS FOR SALE.

3 h.p. Aster Engined Tricar, sprung forward, slight repairs; £8.—Smith, Hardwicke, Gloucester.

5 h.p. Lloyds, water-cooled, Kent three-speed gear, good order; £22.—Guest, London Road, Derby.

5 h.p. Twin Rex A.C. Tricar, in first-class condition; £28.—Manuel, 140, Higham Hill Road, Walthamstow.

23 h.p. Beeston Humber, with spare front wheel, convert bicycle, good order; £18.—Guest, London Road, Derby.

31 h.p. Rover Tricar, in perfect condition; to be sold for best offer, as buying a larger car.—Elliott, Sheep Street, Northampton.

4½ h.p. Antoine Chater-Lea Tricar, free engine, Palmer tyres, splendid condition; £14, or exchange.—13, St. Nicholas Street, Coventry.

9 h.p. 1907 Riley, two-cylinder, Longuemare, large clutch, three speeds and reverse, wheel steering, four lamps, faultless condition; £60; good allowance for motor bicycle.—Ernest Cook, Foregate Press, Worcester.

31 h.p. Humber Tricar, in perfect order, 32 tyres in good order, studded band on back, with spare back cover, pair lamps, two accumulators, apron, and several spares; price £20, or near offer.—Holmes, 19, Boston Road, Hanwell.

£25.—Rexette, 6 h.p., two speeds, wheel steering, sprung all over, splendid condition; also Chater-Lea tricar, 1908, three speeds and reverse, 9 h.p., twin-cylinder Jap engine, magneto, practically new, best offer; seen any time.—105, Clapham Park Road.

5 h.p. Twin Kerry-Abingdon Tricar, two speeds, chain drive, art cane body, tyres practically new, internal expanding back brake, all in genuine good condition; sacrifice £25, or exchange furniture.—Smooty, 436, Uxbridge Road, Shepherd's Bush, W.

TRICAR, Rex Litette, new last May, in perfect running order, 5 h.p., twin-cylinder, water-cooled, two speeds, free engine, Whittle belt, Palmer cord tyres on twin wheel, nearly new; trial given; £55, or exchange 15 h.p. two-cylinder motor car.—Dr. Blomfield, Hurst Green, Sussex.

5-6 h.p. Humber Smart Handsome Tricar, latest model, two speeds, water-cooled, large clutch, Clair silencer, Palmers front, special heavy cover back, two-lens mirror lamp (acetylene) front, paraffin tail lamp, two chains, Hans Renold, new, never used, jack, two spare tubes, and clock on dashboard; trial given; photo sent; exceptional bargain, £35, or nearest cash offer; must sell at once.—Bamford, Moorside, Oldham.

SIDECARS AND FORECARS.

MONTGOMERY Sidecar, 26in. wheel, new tyre, spare wheel; first 75s. secures.—Below.

SIDECAR, Montgomery, adjustable any side, luncheon basket, petrol tin, extra box for tools, 26 by 24; £4, no offers.—Thursfield, Padiham.

MONTGOMERY Reversible Sidecar, 28 by 2, Dunlop tyre, £5 10s.; also Mills and Fulford trailer, suitable for cycle or motor, £4 10s.; both in perfect condition.—W. Rye, Teynham, Kent.

SIDECARS AND FORECARS.

23 h.p. Brown, just overhauled, new cylinder, piston, spare tyre, take sidecar at 25 m.p.h.; £16 10s.; together or separate. —26, Gregory Boulevard, Nottingham.

WHEN You Buy your Sidecar insist on having an Oakleigh. The sidecar with a name. Read what the Essex Motor Club paper says about Oakleigh sidecars. Positively the best thing at the show. Write for 1909 list. — Oakleigh Motors, Ltd., 65a, Rosendale Road, West Dulwich.

CARS FOR SALE.

PALMER.—5½ h.p. Baby Wolseley, two bucket seats, Stepney, perfect; £39.

PALMER.—8 h.p. Beaufort tonneau, single-cylinder, magneto, four-seater; any trial; £35.

PALMER.—7-11 h.p. Daimler waggonette, twin-cylinder, solids, six-seater, four speeds, reverse; £19.

PALMER.—8-10 h.p. Deschamps tonneau, twin-cylinder, modern type, five-seater, new condition; £55.

PALMER.—12 h.p. Frick, side entrance, twin-cylinder, entirely new car, perfect; £60.

PALMER.—15 h.p. Spyker, tonneau, four-cylinder, latest model, hood, nearly new; £95.

PALMER.—16-20 h.p. Corre, tonneau, four-cylinder, similar to Renault, glass green; £75.

PALMER.—15 h.p. Flying Darracq four-cylinder, two-seater, low bucket seats; cheap, £85.

PALMER.—16-24 h.p. De Dietrich, tonneau, four-cylinder, magneto, splendid, fast, reliable car; £95.

PALMER.—16-22 h.p. Gladiator, side entrance, four-cylinder, Hele-Shaw type clutch, Krebs; £140.

PALMER.—15 h.p. Flying Darracq, tonneau, hood, screen; £125.—L. N. Palmer, 190, Mellison Road, Tooting. Telephone, 208, Streatham.

PRISOCIALABLE, single, or double, comfortable, clean, steers and starts car like a Walker, Lutterworth.

11 h.p. Humberette, two-seater, in splendid condition; low figure; buying a larger car.—Apply, H. Elliott, Sheep Street, Northampton.

RENAULT, 4½ h.p. De Dion engine, two or four-seater, good condition, very reliable; any trial or examination; £35.—B. S. The Chase, Clapham, S.W.

SMALL Two-seater 5-6 h.p. Humber, new Cape hood, lamps, and spares, grand condition throughout; magneto cycle part; £36.—48, Londesborough Road, Stoke Newington, N.

FAFNIR Four-cylinder 10-12 h.p. Two-seater, ignition E.I.C. distributor, hood, lamps, all complete; sell, or consider tricar part payment.—Williams, Ufton Court, Bourne End, Bucks.

HUMBERETTE, 6½ h.p., three speeds and reverse, just overhauled, new gears, hood, screen, lamps, tools, clock, spare valves, covers, tubes; £48.—Tate, draper, Menston, near Leeds.

h.p. Water-cooled De Dion-Eagle Runabout, two speeds, free engine, silent chains, splendid condition, spares; sacrifice £35.—Barber, 17, Galena Road, King Street, Fammersmith.

HUMBER, 12-16 h.p., four-cylinder, two-seater (huckets), long wheelbase, very fast, painted French grey, racing model, condition equal to new; £125.—26, Offerton Lane, Stockport.

h.p. Vindec Runabout, Whittle belt, adjustable pulley, magneto, spring front, padded steel tyres, just the machine for dirty weather, fitted with leather mud shields, condition as new; £40.—Gwynne, White Lodge, Crediton Road, Hampstead.

ROVER Cars.—You never know what a skid means when you drive a Rover. Now the days of muddy roads are here are you not thinking of the pleasures that would be yours if you owned a car? Write for the amount we will allow you for your skiddy mount in exchange for a Rover at £135.—Louis Davis and Son, Moseley, Birmingham.

The Halifax Motor Exchange

wishes all their clients

A Happy and Prosperous New Year

and an immunity from tyre and engine trouble during the coming season.

1909**REXES,
N.S.U.
PHELOX
and MOORE,
TRIUMPHS,**

will be supplied for cash or on exchange terms as previously.

Monster list of second-hand and 1908 new machines on application.

Six 1907 5½ h.p. REX DE LUXE, Roc clutch, magneto, twin tyre, spring forks, spring seat, handle starting. Best sidecar machine on the market. £27 10s. Guaranteed.

1908 3½ Magneto REX, Roc two speed ..	£28 10
1908 MOTOSACOCHE, splendid condition ..	£19 10
1907 3½ h.p. Magneto REX, spring forks	£19 10
4 h.p. Magneto ROC, Roc clutch, very low ..	£24 0
3 h.p. TRIUMPH, magneto	£24 10
3 h.p. TRIUMPH, spring forks	£21 0
3 h.p. SINGER, belt drive, HT magneto ..	£20 0
3½ h.p. MINERVA, H.T. magneto	£18 10
3½ h.p. Magneto REX Racer, a flier	£25 0
3½ h.p. 1906 REX, spring forks, long bars	£15 10
3½ h.p. MINERVA, M.O.V., vertical, spray ..	£16 10

£3 DOWN

secures your CHOICE
of these machines.
All in running order.
Balance 5/- per week

3½ h.p. 1906 QUADRANT, spring forks ..	£17 10
3 h.p. QUADRANT, spray, spring forks ..	£13 0
3 h.p. LLOYD'S, 26×2½ in. Palmers	£13 10
4 h.p. ANTOINE, vertical, M.O.V., spray ..	£16 0
2½ h.p. MINERVA, fine condition, M.O.V. ..	£13 10
3 h.p. CLYDE, magneto, vertical, spray ..	£15 0
4 h.p. ANTOINE, 26×2½ in. tyres	£16 10
3½ h.p. CENTAUR, free engine, M.O.V.	£16 0
2½ h.p. F.N., special frame, torpedo tank ..	£12 10
3 h.p. HUMBER, spray, good climber	£10 10
3½ h.p. REX, 22 in. frame, trembler coil	£11 10
2½ h.p. MINERVA, 26×2½ in., spray, vertical ..	£11 10
3 h.p. BROWN, spray, guaranteed	£12 10
4 h.p. ATELIER, long bars, low saddle ..	£13 10
3½ h.p. EXCELSIOR, spray, trembler coil ..	£10 10
3 h.p. CONVENTRY EAGLE, vertical spray ..	£10 0
3½ h.p. Two-speed REX, suit sidecar	£13 10
2½ h.p. F.N., light, low, smart appearance ..	£12 0
2½ h.p. CLEMENT, very low, good order ..	£11 0
2½ h.p. KERRY, spray, low, reliable mount ..	£10 10
2½ h.p. HASKARD, spray, smart	£11 10
2 h.p. PEUGEOT Lightweight, smart	£9 10
4 h.p. CORONET, M.O.V., tyres as new ..	£16 0
3 h.p. ROTHWELL, M.O.V., very powerful ..	£14 0
3½ h.p. REX, spray, 22 in. frame	£10 10
3½ h.p. WERNER, light and low	£13 10
3 h.p. CUNARD, vertical, fine Palmers ..	£12 0
2½ h.p. BROWN, vertical, spray	£11 10
2½ h.p. HOBART, smart, spray	£12 0
2½ h.p. PEBOK, free engine, little used	£12 0

Brand new 1908 3½ h.p. REX, magneto ignition, ball bearing engine, and handle-bar control, 38 guinea machine. Best cash offer secures.

1908 Mag. Twin REX, little use	£26 10
Twin-cylinder BERKELEY, very low	£18 0
1907 Twin REX, best cash offer.	
5 h.p. Twin VINDEC, magneto, Truffault ..	£29 0
5½ h.p. Twin REX, new tyres, black finish ..	£17 17
5 h.p. Twin ZENITH BICAR	£20 0
Twin-cylinder FAIRY, very smart	£15 0
6 h.p. Twin REX and sidecar	£20 0
Twin KERRY, Chater Lea, with sidecar ..	£22 10
5½ h.p. Twin REX, magneto, 1907	£22 0
4-5 h.p. Twin ALCYON, N.S.U., two-speed ..	£20 0
5 h.p. SAROLEA, long frame	£18 18
6 h.p. Twin ANTOINE, R.O.M. ignition ..	£22 0

37/6 deposit, and 5/- weekly, secures one of these in running order.

1½ h.p. MINERVA, spray carburetter	£6 10
2 h.p. RALEIGH, spray carburetter	£8 10
1½ h.p. QUADRANT, aluminium finish	£6 10
2 h.p. QUADRANT, aluminium finish	£8 0
2 h.p. HUMBER, spray carburetter	£8 0
2½ h.p. ROYAL, spray carburetter	£9 0
2½ h.p. magneto SINGER	£9 0
2 h.p. A.V., spray, good order	£8 10

The Halifax Motor Exchange,

Agents REX and N.S.U., new models.

16, Westgate, Halifax.

Telephone: 766. Telegrams: "Perfection."

CARS FOR SALE.

15 h.p. Flying Darracq, 1905, tonneau, push pedals, screen, in splendid order; £90.—Below.

8-10 h.p. Rexette, three seats, car tyres, in splendid condition; £37 10s.—Below.

18-24 h.p. Belsize, four-cylinder, side entrance, screen, hood, five lamps, Stepney, splendid condition; £145.—Below.

24 h.p. Mutel, four-cylinder, tonneau, pressed steel frame, perfect order; bargain, £80.—Below.

20 h.p. Milnes-Daimler Four-cylinder Landulet, honeycomb, magneto, excellent order; £65.—Below.

10-12 h.p. Peugeot, tonneau, honeycomb, two ignitions, hood, fine order; £80.—Below.

10 h.p. Panhard, type tonneau, three speeds, fine running order; £36.—Below.

8 h.p. M.M.C., two-seater, three speeds and reverse, in very good order; £29.—Below.

6½ h.p. Swift, De Dion engine, two-seater, suitable doctor's car; £45.—Below.

6½ h.p. Darracq, tonneau, very smart; bargain, £29.—Eclipse Engineering and Motor Company, 255, Earlsfield Road, Wandsworth. Phone, 1155, Putney.

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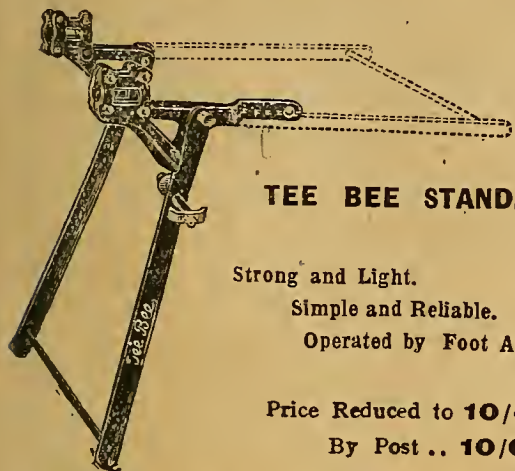
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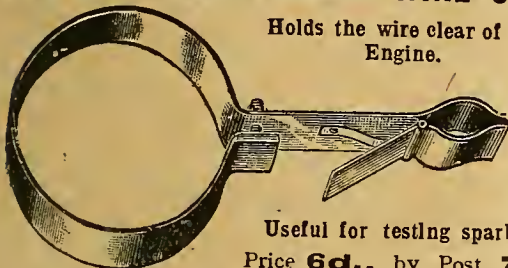
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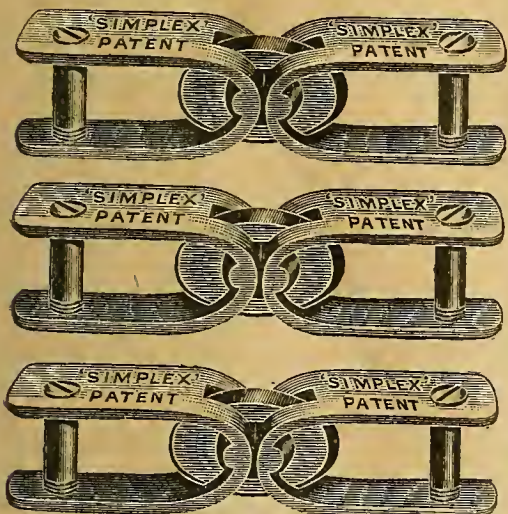
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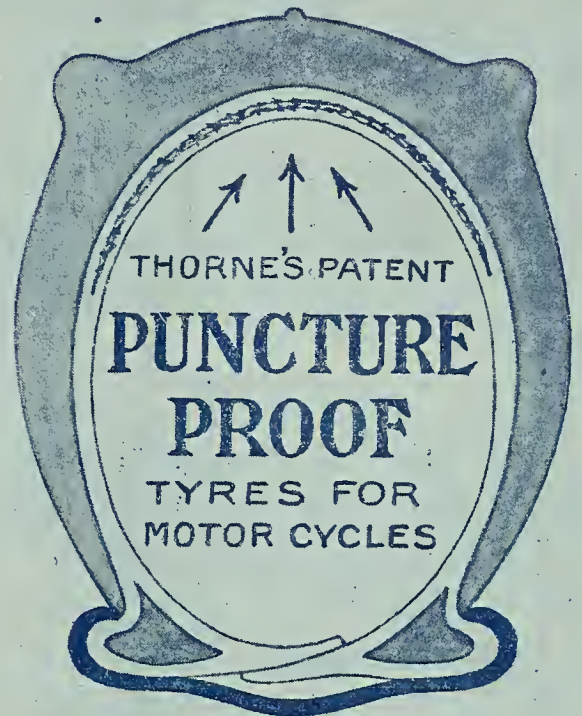
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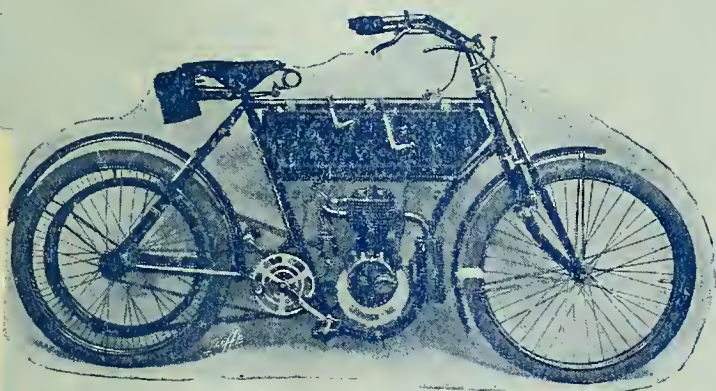


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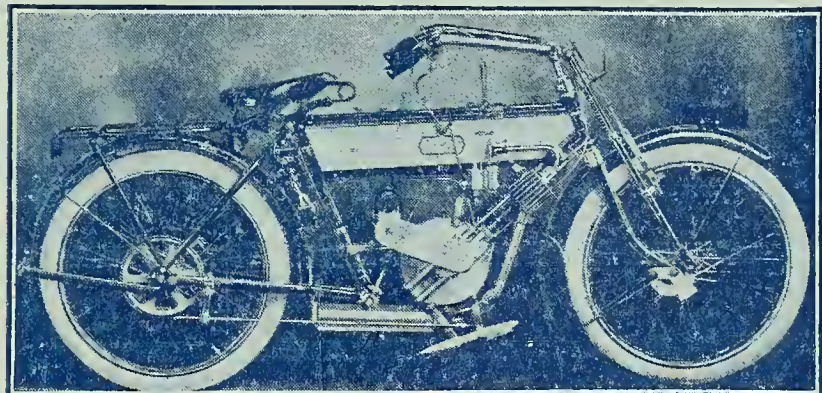
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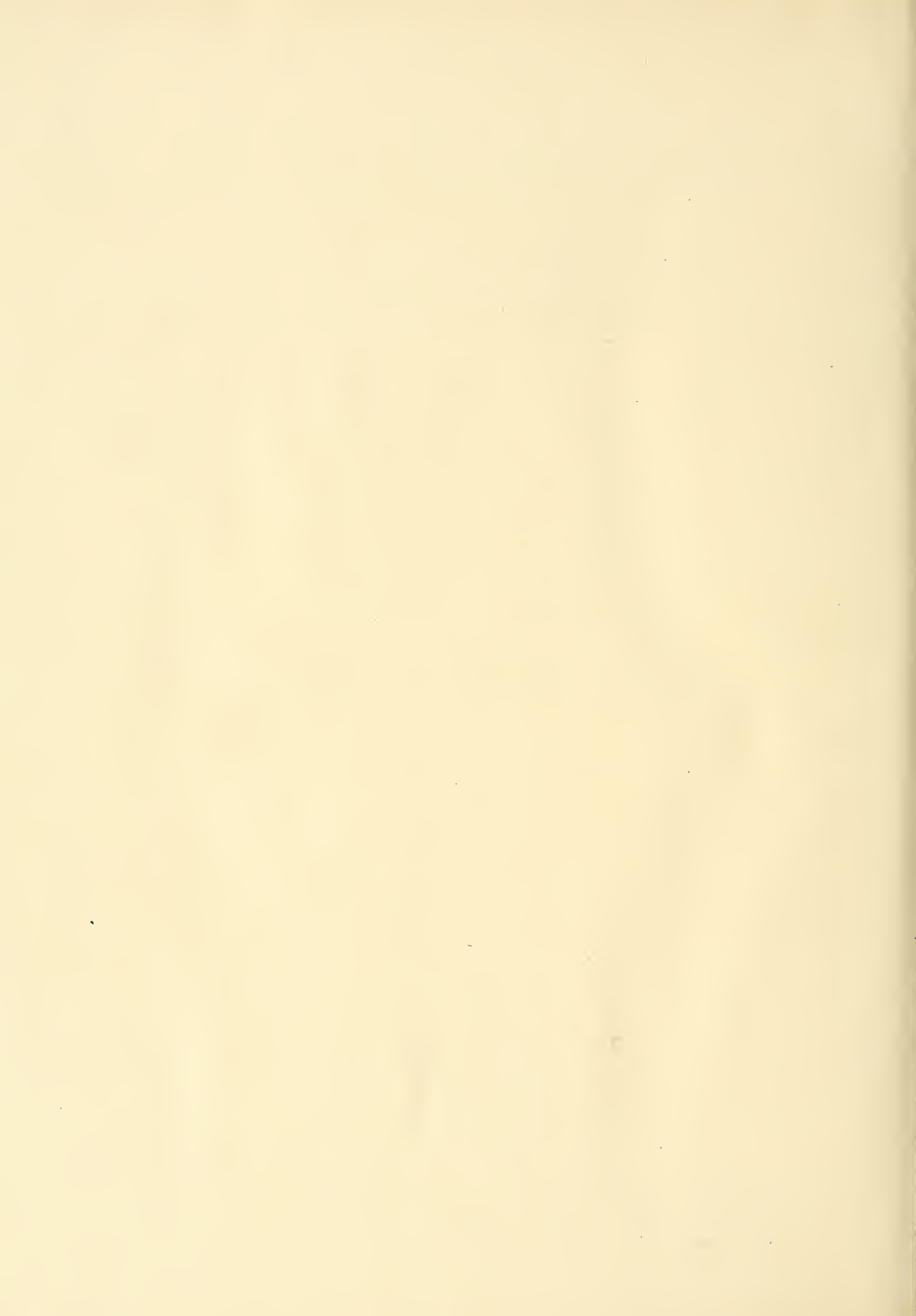
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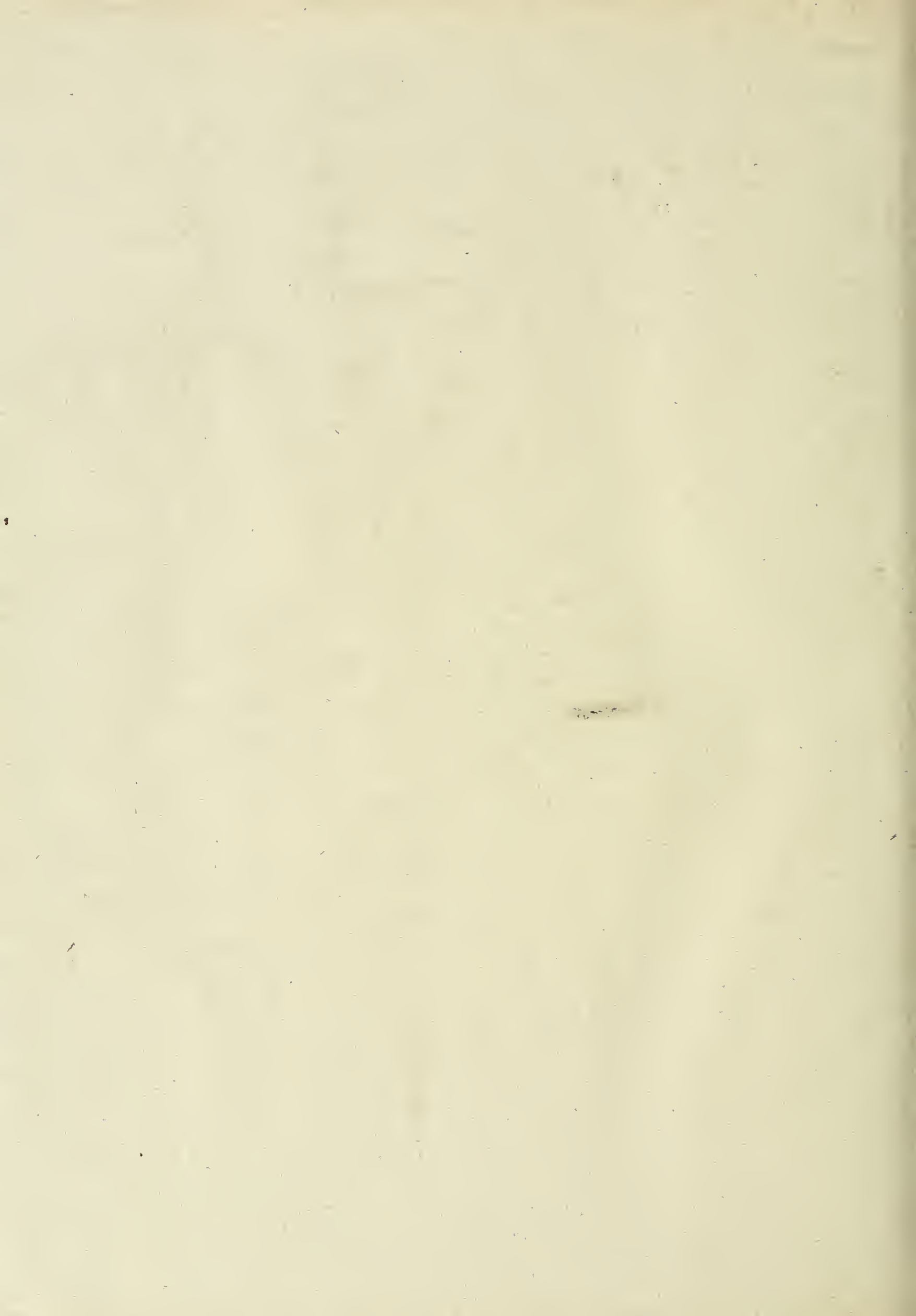
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